

**AP-111**

**4 of 4**

**BINDER 1**

**Annual Ground Water Monitoring Report:  
Gallup Refinery – 2012**



**Western Refining**

**Gallup, New Mexico**

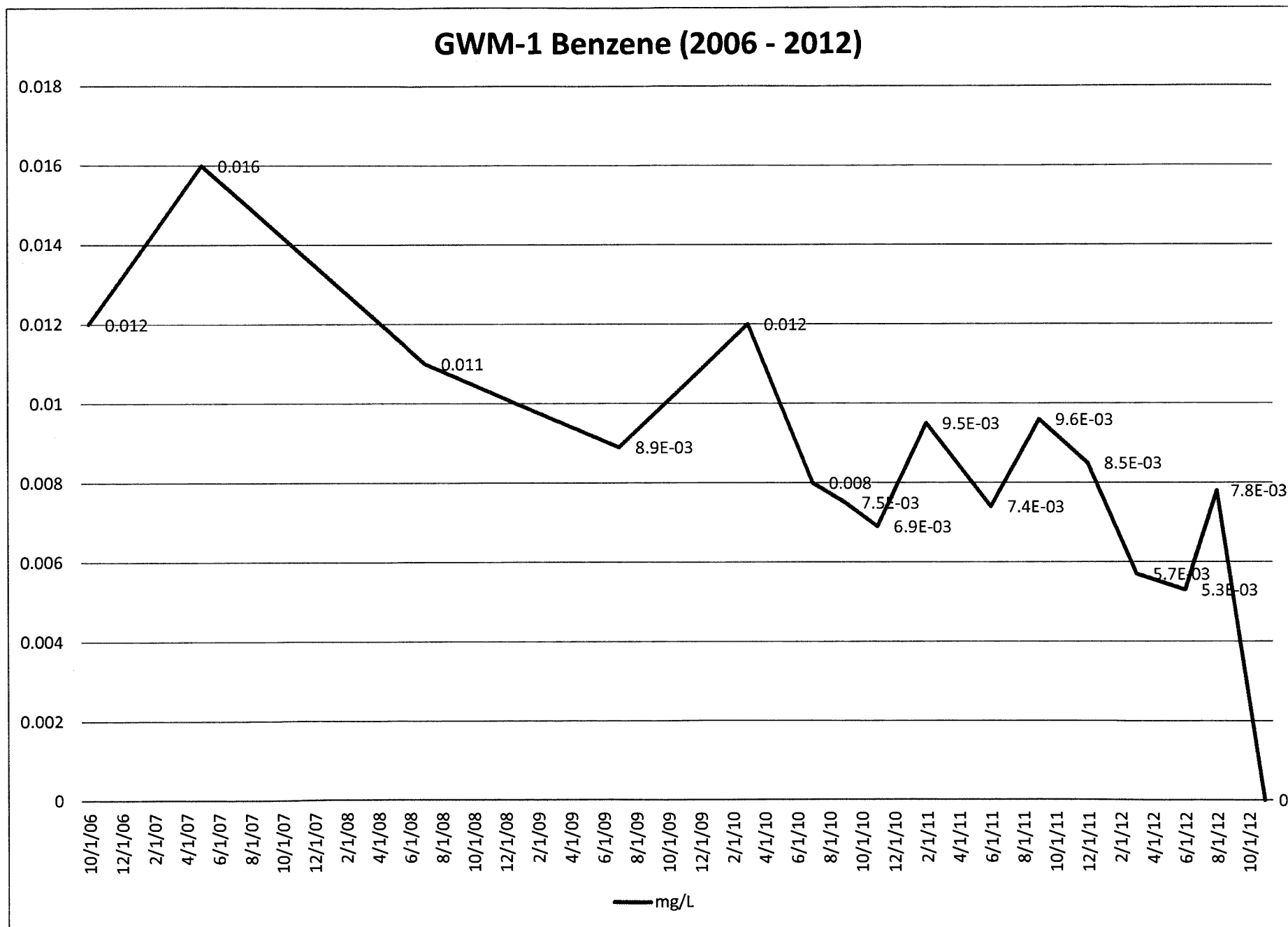
**April 17, 2012**

## **SECTION 12**

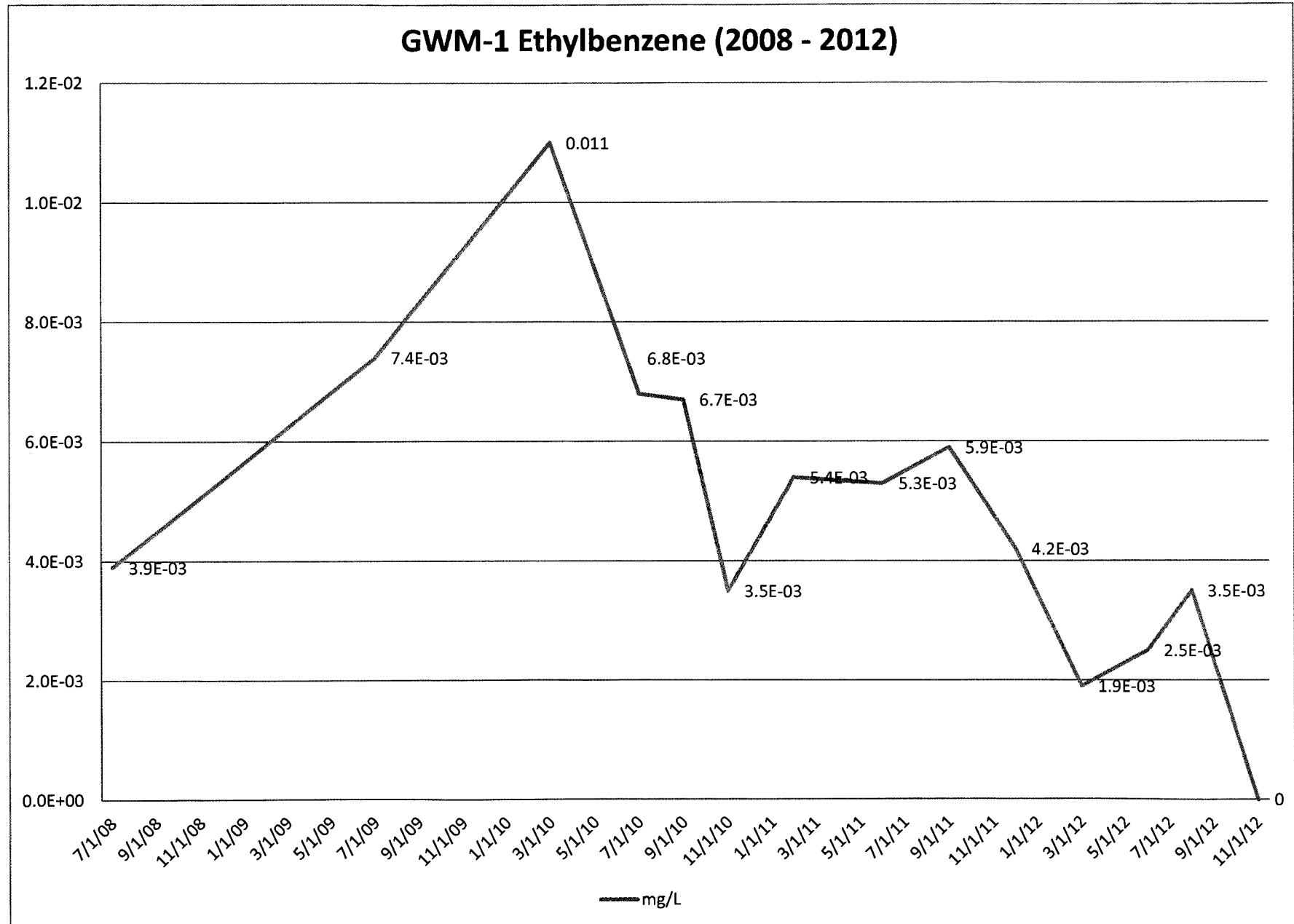
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### **Graphs**

GRAPH 1

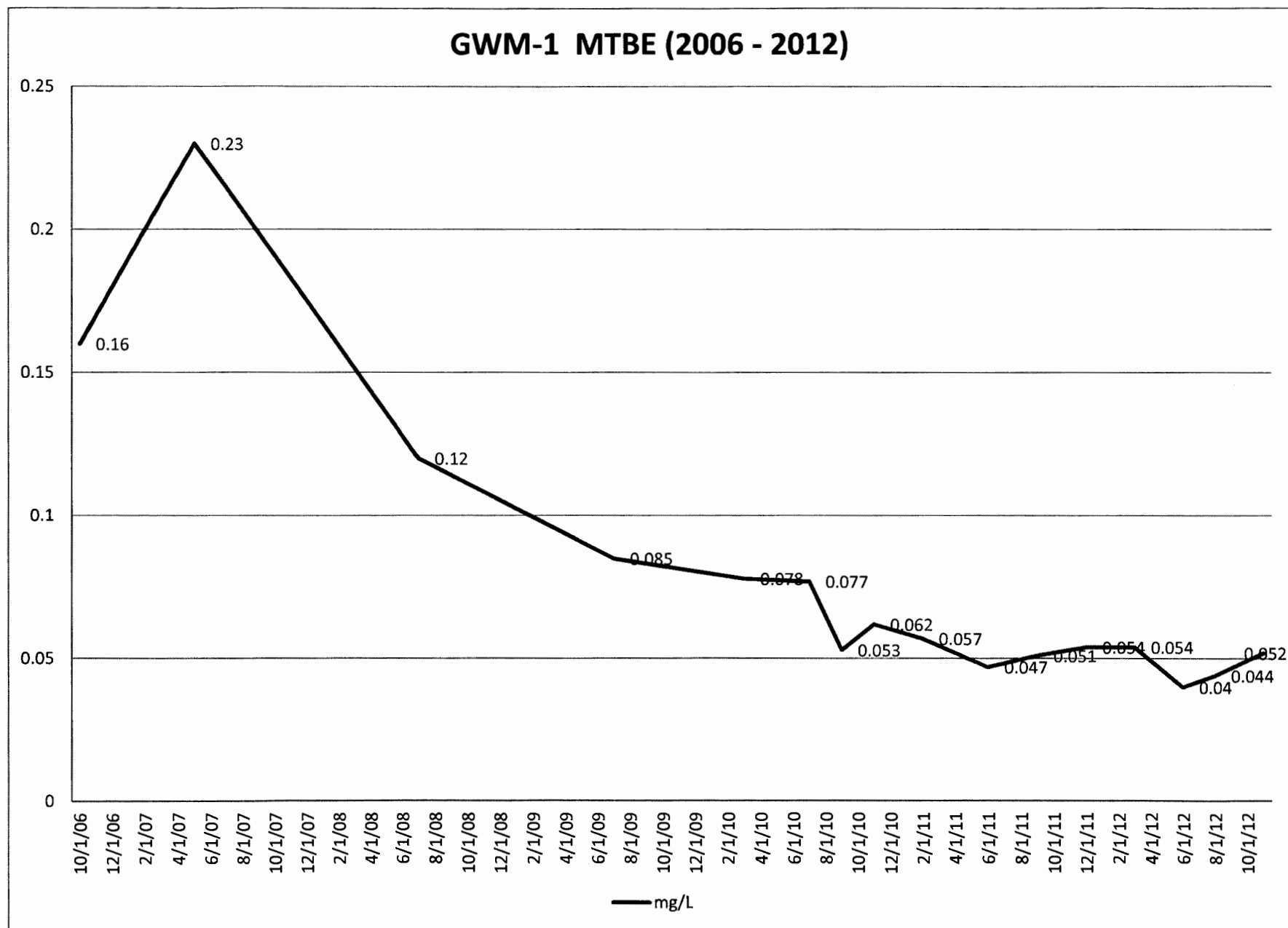


GRAPH 2

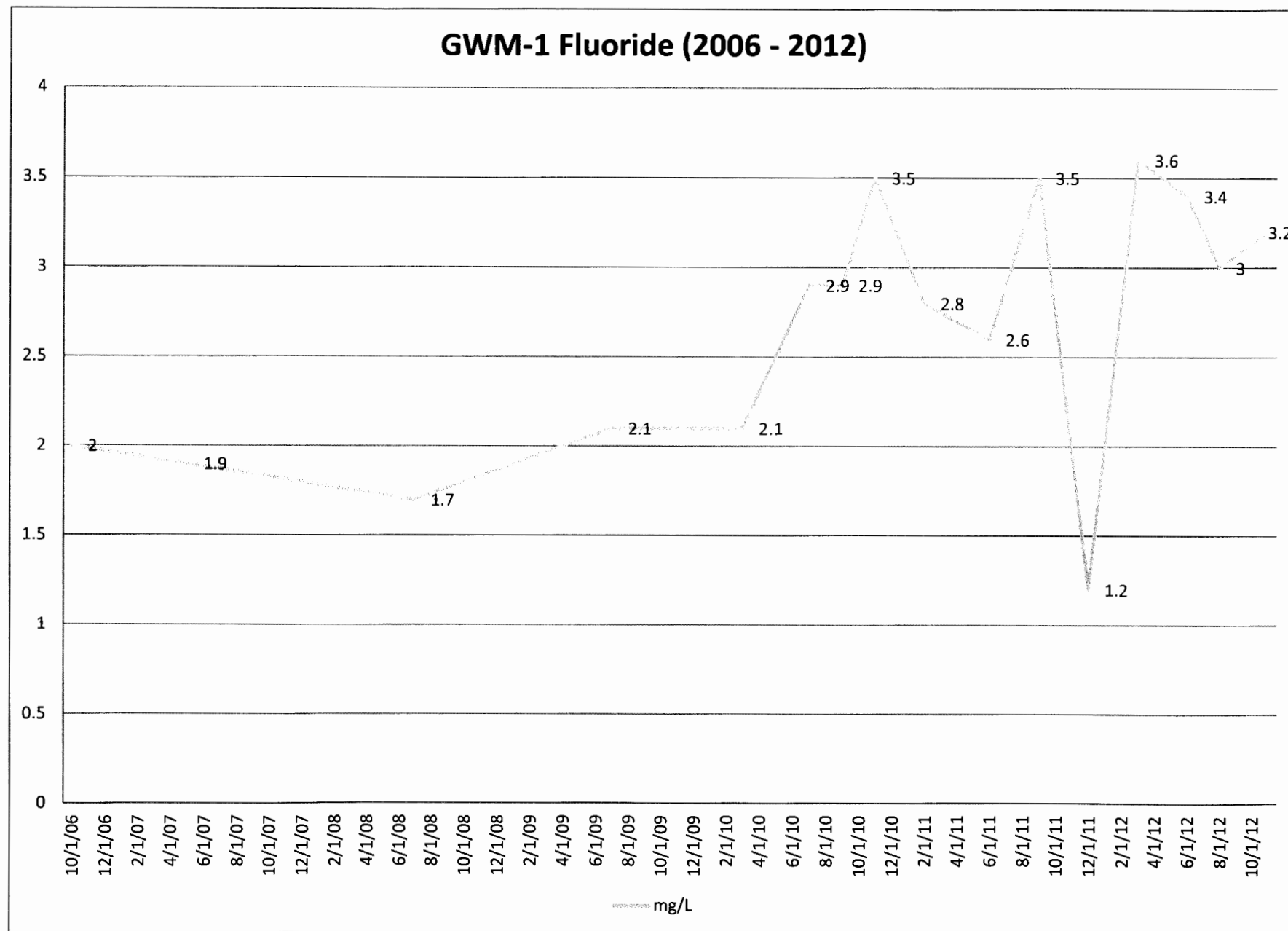




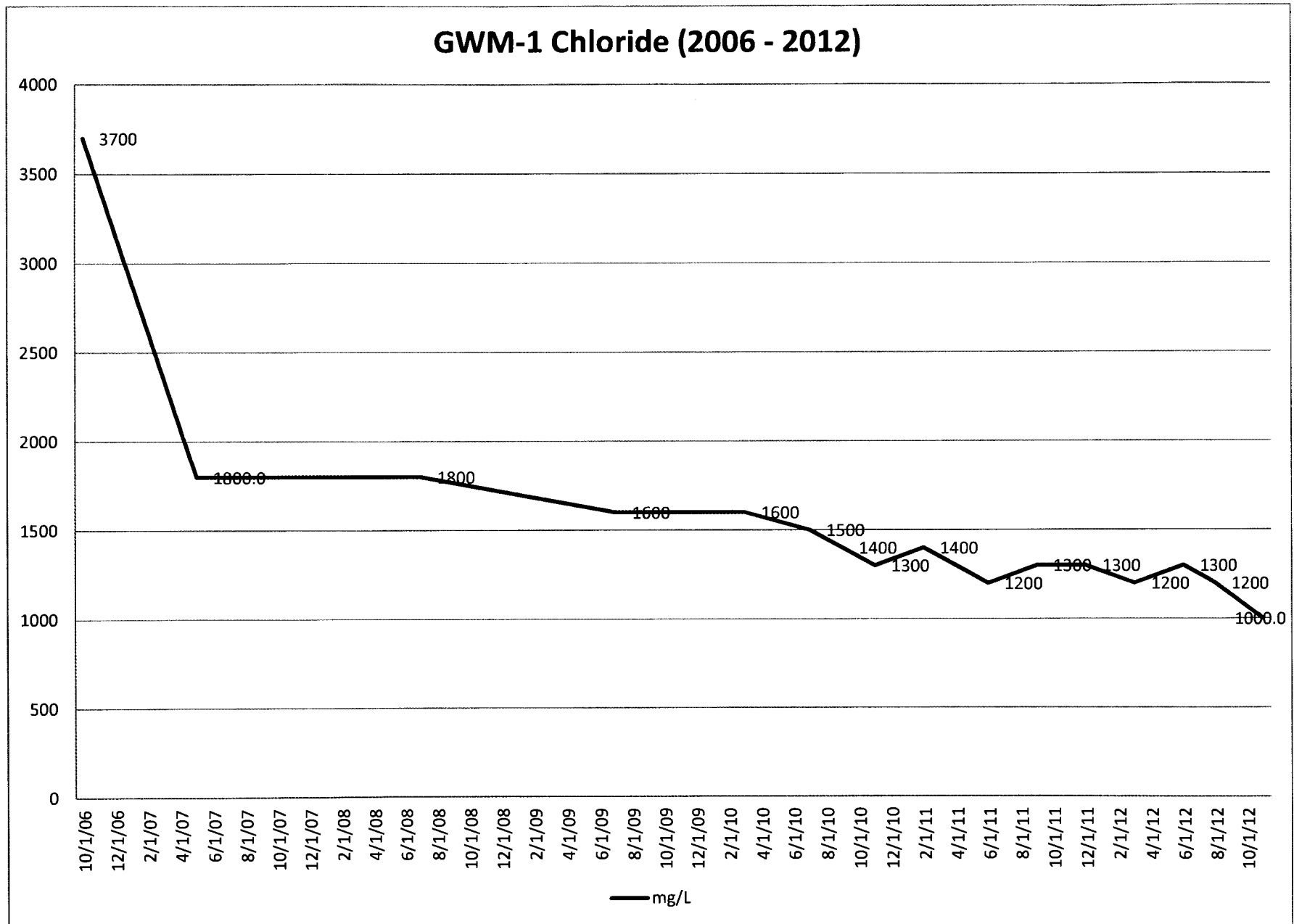
GRAPH 3



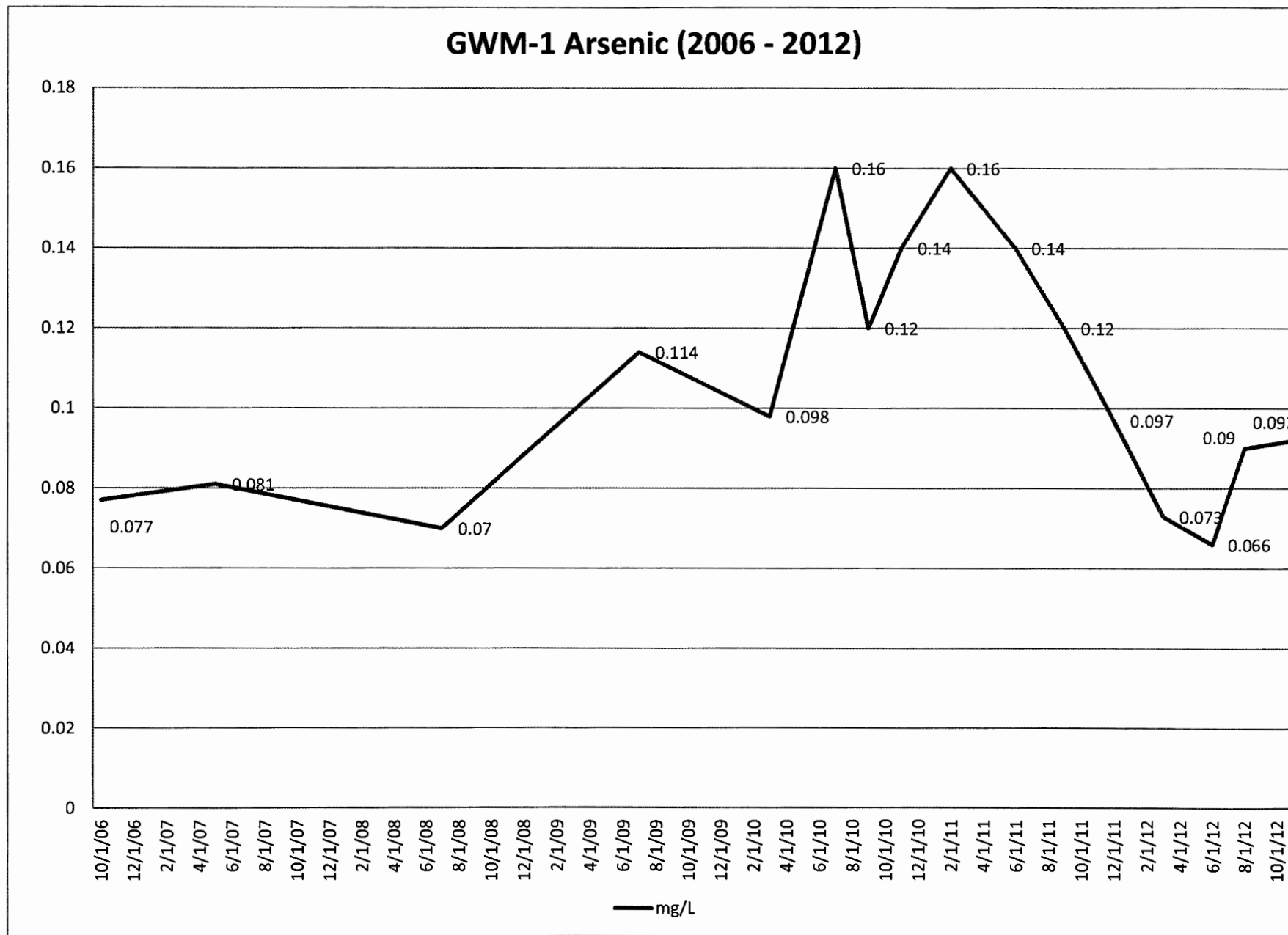
GRAPH 4



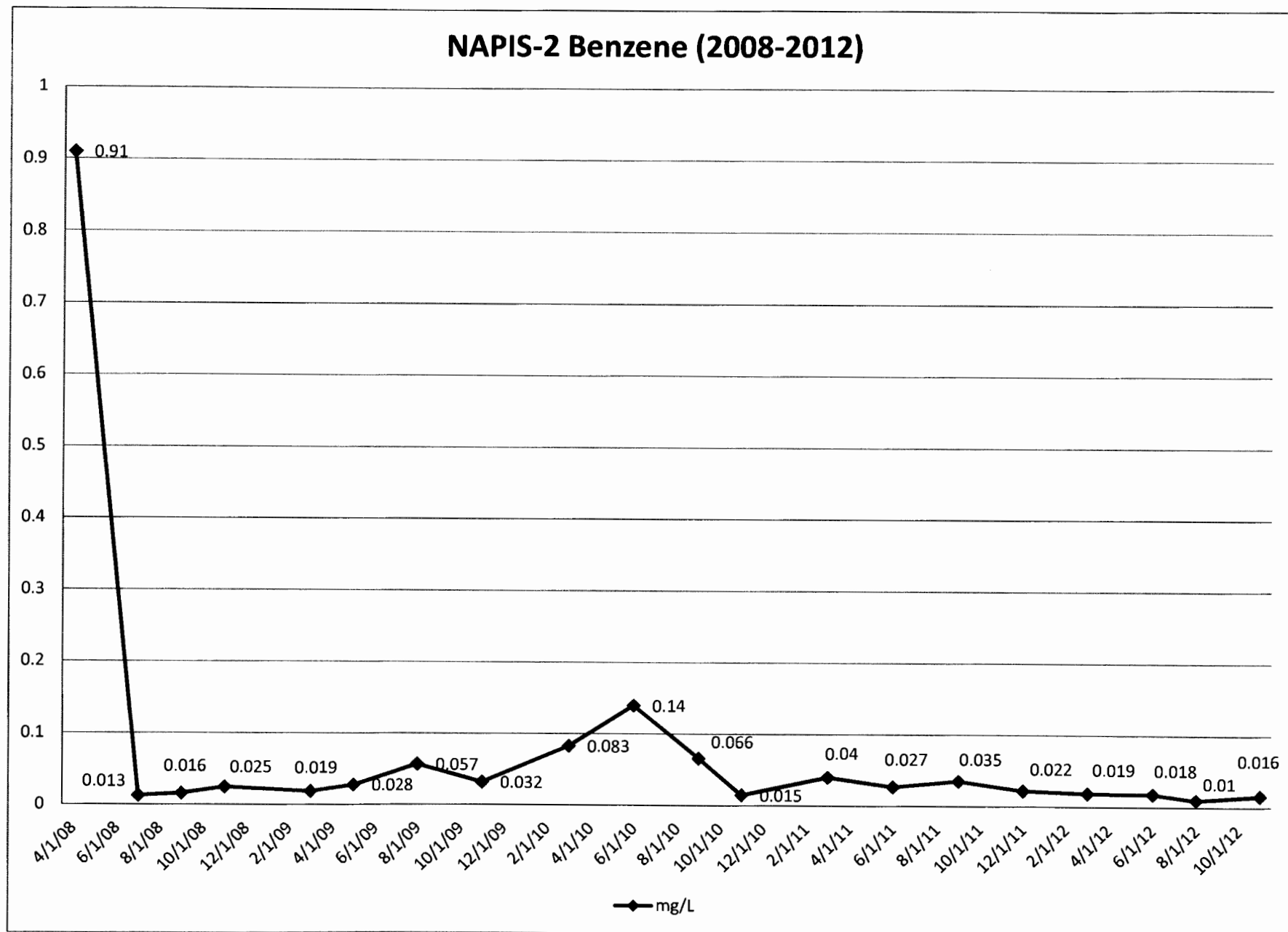
GRAPH 5



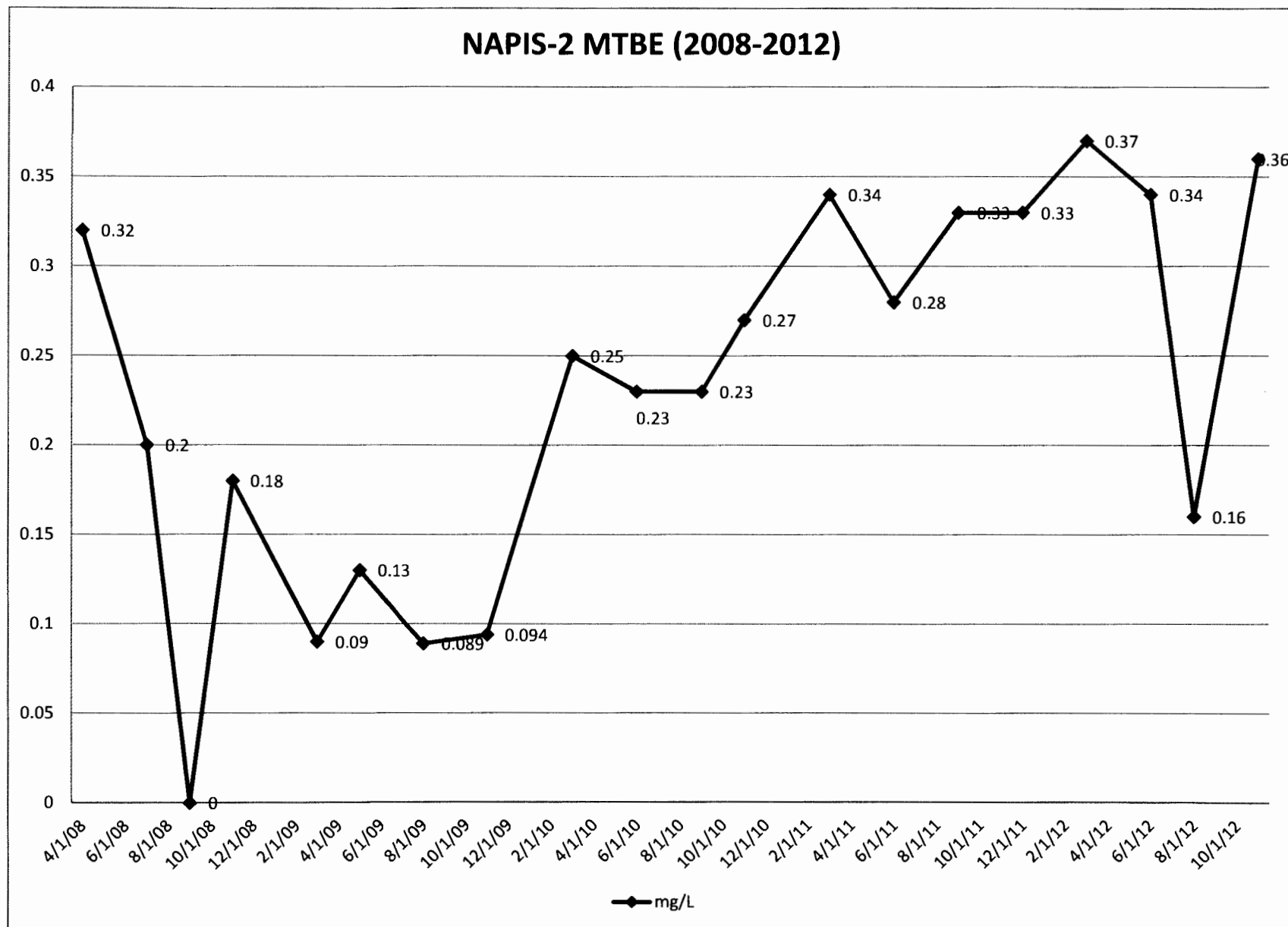
GRAPH 6



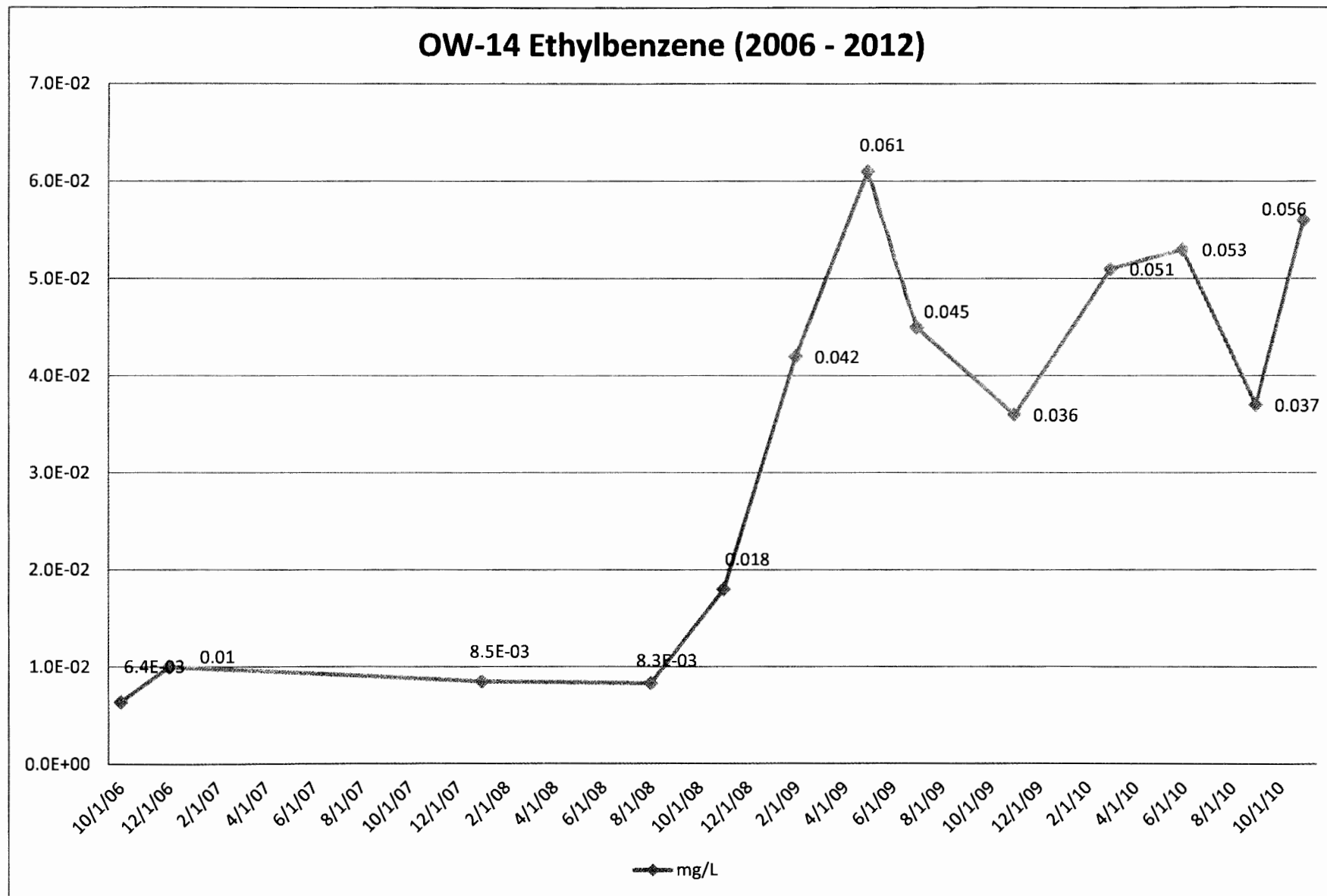
GRAPH 7



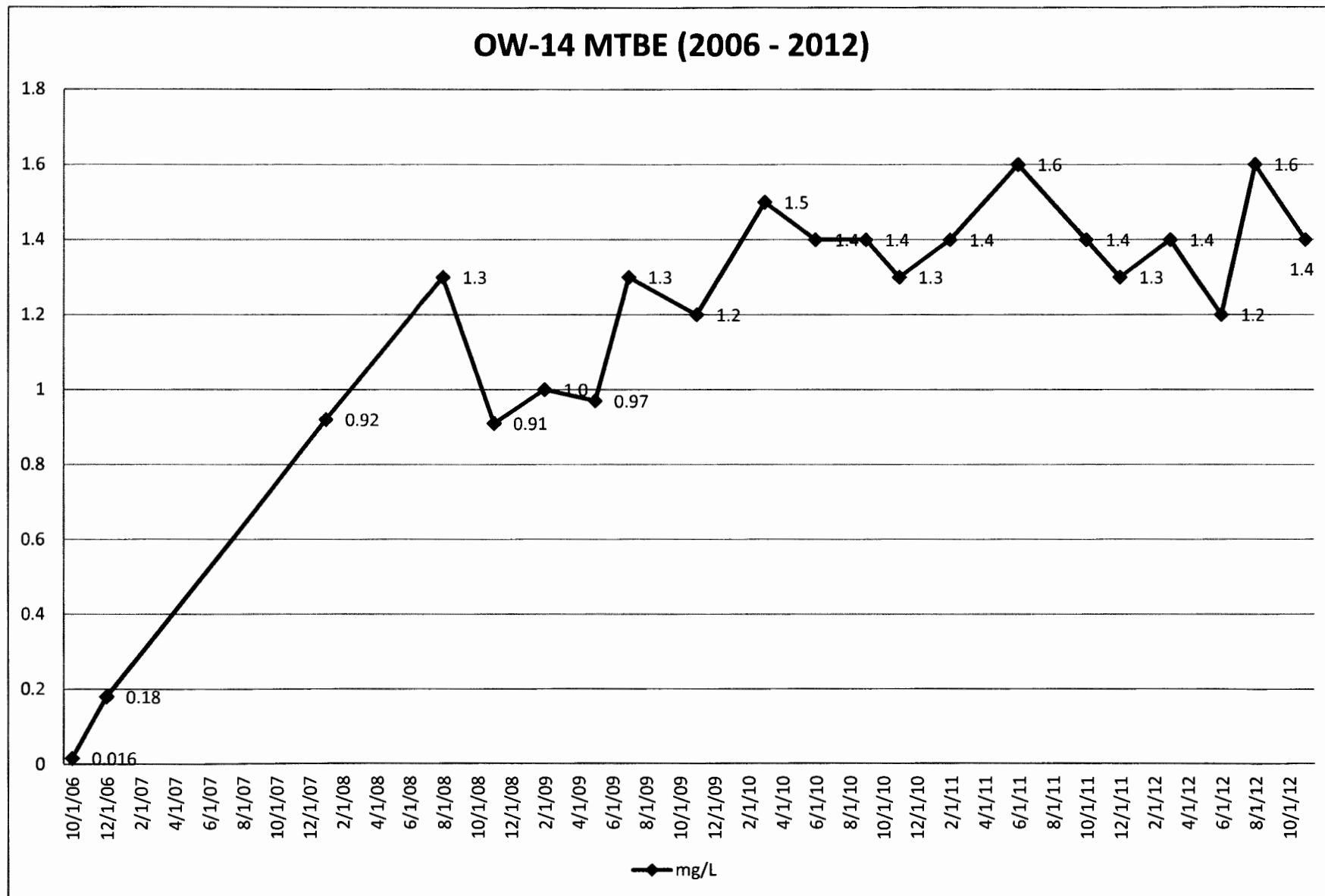
GRAPH 8



GRAPH 10

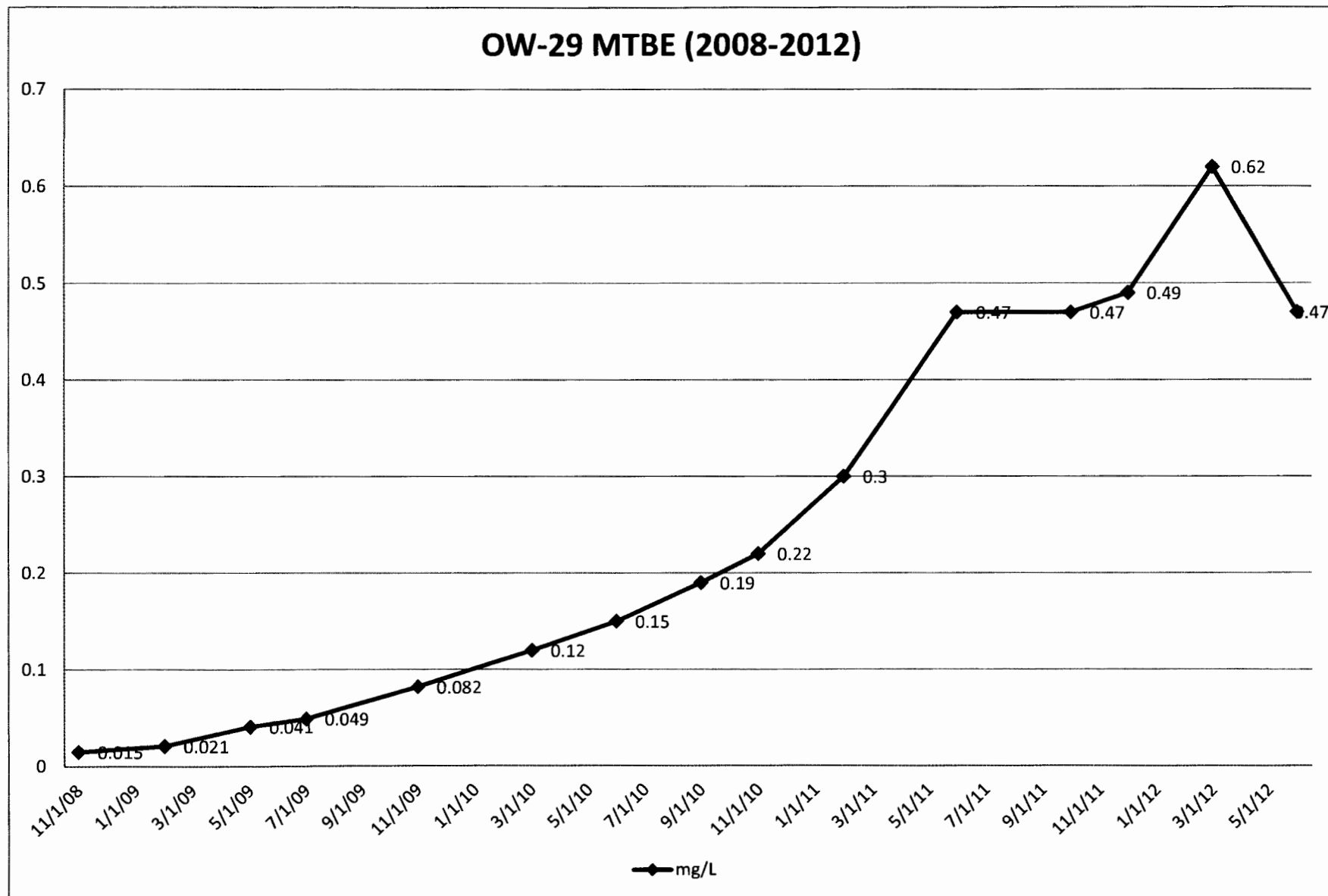


GRAPH 11

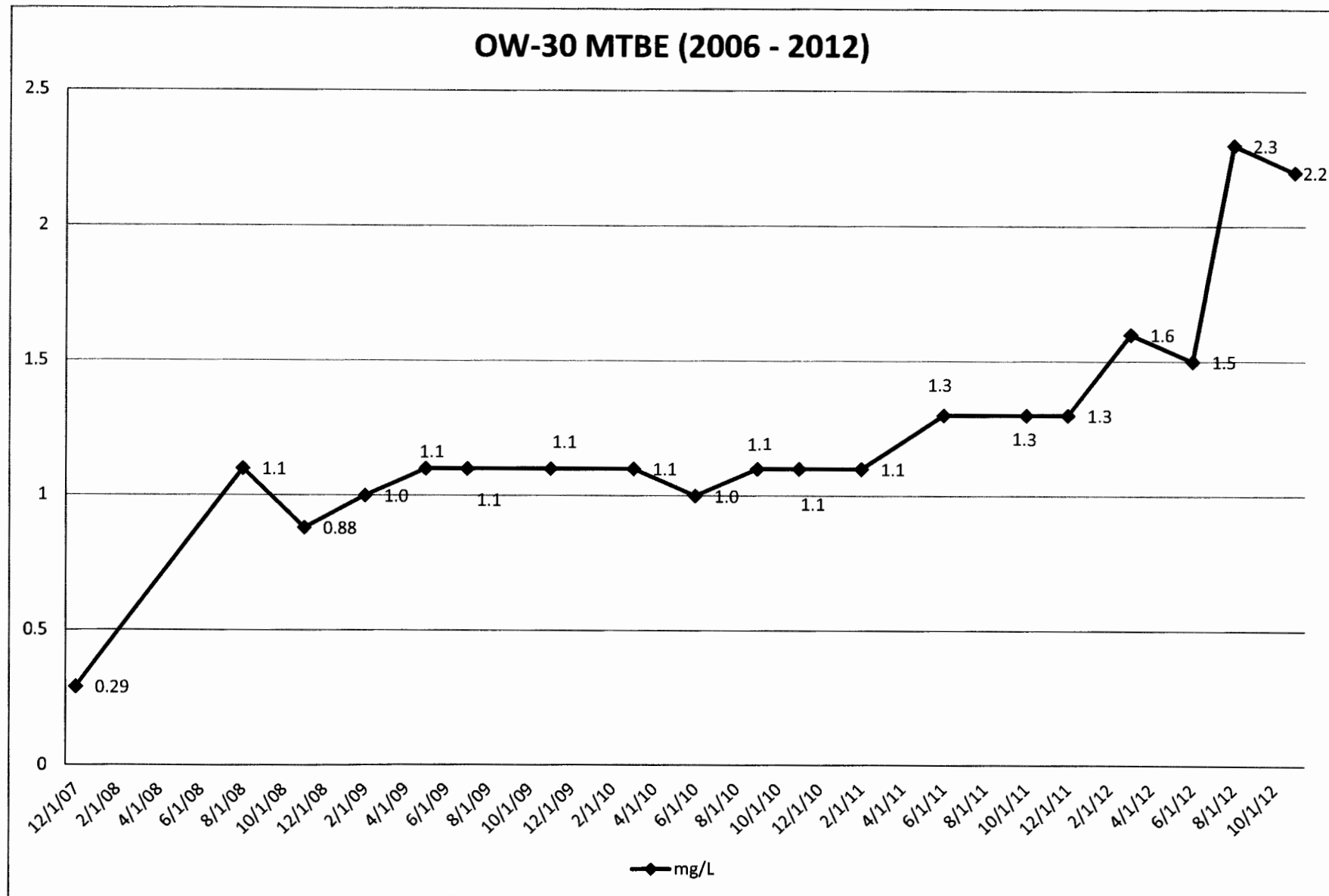




GRAPH 12



GRAPH 13



## **APPENDIX A**

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### **Separate Phase Hydrocarbons**

**RW-1 HYDROCARBON RECOVERY LOG**  
**2/22/05 thru 12/2012**

| Measurement Date | Time  | Quarter | Method | Status                   | Depth to Product (ft) | Depth to Water (ft) | Product Thickness Level <sup>2</sup> (ft) | Product Bailed/Purged <sup>2</sup> (gal) | Water Purged <sup>2</sup> (gal) |
|------------------|-------|---------|--------|--------------------------|-----------------------|---------------------|-------------------------------------------|------------------------------------------|---------------------------------|
| 2/22/2005        | 8:30  | 1st     | NR     | Start                    | 32.46                 | 36.5                | 4.04                                      | 14                                       | NR                              |
| 3/2/2005         | 7:45  | 1st     | NR     | Start                    | 32.42                 | 36.44               | 4.02                                      | 9                                        | NR                              |
| 3/8/2005         | 8:30  | 1st     | NR     | Start                    | 31.92                 | 36.35               | 4.43                                      | 15                                       | NR                              |
| 3/9/2005         | 830   | 1st     | NR     | Start                    | 31.92                 | 37.5                | 5.58                                      | 4                                        | NR                              |
| 3/11 to 3/18/05  | NR    | 1st     | NR     | Start                    | NR                    | NR                  | NR                                        | 74                                       | NR                              |
| 3/18 to 3/23/05  | NR    | 1st     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | 48                                       | NR                              |
| 3/23 to 4/1/05   | NR    | 1st     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | 62                                       | NR                              |
| 4/1 To 4/4/05    |       | 2nd     | Pump   | Pump shutdown to measure | NR                    | NR                  | NR                                        | 27                                       | NR                              |
| 4/5/2005         | 11:30 | 2nd     | Pump   |                          | 34.75                 | 38.92               | 4.17                                      | NR                                       | NR                              |
| 4/4 to 4/15/05   | 11:00 | 2nd     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | 50                                       | NR                              |
| 4-15 to 5-5-05   | 12:30 | 2nd     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | 45                                       | 154                             |
| 5-5 to 6-17-05   | 11:30 | 2nd     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | 24                                       | 196                             |
| 6/27/2005        | 14:30 | 2nd     |        | Pump shutdown to measure | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 6/28/2005        | 11:30 | 2nd     |        |                          | 32.46                 | 33.25               | 0.79                                      | NR                                       | NR                              |
| 6/28/2005        |       | 2nd     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 6/17 to 7/8/2005 | 10:30 | 2nd     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | 18                                       | 146                             |
| 7/8 to 8/9/2005  | 13:30 | 3rd     | Pump   | Continue pumping         | NR                    | NR                  | NR                                        | 28                                       | 350                             |
| 8/9 to 9/16/2005 | 11:35 | 3rd     |        |                          | 36.46                 | 36.54               | 0.08                                      | 8                                        | 240                             |
| 12/5/2005        | 13:15 | 4th     |        |                          | 31.92                 | 34.71               | 2.79                                      | NR                                       | NR                              |
| 12/8/2005        | 14:00 | 4th     | Pump   | Start                    | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 12/22/2005       | 15:30 | 4th     |        | stop                     | NR                    | NR                  | NR                                        | 5                                        | 120                             |
| 12/29/2005       | 14:00 | 4th     | Bailer | Hand bailed              | NR                    | NR                  | NR                                        | 0.5                                      | 4.5                             |
| 3/16/2006        | 13:00 | 1st.    |        |                          | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 3/16/2006        | 14:30 | 1st.    | Pump   | Start                    | 32.23                 | 34.48               | 2.25                                      | NR                                       | NR                              |
| 3/23/2006        | 14:30 | 1st.    |        | Stop                     | NR                    | NR                  | NR                                        | NR                                       | NR                              |

### RW-1 HYDROCARBON RECOVERY LOG - Continued

| Measurement Date | Time  | Quarter | Method | Status                     | Depth to Product (ft) | Depth to Water (ft) | Product Thickness Level <sup>2</sup> (ft) | Product Bailed/Purged <sup>2</sup> (gal) | Water Purged <sup>2</sup> (gal) |
|------------------|-------|---------|--------|----------------------------|-----------------------|---------------------|-------------------------------------------|------------------------------------------|---------------------------------|
| 3/27/2006        | 15:30 | 1st.    | Pump   | Start                      | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 3/31/2006        | 11:30 | 1st.    | Pump   | Continue pumping           | NR                    | NR                  | NR                                        | 7                                        | 174                             |
| 4/3/2006         | 11:30 | 2nd     |        | Stop                       | NR                    | NR                  | NR                                        | 1                                        | 38                              |
| 4/4/2006         | 11:00 | 2nd     |        |                            | 32.75                 | 33.08               | 0.33                                      | NR                                       | NR                              |
| 6/6/2006         | 13:00 | 2nd     |        |                            | 32.39                 | 34.54               | 2.15                                      | NR                                       | NR                              |
| 6/8/2006         | 15:00 | 2nd     | Pump   | Start                      | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 6/29/2006        | 10:00 | 2nd     |        | Stop                       | NR                    | NR                  | NR                                        | 8                                        | 365                             |
| 7/31/2006        | 11:45 | 3rd     |        |                            | 33.06                 | 33.48               | 0.42                                      | NR                                       | NR                              |
| 7/31/2006        | 11:45 | 3rd     | Pump   | Start pump                 | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 8/3/2006         | 14:20 | 3rd     |        | Stopped pump               | NR                    | NR                  | NR                                        | 2                                        | 87                              |
| 8/8/2006         | 9:00  | 3rd     | Pump   | Start pump                 | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 8/10/2006        | 15:30 | 3rd     | Pump   | Start pump                 | NR                    | NR                  | NR                                        | NR                                       | NR                              |
| 8/22/2006        | 9:00  | 3rd     |        | Stopped. Pulled pump       | NR                    | NR                  | NR                                        | 4.9                                      | 373                             |
| 8/22/2006        | 9:45  | 3rd     | Pump   | Start pump                 | 33.1                  | 33.4                | 0.3                                       | NR                                       | NR                              |
| 12/21/2006       | 15:55 | 4th     | Pump   | Start pump                 | 35.2                  | 36                  | 0.8                                       | 0.62                                     | 70                              |
| 2/21/2007        | 10:15 | 1st.    | Pump   | Start pump                 | 33.42                 | 34.6                | 1.18                                      | 0.63                                     | 53.5                            |
| 6/5/2007         | 10:00 | 2nd     |        | Compressor Down            | 32.42                 | 32.71               | 0.29                                      | NR                                       | NR                              |
| 6/5/2007         | 10:10 | 2nd     |        | Hand Bailed                | NR                    | NR                  | NR                                        | 0.05                                     | 9                               |
| 6/6/2007         | 8:40  | 2nd     |        | Hand bailed                | NR                    | NR                  | NR                                        | 0.1                                      | 11                              |
| 6/13/2007        | 14:00 | 2nd     |        | Hand bailed                | NR                    | NR                  | NR                                        | 0.1                                      | 12                              |
| 6/14/2007        | 10:40 | 2nd     |        | Hand bailed                | NR                    | NR                  | NR                                        | 0.05                                     | 8                               |
| 7/10/2007        | 10:08 | 3rd     |        | Hand bailed                | 32.42                 | 32.71               | 0.29                                      | 0.3                                      | 18                              |
| 7/11/2007        | 9:25  | 3rd     |        | Hand bailed                | NR                    | NR                  | NR                                        | 0.21                                     | NR                              |
| 7/23/2007        | 10:00 | 3rd     |        | Hand bailed                | NR                    | NR                  | NR                                        | 0.1                                      | NR                              |
| 11/26/2007       | 10:50 | 4th     |        | Hand bailed                | 30.76                 | 36.45               | 5.69                                      | 0.18                                     | 37                              |
| 2/18/2008        | 15:32 | 1st.    |        | Hand Bailed - pump frozen  | 30.18                 | 34.77               | 4.59                                      | 1.66                                     | 36                              |
| 5/21/2008        | 14:10 | 2nd     | Pump   | Used Pump                  | 30.33                 | 34.57               | 4.24                                      | 1.39                                     | 51                              |
| 9/12/2008'       | 14:30 | 3rd     |        | Bladder pump malfunctioned | 30.03                 | 34.59               | 4.56                                      | Not Bailed                               | 0                               |

### RW-1 HYDROCARBON RECOVERY LOG - Continued

| Measurement Date | Time  | Quarter | Method | Status    | Depth to Product (ft) | Depth to Water (ft) | Product Thickness Level <sup>2</sup> (ft) | Product Bailed/Purged <sup>2</sup> (gal) | Water Purged <sup>2</sup> (gal) |
|------------------|-------|---------|--------|-----------|-----------------------|---------------------|-------------------------------------------|------------------------------------------|---------------------------------|
| 11/13/2008       | 13:00 | 4th     | Pump   | Used Pump | 30.02                 | 34.63               | 4.61                                      | 0.94                                     | 65                              |
| 2/11/2009        | 14:05 | 1st.    | Pump   | Used Pump | 30.21                 | 31.72               | 1.51                                      | 0.29                                     | 90                              |
| 5/5/2009         | 11:30 | 2nd     | Pump   | Used Pump | 30.22                 | 30.8                | 0.58                                      | 0.41                                     | 76                              |
| 8/10/2009        | 9:22  | 3rd     | Pump   | Used Pump | 30.69                 | 31.02               | 0.33                                      | 0.89                                     | 98                              |
| 10/28/2009       | 10:55 | 4th     | Pump   | Used Pump | 30.56                 | 30.75               | 0.19                                      | 0.19                                     | 74                              |
| 3/3/2010         | 9:00  | 1st     | Pump   | Used Pump | 30.89                 | 31.05               | 0.16                                      | 0.21                                     | 31                              |
| 6/3/2010         | 13:10 | 2nd     | Pump   | Used Pump | 30.99                 | 31.09               | 0.1                                       | 0.1                                      | 32                              |
| 9/20/2010        | 14:00 | 3rd     | Pump   | Used Pump | 29.91                 | 30.06               | 0.15                                      | 0.25                                     | 34                              |
| 11/3/2010        | 9:10  | 4th     | Pump   | Used Pump | 30.89                 | 31.01               | 0.12                                      | 0.1                                      | 31                              |
| 3/9/2011         | 10:19 | 1st     | Pump   | Used Pump | 30.04                 | 30.15               | 0.11                                      | 0.12                                     | 40                              |
| 6/27/2011        | 8:05  | 2nd     | Pump   | Used Pump | 30.52                 | 30.63               | 0.11                                      | 0.1                                      | 45                              |
| 10/3/2011        | 15:07 | Annual  | Pump   | Used Pump | 30.81                 | 30.9                | 0.09                                      | 0.11                                     | 42                              |
| 11/8/2011        | 8:30  | 4th     | Pump   | Used Pump | 30.77                 | 30.85               | 0.08                                      | 0.09                                     | 38                              |
| 3/15/2012        | 10:30 | 1st     | Pump   | Used Pump | 29.31                 | 29.34               | 0.03                                      | 0.02                                     | 22                              |
| 6/4/2012         | 9:00  | 2nd     | Pump   | Used Pump | 29.39                 | 29.41               | 0.02                                      | 0.05                                     | 40                              |
| 8/13/2012        | 10:30 | 3rd     | Pump   | Used Pump | 29.54                 | 30.13               | 0.59                                      | 0.4                                      | 40                              |
| 10/8/2012        | 9:40  | 4th     | Pump   | Used Pump | 29.28                 | 30.18               | 0.9                                       | 0.5                                      | 35                              |
|                  |       |         |        |           | <b>YTD TOTALS</b>     |                     | <b>62.67</b>                              | <b>464.56</b>                            | <b>3386</b>                     |

**NOTES:**

*FT - Feet*

*Gal - Gallon*

*NR - Not recorded*

*YTD -Year to date*

*1)Bladder pump has torn diaphragm. Pump non-repairable. Ordered new pump*

*2) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.*

## RW-5 HYDROCARBON RECOVERY LOG - Continued

### RW-5 HYDROCARBON RECOVERY LOG

2/22/05 thru 12/2012

| Measurement Date | Time  | Quarter | Method | Status | Depth to Product (ft) | Depth to Water (ft) | Product Thickness Level <sup>1</sup> (ft) | Product Bailed/Purged <sup>1</sup> (gal) | Water Purged <sup>1</sup> (gal) |
|------------------|-------|---------|--------|--------|-----------------------|---------------------|-------------------------------------------|------------------------------------------|---------------------------------|
| 2/22/2005        | 14:15 | 1st     | Bailer | Start  | 32.92                 | 34.01               | 1.09                                      | 4.5                                      | NR                              |
| 3/3/2005         | 14:00 | 1st     | Bailer | Start  | 33.08                 | 33.42               | 0.34                                      | 6                                        | NR                              |
| 6/24/2005        | 9:00  | 2nd     | Bailer | Start  | 32.96                 | 34.04               | 1.08                                      | 2.5                                      | NR                              |
| 9/16/2005        | 9:20  | 3rd     | Bailer | Start  | 32.83                 | 33.85               | 1.02                                      | 2.5                                      | NR                              |
| 12/5/2005        | 14:00 | 4th     | Bailer | Start  | 32.52                 | 33.21               | 0.69                                      | 1.5                                      | NR                              |
| 3/16/2006        | 14:50 | 1st     | Bailer | Start  | 32.58                 | 33                  | 0.42                                      | 1                                        | NR                              |
| 7/26/2006        | 14:35 | 2nd     | Bailer | Start  | 32.9                  | 33.31               | 0.41                                      | 0.5                                      | NR                              |
| 10/16/2006       | 09:15 | 4th     | Bailer | Start  | 32.73                 | 33.42               | 0.69                                      | 0.25                                     | NR                              |
| 2/13/2007        | 09:00 | 1st     | Bailer | Start  | 32.17                 | 33.95               | 1.78                                      | 0.5                                      | NR                              |
| 4/30/2007        | 11:20 | 2nd     | Bailer | Start  | 33                    | 33.83               | 0.83                                      | 2.5                                      | NR                              |
| 7/10/2007        | 10:15 | 3rd     | Bailer | Start  | 33.1                  | 33.92               | 0.82                                      | 2.5                                      | NR                              |
| 11/26/2007       | 08:00 | 4th     | Bailer | Start  | 33.01                 | 33.91               | 0.9                                       | 1.75                                     | NR                              |
| 2/18/2008        | 15:15 | 1st     | Bailer | Start  | 33.19                 | 33.95               | 0.76                                      | 0.19                                     | 20                              |
| 5/21/2008        | 14:20 | 2nd     | Bailer | Start  | 32.77                 | 33.84               | 1.07                                      | 0.14                                     | 18                              |
| 9/12/2008        | 14:30 | 3rd     | Bailer | Start  | 32.62                 | 32.85               | 0.23                                      | 0.05                                     | 15                              |
| 11/3/2008        | 14:00 | 4th     | Bailer | Start  | 31.05                 | 32.34               | 1.29                                      | 0.05                                     | 15                              |
| 2/11/2009        | 13:40 | 1st     | Bailer | Start  | 32.08                 | 32.15               | 0.07                                      | 0.05                                     | 15                              |
| 5/5/2009         | 10:02 | 2nd     | Bailer | Start  | 0                     | 31.91               | 0                                         | 0                                        | 0                               |
| 8/10/2009        | 9:50  | 3rd     | Bailer | Start  | 0                     | 31.94               | 0                                         | 0                                        | 0                               |
| 10/28/2009       | 10:45 | 4th     | Bailer | Start  | 0                     | 31.71               | 0                                         | 0                                        | 0                               |
| 3/3/2010         | 9:35  | 1st     | Bailer | Start  | 0                     | 31.63               | 0                                         | 0                                        | 0                               |
| 6/3/2010         | 13:40 | 2nd     | Bailer | Start  | 0                     | 31.37               | 0                                         | 0                                        | 0                               |

## RW-5 HYDROCARBON RECOVERY LOG - Continued

| Measurement Date | Time  | Quarter | Method | Status | Depth to Product (ft) | Depth to Water (ft) | Product Thickness Level <sup>1</sup> (ft) | Product Bailed/Purged <sup>1</sup> (gal) | Water Purged <sup>1</sup> (gal) |
|------------------|-------|---------|--------|--------|-----------------------|---------------------|-------------------------------------------|------------------------------------------|---------------------------------|
| 9/20/2010        | 14:24 | 3rd     | Bailer | Start  | 0                     | 31.94               | 0                                         | 0                                        | 0                               |
| 11/3/2010        | 9:30  | 4th     | Bailer | Start  | 0                     | 31.94               | 0                                         | 0                                        | 0                               |
| 3/9/2011         | 10:29 | 1st     | Bailer | Start  | 0                     | 30.05               | 0                                         | 0                                        | 20                              |
| 6/27/2011        | 8:40  | 2nd     | Bailer | Start  | 0                     | 28.96               | 0                                         | 0                                        | 20                              |
| 10/4/2011        | 8:15  | 3rd     | Bailer | Start  | 0                     | 29.89               | 0                                         | 0                                        | 14                              |
| 11/8/2011        | 9:20  | 4th     | Bailer | Start  | 0                     | 29.85               | 0                                         | 0                                        | 17                              |
| 3/15/2012        | 9:50  | 1st     | Bailer | Start  | 0                     | 29.32               | 0                                         | 0                                        | 15                              |
| 6/4/2012         | 9:20  | 2nd     | Bailer | Start  | 0                     | 29.37               | 0                                         | 0                                        | 10                              |
| 8/13/2012        | 10:50 | 3rd     | Bailer | Start  | 0                     | 29.49               | 0                                         | 0                                        | 10                              |
| 10/8/2012        | 10:10 | 4th     | Bailer | Start  | 0                     | 29.58               | 0                                         | 0                                        | 15                              |
|                  |       |         |        |        | <b>YTD TOTALS</b>     |                     | <b>13.49</b>                              | <b>26.48</b>                             | <b>204</b>                      |

### NOTES:

*FT - Feet*

*Gal - Gallon*

*NR - Not recorded*

*YTD - Year to date*

*1) Measurements given are estimated values based on the technicians interpretation and should not be viewed as accurate.*



**RW-6 HYDROCARBON RECOVERY LOG**  
**2/22/05 thru 12/2012**

| Measurement Date | Time  | Quarter | Method | Status | Depth to Product (ft) | Depth to Water (ft) | Product Thickness Level ' (ft) | Product Bailed/Purged ' (gal) | Water Purged ' (gal) |
|------------------|-------|---------|--------|--------|-----------------------|---------------------|--------------------------------|-------------------------------|----------------------|
| 2/22/2005        | 14:30 | 1st     | Bailer | Start  | 33.12                 | 34.5                | 1.38                           | 4.5                           | NR                   |
| 3/3/2005         | 14:00 | 2nd     | Bailer | Start  | 33.15                 | 34                  | 0.85                           | 6                             | NR                   |
| 6/24/2005        | 11:00 | 2nd     | Bailer | Start  | 33.31                 | 34.46               | 1.15                           | 3.5                           | NR                   |
| 9/16/2005        | 10:20 | 3rd     | Bailer | Start  | 32.98                 | 34.33               | 1.35                           | 3                             | NR                   |
| 3/16/2006        | 12:45 | 1st     | Bailer | Start  | 32.67                 | 33.75               | 1.08                           | 2.5                           | NR                   |
| 7/26/2006        | 15:00 | 2nd     | Bailer | Start  | 33                    | 34.12               | 1.12                           | 1.5                           | NR                   |
| 10/16/2006       | 09:55 | 4th     | Bailer | Start  | 33.71                 | 34.63               | 0.92                           | 0.75                          | NR                   |
| 2/13/2007        | 09:50 | 1st     | Bailer | Start  | 33.29                 | 34.5                | 1.21                           | 0.75                          | NR                   |
| 4/30/2007        | 11:25 | 2nd     | Bailer | Start  | 34.42                 | 34.58               | 0.16                           | 0.25                          | NR                   |
| 7/10/2007        | 10:08 | 3rd     | Bailer | Start  | 33.29                 | 34.58               | 1.29                           | 6.78                          | NR                   |
| 11/28/2007       | 08:10 | 4th     | Bailer | Start  | 33.25                 | 34.47               | 1.22                           | 4.5                           | NR                   |
| 2/18/2008        | 15:11 | 1st     | Bailer | Start  | 33.44                 | 34.35               | 0.91                           | 0.11                          | 20                   |
| 5/21/2008        | 14:30 | 2nd     | Bailer | Start  | 33.02                 | 34.12               | 1.1                            | 0.13                          | 18                   |
| 9/12/2008        | 14:35 | 3rd     | Bailer | Start  | 32.12                 | 32.83               | 0.71                           | 0.09                          | 15                   |
| 11/3/2008        | 14:35 | 4th     | Bailer | Start  | 32.46                 | 32.69               | 0.23                           | 0.04                          | 15                   |
| 2/11/2009        | 13:30 | 1st     | Bailer | Start  | 32.19                 | 32.35               | 0.16                           | 0.12                          | 15                   |
| 5/5/2009         | 9:45  | 2nd     | Bailer | Start  | 32.08                 | 32.26               | 0.18                           | 0.04                          | 15                   |
| 8/10/2009        | 9:55  | 3rd     | Bailer | Start  | 32.04                 | 32.28               | 0.24                           | 0.03                          | 15                   |
| 10/28/2009       | 10:55 | 4th     | Bailer | Start  | 31.81                 | 32.03               | 0.22                           | 0.03                          | 12                   |
| 3/3/2010         | 9:40  | 1st     | Bailer | Start  | 31.78                 | 32.01               | 0.23                           | 0.05                          | 15                   |
| 6/3/2010         | 13:45 | 2nd     | Bailer | Start  | 31.61                 | 31.7                | 0.09                           | 0.05                          | 15                   |
| 9/20/2010        | 14:30 | 3rd     | Bailer | Start  | 32.04                 | 32.28               | 0.24                           | 0.03                          | 15                   |
| 11/3/2010        | 9:35  | 4th     | Bailer | Start  | 32.01                 | 32.1                | 0.09                           | 0.02                          | 15                   |

### RW-6 HYDROCARBON RECOVERY LOG - Continued

| Measurement Date  | Time  | Quarter | Method | Status | Depth to Product (ft) | Depth to Water (ft) | Product Thickness Level ' (ft) | Product Bailed/Purged ' (gal) | Water Purged ' (gal) |
|-------------------|-------|---------|--------|--------|-----------------------|---------------------|--------------------------------|-------------------------------|----------------------|
| 3/9/2011          | 10:34 | 1st     | Bailer | Start  | 30.24                 | 30.26               | 0.02                           | 0.04                          | 25                   |
| 6/27/2011         | 9:25  | 2nd     | Bailer | Start  | 30.11                 | 30.15               | 0.04                           | 0.04                          | 30                   |
| 10/4/2011         | 9:05  | 3rd     | Bailer | Start  | 29.91                 | 29.94               | 0.03                           | 0.09                          | 30                   |
| 11/8/2011         | 9:45  | 4th     | Bailer | Start  | 29.90                 | 29.93               | 0.03                           | 0.05                          | 25                   |
| 3/15/2012         | 9:55  | 1st     | Bailer | Start  | 0                     | 29.46               | 0                              | 0                             | 17                   |
| 6/4/2012          | 9:25  | 2nd     | Bailer | Start  | 0                     | 29.54               | 0                              | 0                             | 20                   |
| 8/13/2012         | 11:00 | 3rd     | Bailer | Start  | 0                     | 29.57               | 0                              | 0                             | 15                   |
| 10/8/2012         | 10:15 | 4th     | Bailer | Start  | 0                     | 29.62               | 0                              | 0                             | 15                   |
| <b>YTD TOTALS</b> |       |         |        |        |                       |                     | <b>16.25</b>                   | <b>34.99</b>                  | <b>362</b>           |

**NOTES:**

*FT - Feet*

*Gal - Gallon*

*NR - Not recorded*

*YTD - Year to date*

*1) Measurements given are estimated values based on the technicians interpretation.*

## **APPENDIX B**

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### **Applicable Standards**

**NMAC 20.6.2.3103 – Standards for Ground Water**

**Table 6.2 TPH Screening Guidelines for Potable  
Ground Water (GW-1)**

**NMAC 20.6.2.2101 – General Requirements**

**20.6.2.2004 - 20.6.2.2099: [RESERVED]**

[12-1-95; 20.6.2.2001 - 20.6.2.2099 NMAC - Rn, 20 NMAC 6.2.I.1221-2099, 1-15-01; A, 5-18-11]

**20.6.2.2100 APPLICABILITY:** The requirements of Section 20.6.2.2101 and 20.6.2.2102 NMAC shall not apply to any discharge which is subject to a permit under the National Pollutant Discharge Elimination System of P. L. 92-500; provided that any discharger who is given written notice of National Pollutant Discharge Elimination System permit violation from the Administrator of the Environmental Protection Agency and who has not corrected the violation within thirty days of receipt of said notice shall be subject to Section 20.6.2.2101 and 20.6.2.2102 NMAC until in compliance with the National Pollution Discharge Elimination System permit conditions; provided further that nothing in this Part shall be construed as a deterrent to action under Section 74-6-11 NMSA, 1978. [8-13-76; 20.6.2.2100 NMAC - Rn, 20 NMAC 6.2.II.2100, 1-15-01]

**20.6.2.2101 GENERAL REQUIREMENTS:**

**A.** Except as otherwise provided in Sections 20.6.2.2000 through 20.6.2.2201 NMAC, no person shall cause or allow effluent to discharge to a watercourse if the effluent as indicated by:

- (1) any two consecutive daily composite samples;
- (2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);
- (3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or
- (4) a grab sample collected during flow from an intermittent or infrequent discharge does not conform to the following:

- |                                      |                                    |
|--------------------------------------|------------------------------------|
| (a) Bio-chemical Oxygen Demand (BOD) | Less than 30 mg/l                  |
| (b) Chemical Oxygen Demand (COD)     | Less than 125 mg/l                 |
| (c) Settleable Solids                | Less than 0.5 mg/l                 |
| (d) Fecal Coliform Bacteria          | Less than 500 organisms per 100 ml |
| (e) pH                               | Between 6.6 and 8.6                |

**B.** Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.

**C.** Subsection A of this Section does not apply to the weight of constituents in the water diverted.

**D.** Samples shall be examined in accordance with the most current edition of Standard Methods for the Examination of Water and Wastewater published by the American Public Health Association or the most current edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.

[4-20-68, 3-14-71, 10-8-71, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2101 NMAC - Rn, 20 NMAC 6.2.II.2101, 1-15-01]

**20.6.2.2102 RIO GRANDE BASIN--COMMUNITY SEWERAGE SYSTEMS:**

**A.** No person shall cause or allow effluent from a community sewerage system to discharge to a watercourse in the Rio Grande Basin between the headwaters of Elephant Butte Reservoir and Angostura Diversion Dam as described in Subsection E of this Section if the effluent, as indicated by:

- (1) any two consecutive daily composite samples;
- (2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);
- (3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or
- (4) a grab sample collected during flow from an intermittent or infrequent discharge does not conform to the following:

- |                                      |                                    |
|--------------------------------------|------------------------------------|
| (a) Bio-chemical Oxygen Demand (BOD) | Less than 30 mg/l                  |
| (b) Chemical Oxygen Demand (COD)     | Less than 80 mg/l                  |
| (c) Settleable Solids                | Less than 0.1 mg/l                 |
| (d) Fecal Coliform Bacteria          | Less than 500 organisms per 100 ml |
| (e) pH                               | Between 6.6 and 8.6                |

**B.** Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.

**C.** Subsection A of this Section does not apply to the weight of constituents in the water diverted.

**D.** Samples shall be examined in accordance with the most current edition of Standard Methods for the Analysis of Water and Wastewater published by the American Public Health Association or the most current edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.

**E.** The following is a description of the Rio Grande Basin from the headwaters of Elephant Butte Reservoir to Angostura Diversion Dam as used in this Section. Begin at San Marcial USGS gauging station, which is the headwaters of Elephant Butte Reservoir Irrigation Project, thence northwest to U.S. Highway 60, nine miles  $\pm$  west of Magdalena; thence west along the northeast edge of the San Agustin Plains closed basin; thence north along the east side of the north plains closed basin to the Continental Divide; thence northly along the Continental Divide to the community of Regina on State Highway 96; thence southeasterly along the crest of the San Pedro Mountains to Cerro Toledo Peak; thence southwesterly along the Sierra de Los Valles ridge and the Borrego Mesa to Bodega Butte; thence southerly to Angostura Diversion Dam which is the upper reach of the Rio Grande in this basin; thence southeast to the crest and the crest of the Manzano Mountains and the Los Pinos Mountains; thence southerly along the divide that contributes to the Rio Grande to San Marcial gauging station to the point and place of beginning; excluding all waters upstream of Jemez Pueblo which flow into the Jemez River drainage and the Bluewater Lake. Counties included in the basin are:

- (1) north portion of Socorro County;
- (2) northeast corner of Catron County;
- (3) east portion of Valencia County;
- (4) west portion of Bernalillo County;
- (5) east portion of McKinley County; and
- (6) most of Sandoval County.

[3-14-71, 9-3-72, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2102 NMAC - Rn, 20 NMAC 6.2.II.2102, 1-15-01]

**20.6.2.2103 - 20.6.2.2199: [RESERVED]**

[12-1-95; 20.6.2.2103 - 20.6.2.2199 NMAC - Rn, 20 NMAC 6.2.II.2103-2199, 1-15-01]

**20.6.2.2200 WATERCOURSE PROTECTION:**

[12-1-95; 20.6.2.2200 NMAC - Rn, 20 NMAC 6.2.II.2200, 1-15-01]

**20.6.2.2201 DISPOSAL OF REFUSE:** No person shall dispose of any refuse in a natural watercourse or in a location and manner where there is a reasonable probability that the refuse will be moved into a natural watercourse by leaching or otherwise. Solids diverted from the stream and returned thereto are not subject to abatement under this Section.

[4-20-68, 9-3-72; 20.6.2.2201 NMAC - Rn, 20 NMAC 6.2.II.2201, 1-15-01]

**20.6.2.2202 - 20.6.2.2999: [RESERVED]**

[12-1-95; 20.6.2.2202 - 20.6.2.2999 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

**20.6.2.3000 PERMITTING AND GROUND WATER STANDARDS:**

[12-1-95; 20.6.2.3000 NMAC - Rn, 20 NMAC 6.2.III, 1-15-01]

**20.6.2.3001 - 20.6.2.3100: [RESERVED]**

[12-1-95; 20.6.2.3001 - 20.6.2.3100 NMAC - Rn, 20 NMAC 6.2.II.2202-3100, 1-15-01]

**20.6.2.3101 PURPOSE:**

**A.** The purpose of Sections 20.6.2.3000 through 20.6.2.3114 NMAC controlling discharges onto or below the surface of the ground is to protect all ground water of the state of New Mexico which has an existing concentration of 10,000 mg/l or less TDS, for present and potential future use as domestic and agricultural water supply, and to protect those segments of surface waters which are gaining because of ground water inflow, for uses designated in the New Mexico Water Quality Standards. Sections 20.6.2.3000 through 20.6.2.3114 NMAC are written so that in general:

- (1) if the existing concentration of any water contaminant in ground water is in conformance with the standard of 20.6.2.3103 NMAC, degradation of the ground water up to the limit of the standard will be allowed; and
- (2) if the existing concentration of any water contaminant in ground water exceeds the standard of Section 20.6.2.3103 NMAC, no degradation of the ground water beyond the existing concentration will be allowed.

B. Ground water standards are numbers that represent the pH range and maximum concentrations of water contaminants in the ground water which still allow for the present and future use of ground water resources.

C. The standards are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations. [2-18-77; 20.6.2.3101 NMAC - Rn, 20 NMAC 6.2.III.3101, 1-15-01]

**20.6.2.3102: [RESERVED]**

[12-1-95; 20.6.2.3102 NMAC - Rn, 20 NMAC 6.2.III.3102, 1-15-01]

**20.6.2.3103 STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR LESS:** The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection D of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "*methods for chemical analysis of water and waste of the U.S. environmental protection agency*," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants.

A. **Human Health Standards**-Ground water shall meet the standards of Subsection A and B of this section unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 20.6.2.1101 NMAC for the combination of contaminants, or the Human Health Standard of Subsection A of Section 20.6.2.3103 NMAC for each contaminant shall apply, whichever is more stringent. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

|      |                                                      |             |
|------|------------------------------------------------------|-------------|
| (1)  | Arsenic (As).....                                    | 0.1 mg/l    |
| (2)  | Barium (Ba).....                                     | 1.0 mg/l    |
| (3)  | Cadmium (Cd).....                                    | 0.01 mg/l   |
| (4)  | Chromium (Cr).....                                   | 0.05 mg/l   |
| (5)  | Cyanide (CN).....                                    | 0.2 mg/l    |
| (6)  | Fluoride (F).....                                    | 1.6 mg/l    |
| (7)  | Lead (Pb).....                                       | 0.05 mg/l   |
| (8)  | Total Mercury (Hg).....                              | 0.002 mg/l  |
| (9)  | Nitrate (NO <sub>3</sub> as N).....                  | 10.0 mg/l   |
| (10) | Selenium (Se).....                                   | 0.05 mg/l   |
| (11) | Silver (Ag).....                                     | 0.05 mg/l   |
| (12) | Uranium (U).....                                     | 0.03 mg/l   |
| (13) | Radioactivity: Combined Radium-226 & Radium-228..... | 30 pCi/l    |
| (14) | Benzene.....                                         | 0.01 mg/l   |
| (15) | Polychlorinated biphenyls (PCB's).....               | 0.001 mg/l  |
| (16) | Toluene.....                                         | 0.75 mg/l   |
| (17) | Carbon Tetrachloride.....                            | 0.01 mg/l   |
| (18) | 1,2-dichloroethane (EDC) .....                       | 0.01 mg/l   |
| (19) | 1,1-dichloroethylene (1,1-DCE) .....                 | 0.005 mg/l  |
| (20) | 1,1,2,2-tetrachloroethylene (PCE) .....              | 0.02 mg/l   |
| (21) | 1,1,2-trichloroethylene (TCE) .....                  | 0.1 mg/l    |
| (22) | ethylbenzene.....                                    | 0.75 mg/l   |
| (23) | total xylenes.....                                   | 0.62 mg/l   |
| (24) | methylene chloride.....                              | 0.1 mg/l    |
| (25) | chloroform.....                                      | 0.1 mg/l    |
| (26) | 1,1-dichloroethane.....                              | 0.025 mg/l  |
| (27) | ethylene dibromide (EDB) .....                       | 0.0001 mg/l |
| (28) | 1,1,1-trichloroethane.....                           | 0.06 mg/l   |
| (29) | 1,1,2-trichloroethane.....                           | 0.01 mg/l   |

- (30) 1,1,2,2-tetrachloroethane.....0.01 mg/l
- (31) vinyl chloride.....0.001 mg/l
- (32) PAHs: total naphthalene plus monomethylnaphthalenes.....0.03 mg/l
- (33) benzo-a-pyrene.....0.0007 mg/l

**B. Other Standards for Domestic Water Supply**

- (1) Chloride (Cl) .....250.0 mg/l
- (2) Copper (Cu) .....1.0 mg/l
- (3) Iron (Fe) .....1.0 mg/l
- (4) Manganese (Mn) .....0.2 mg/l
- (6) Phenols.....0.005 mg/l
- (7) Sulfate (SO<sub>4</sub>) .....600.0 mg/l
- (8) Total Dissolved Solids (TDS) .....1000.0 mg/l
- (9) Zinc (Zn) .....10.0 mg/l
- (10) pH.....between 6 and 9

**C. Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of this section unless otherwise provided.**

- (1) Aluminum (Al).....5.0 mg/l
- (2) Boron (B) .....0.75 mg/l
- (3) Cobalt (Co) .....0.05 mg/l
- (4) Molybdenum (Mo) .....1.0 mg/l
- (5) Nickel (Ni) .....0.2 mg/l

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04]

[Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007. For any new water discharges, the uranium standard is effective 9-26-04.]

**20.6.2.3104 DISCHARGE PERMIT REQUIRED:** Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly or indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers. [2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

**20.6.2.3105 EXEMPTIONS FROM DISCHARGE PERMIT REQUIREMENT:** Sections 20.6.2.3104 and 20.6.2.3106 NMAC do not apply to the following:

**A.** Effluent or leachate which conforms to all the listed numerical standards of Section 20.6.2.3103 NMAC and has a total nitrogen concentration of 10 mg/l or less, and does not contain any toxic pollutant. To determine conformance, samples may be taken by the agency before the effluent or leachate is discharged so that it may move directly or indirectly into ground water; provided that if the discharge is by seepage through non-natural or altered natural materials, the agency may take samples of the solution before or after seepage. If for any reason the agency does not have access to obtain the appropriate samples, this exemption shall not apply;

**B.** Effluent which is discharged from a sewerage system used only for disposal of household and other domestic waste which is designed to receive and which receives 2,000 gallons or less of liquid waste per day;

**C.** Water used for irrigated agriculture, for watering of lawns, trees, gardens or shrubs, or for irrigation for a period not to exceed five years for the revegetation of any disturbed land area, unless that water is received directly from any sewerage system;

**D.** Discharges resulting from the transport or storage of water diverted, provided that the water diverted has not had added to it after the point of diversion any effluent received from a sewerage system, that the source of the water diverted was not mine workings, and that the secretary has not determined that a hazard to public health may result;

**E.** Effluent which is discharged to a watercourse which is naturally perennial; discharges to dry arroyos and ephemeral streams are not exempt from the discharge permit requirement, except as otherwise provided in this section;

F. Those constituents which are subject to effective and enforceable effluent limitations in a National Pollutant Discharge Elimination System (NPDES) permit, where discharge onto or below the surface of the ground so that water contaminants may move directly or indirectly into ground water occurs downstream from the outfall where NPDES effluent limitations are imposed, unless the secretary determines that a hazard to public health may result. For purposes of this subsection, monitoring requirements alone do not constitute effluent limitations;

G. Discharges resulting from flood control systems;

H. Leachate which results from the direct natural infiltration of precipitation through disturbed materials, unless the secretary determines that a hazard to public health may result;

I. Leachate which results entirely from the direct natural infiltration of precipitation through undisturbed materials;

J. Leachate from materials disposed of in accordance with the Solid Waste Management Regulations (20 NMAC 9.1) adopted by the New Mexico Environmental Improvement Board;

K. Natural ground water seeping or flowing into conventional mine workings which re-enters the ground by natural gravity flow prior to pumping or transporting out of the mine and without being used in any mining process; this exemption does not apply to solution mining;

L. Effluent or leachate discharges resulting from activities regulated by a mining plan approved and permit issued by the New Mexico Coal Surface Mining Commission, provided that this exemption shall not be construed as limiting the application of appropriate ground water protection requirements by the New Mexico Coal Surface Mining Commission;

M. Effluent or leachate discharges which are regulated by the Oil Conservation Commission and the regulation of which by the Water Quality Control Commission would interfere with the exclusive authority granted under Section 70-2-12 NMSA 1978, or under other laws, to the Oil Conservation Commission.  
[2-18-77, 6-26-80, 7-2-81, 12-24-87, 12-1-95; 20.6.2.3105 NMAC - Rn, 20 NMAC 6.2.III.3105, 1-15-01; A, 12-1-01]

#### **20.6.2.3106 APPLICATION FOR DISCHARGE PERMITS AND RENEWALS:**

A. Any person who, before or on June 18, 1977, is discharging any of the water contaminants listed in Section 20.6.2.3103 NMAC or any toxic pollutant so that they may move directly or indirectly into ground water shall, within 120 days of receipt of written notice from the secretary that a discharge permit is required, or such longer time as the secretary shall for good cause allow, submit a discharge plan to the secretary for approval; such person may discharge without a discharge permit until 240 days after written notification by the secretary that a discharge permit is required or such longer time as the secretary shall for good cause allow.

B. Any person who intends to begin, after June 18, 1977, discharging any of the water contaminants listed in Section 20.6.2.3103 NMAC or any toxic pollutant so that they may move directly or indirectly into ground water shall notify the secretary giving the information enumerated in Subsection B of Section 20.6.2.1201 NMAC; the secretary shall, within 60 days, notify such person if a discharge permit is required; upon submission, the secretary shall review the discharge plan pursuant to Sections 20.6.2.3108 and 20.6.2.3109 NMAC. For good cause shown the secretary may allow such person to discharge without a discharge permit for a period not to exceed 120 days.

C. A proposed discharge plan shall set forth in detail the methods or techniques the discharger proposes to use or processes expected to naturally occur which will ensure compliance with this Part. At least the following information shall be included in the plan:

- (1) Quantity, quality and flow characteristics of the discharge;
- (2) Location of the discharge and of any bodies of water, watercourses and ground water discharge sites within one mile of the outside perimeter of the discharge site, and existing or proposed wells to be used for monitoring;
- (3) Depth to and TDS concentration of the ground water most likely to be affected by the discharge;
- (4) Flooding potential of the site;
- (5) Location and design of site(s) and method(s) to be available for sampling, and for measurement or calculation of flow;
- (6) Depth to and lithological description of rock at base of alluvium below the discharge site if such information is available;
- (7) Any additional information that may be necessary to demonstrate that the discharge permit will not result in concentrations in excess of the standards of Section 20.6.2.3103 NMAC or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use. Detailed information



- Not considering the effects of additivity when screening multiple chemicals.

It is important to note that the generic NMED SSLs were developed assuming distinct soil horizons for each receptor. The soils of interest differ according to the exposure pathway being addressed. For direct ingestion, dermal, and fugitive dust exposure pathways, the primary soil horizon of concern are surface soils. For inhalation of volatiles and migration to groundwater, subsurface soils are of primary concern. Both a residential receptor and a commercial/industrial worker are typically exposed only to surface soil, which may be defined as extending to a depth of approximately two feet below ground surface, depending on site-specific conditions and the amount of intrusive activity that may occur. Construction workers will typically have much greater exposures to subsurface soils. Therefore, when generic SSLs are used for screening level evaluations at a facility, site-specific conditions must be evaluated for each receptor to determine if the assumptions associated with the generic SSLs are appropriate for comparison with the available site data.

## **6.0 TOTAL PETROLEUM HYDROCARBONS (TPH)**

In some instances, it may be practical to assess areas of soil contamination that are the result of releases of petroleum products such as jet fuel and diesel, using total petroleum hydrocarbon (TPH) analyses. TPH results may be used to delineate the extent of petroleum-related contamination at these sites and ascertain if the residual level of petroleum products in soil represents an unacceptable risk to future users of the site. Petroleum hydrocarbons represent complex mixtures of compounds, some of which are regulated constituents and some compounds that are not regulated. In addition, the amount and types of the constituent compounds in a petroleum hydrocarbon release differ widely depending on what type of product was spilled and how the spill has weathered. This variability makes it difficult to determine the toxicity of weathered petroleum products in soil solely from TPH results; however, these results can be used to approximate risk in some cases, depending upon the nature of the petroleum product, the release scenario, how well the site has been characterized, and anticipated potential future land uses. In some cases, site cleanup cannot be based solely on the results of TPH sampling. NMED will make these determinations on a case by case basis. If NMED determines that additional data are necessary, these TPH guidelines must be used in conjunction with the SSLs for individual petroleum-related contaminants in Table A-1 and other contaminants, as applicable.

The screening levels for each petroleum carbon range from the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbons/Extractable Petroleum Hydrocarbons (VPH/EPH) approach and the percent composition table below were used to generate screening levels corresponding to total TPH. Except for waste oil, the information in the compositional assumptions table was obtained from the Massachusetts Department of Environmental Protection guidance document *Implementation of the MADEP VPH/EPH Approach* (October 31, 2002). TPH toxicity (MADEP, 2009) was based only on the weighted sum of the toxicity of the hydrocarbon fractions listed in Table 6-1.

**Table 6-1. TPH Compositional Assumptions in Soil**

| Petroleum Product            | C11-C22 Aromatics | C9-C18 Aliphatics | C19-C36 Aliphatics |
|------------------------------|-------------------|-------------------|--------------------|
| Diesel #2/ new crankcase oil | 60%               | 40%               | 0%                 |
| #3 and #6 Fuel Oil           | 70%               | 30%               | 0%                 |
| Kerosene and jet fuel        | 30%               | 70%               | 0%                 |
| Mineral oil dielectric fluid | 20%               | 40%               | 40%                |
| Unknown oil <sup>a</sup>     | 100%              | 0%                | 0%                 |
| Waste Oil <sup>b</sup>       | 0%                | 0%                | 100%               |

<sup>a</sup> Sites with oil from unknown sources must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Tables 6-2 and 6-3 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED SSLs summarized in Table A-1.

<sup>b</sup> Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Tables 6-2 and 6-3 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED SSLs summarized in Table A-1.

A TPH screening guideline was calculated for each of the types of petroleum product based on the assumed composition from Table 6-1 for petroleum products and the direct soil standards incorporating ceiling concentrations given in the MADEP VPH/EPH (December 2009) Excel spreadsheet for each of the carbon fractions (MADEP, 2009). Groundwater concentrations are based on the weighted sum of the noncarcinogenic toxicity of the petroleum fractions.

Method 1 from the MADEP VPH/EPH document and spreadsheet (MADEP, 2009) was applied, which represents generic cleanup standards for soil and groundwater. Method 1 applies if contamination exists in only soil and groundwater. The MADEP VPH/EPH further divides groundwater into standards. Standard GW-1 applies when groundwater may be used for drinking water purposes. GW-1 standards are based upon ingestion and use of groundwater as a potable water supply. The TPH screening guidelines for sites with potable groundwater are presented in Table 6-2. It is noted that the below guidelines are not necessarily risk-based values but may reflect a ceiling level.

**Table 6-2. TPH Screening Guidelines for Potable Groundwater (GW-1)**

| Petroleum Product       | TPH                                 |                                    | Concentration in Groundwater (mg/L) |
|-------------------------|-------------------------------------|------------------------------------|-------------------------------------|
|                         | Residential Direct Exposure (mg/kg) | Industrial Direct Exposure (mg/kg) |                                     |
| Diesel #2/crankcase oil | 1000                                | 1800                               | 0.4                                 |
| #3 and #6 Fuel Oil      | 1000                                | 1600                               | 0.35                                |
| Kerosene and jet fuel   | 1000                                | 2400                               | 0.55                                |
| Mineral oil dielectric  | 1800                                | 3400                               | 5.92                                |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                |                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|-------------------------------------------|
| fluid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                |                                           |
| Unknown oil <sup>a</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1000           | 1000           | 0.2                                       |
| Waste Oil <sup>b</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3000           | 5000           | See individual contaminants in Appendix A |
| Gasoline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Not applicable | Not applicable | See individual contaminants in Appendix A |
| <sup>a</sup> Sites with oil from unknown sources must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 6-2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.<br><sup>b</sup> Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 6-2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines. |                |                |                                           |

The second standard is GW-2 (MADEP, 2009), which is applicable for sites where the depth to groundwater is less than 15 feet from the ground surface and within 30 feet of an occupied structure. The structure may be either residential or industrial. GW-2 standards are based upon “inhalation exposures that could occur to occupants of the building impacted by volatile compounds, which partition from the groundwater” (MADEP, 2001). The GW-2 screening guidelines ONLY apply for the evaluation of inhalation exposures. If potential ingestion or contact with contaminated soil and/or groundwater could occur, then the screening guidelines provided in Table 6-2 should be applied. Table 6-3 lists the TPH screening guidelines for the inhalation scenario (MADEP, 2009). It is noted that the below guidelines are not necessarily risk-based values but may reflect a ceiling level.

**Table 6-3. TPH Screening Guidelines – Vapor Migration and Inhalation of Groundwater (GW-2)**

| TPH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                     |                                    | Concentration in Groundwater (mg/L)       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|------------------------------------|-------------------------------------------|
| Petroleum Product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Residential Direct Exposure (mg/kg) | Industrial Direct Exposure (mg/kg) |                                           |
| Diesel #2/crankcase oil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1000                                | 3000                               | 32                                        |
| #3 and #6 Fuel Oil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1000                                | 3000                               | 36.5                                      |
| Kerosene and jet fuel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1000                                | 3000                               | 18.5                                      |
| Mineral oil dielectric fluid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1800                                | 3800                               | 12                                        |
| Unknown oil <sup>a</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1000                                | 3000                               | 50                                        |
| Waste Oil <sup>b</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3000                                | 5000                               | See individual contaminants in Appendix A |
| Gasoline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Not applicable                      | Not applicable                     | See individual contaminants in Appendix A |
| <sup>a</sup> Sites with oil from unknown sources must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 6-3 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED SSLs summarized in Table A-1.<br><sup>b</sup> Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste |                                     |                                    |                                           |

## **APPENDIX B**

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### **Applicable Standards**

#### **40 CFR 141.62 Maximum Contaminant Levels (MCLs)**

**ELECTRONIC CODE OF FEDERAL REGULATIONS****e-CFR Data is current as of April 4, 2013**

Title 40: Protection of Environment

PART 141—NATIONAL PRIMARY DRINKING WATER REGULATIONS

**Subpart G—National Primary Drinking Water Regulations: Maximum Contaminant Levels and Maximum Residual Disinfectant Levels****Contents**

- § 141.60 Effective dates.
- § 141.61 Maximum contaminant levels for organic contaminants.
- § 141.62 Maximum contaminant levels for inorganic contaminants.
- § 141.63 Maximum contaminant levels (MCLs) for microbiological contaminants.
- § 141.64 Maximum contaminant levels for disinfection byproducts.
- § 141.65 Maximum residual disinfectant levels.
- § 141.66 Maximum contaminant levels for radionuclides.

**§ 141.60 Effective dates.**

(a) The effective dates for § 141.61 are as follows:

(1) The effective date for paragraphs (a)(1) through (a)(8) of § 141.61 is January 9, 1989.

(2) The effective date for paragraphs (a)(9) through (a)(18) and (c)(1) through (c)(18) of § 141.61 is July 30, 1992.

(3) The effective date for paragraphs (a)(19) through (a)(21), (c)(19) through (c)(25), and (c)(27) through (c)(33) of § 141.61 is January 17, 1994. The effective date of § 141.61(c)(26) is August 17, 1992.

(b) The effective dates for § 141.62 are as follows:

(1) The effective date of paragraph (b)(1) of § 141.62 is October 2, 1987.

(2) The effective date for paragraphs (b)(2) and (b)(4) through (b)(10) of § 141.62 is July 30, 1992.

(3) The effective date for paragraphs (b)(11) through (b)(15) of § 141.62 is January 17, 1994.

(4) The effective date for § 141.62(b)(16) is January 23, 2006.

[56 FR 3593, Jan. 30, 1991, as amended at 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994; 66FR 7063, Jan. 22, 2001]

**§ 141.61 Maximum contaminant levels for organic contaminants.**

(a) The following maximum contaminant levels for organic contaminants apply to community and non-transient, non-community water systems.

| CAS No.     | Contaminant    | MCL (mg/l) |
|-------------|----------------|------------|
| (1) 75-01-4 | Vinyl chloride | 0.002      |

|                |                            |       |
|----------------|----------------------------|-------|
| (2) 71-43-2    | Benzene                    | 0.005 |
| (3) 56-23-5    | Carbon tetrachloride       | 0.005 |
| (4) 107-06-2   | 1,2-Dichloroethane         | 0.005 |
| (5) 79-01-6    | Trichloroethylene          | 0.005 |
| (6) 106-46-7   | para-Dichlorobenzene       | 0.075 |
| (7) 75-35-4    | 1,1-Dichloroethylene       | 0.007 |
| (8) 71-55-6    | 1,1,1-Trichloroethane      | 0.2   |
| (9) 156-59-2   | cis-1,2-Dichloroethylene   | 0.07  |
| (10) 78-87-5   | 1,2-Dichloropropane        | 0.005 |
| (11) 100-41-4  | Ethylbenzene               | 0.7   |
| (12) 108-90-7  | Monochlorobenzene          | 0.1   |
| (13) 95-50-1   | o-Dichlorobenzene          | 0.6   |
| (14) 100-42-5  | Styrene                    | 0.1   |
| (15) 127-18-4  | Tetrachloroethylene        | 0.005 |
| (16) 108-88-3  | Toluene                    | 1     |
| (17) 156-60-5  | trans-1,2-Dichloroethylene | 0.1   |
| (18) 1330-20-7 | Xylenes (total)            | 10    |
| (19) 75-09-2   | Dichloromethane            | 0.005 |
| (20) 120-82-1  | 1,2,4-Trichloro- benzene   | .07   |
| (21) 79-00-5   | 1,1,2-Trichloro- ethane    | .005  |

(b) The Administrator, pursuant to section 1412 of the Act, hereby identifies as indicated in the Table below granular activated carbon (GAC), packed tower aeration (PTA), or oxidation (OX) as the best technology treatment technique, or other means available for achieving compliance with the maximum contaminant level for organic contaminants identified in paragraphs (a) and (c) of this section:

**BAT FOR ORGANIC CONTAMINANTS LISTED IN § 141.61 (A) AND (C)**

| CAS No.    | Contaminant                 | GAC | PTA | OX |
|------------|-----------------------------|-----|-----|----|
| 15972-60-8 | Alachlor                    | X   |     |    |
| 116-06-3   | Aldicarb                    | X   |     |    |
| 1646-88-4  | Aldicarb sulfone            | X   |     |    |
| 1646-87-3  | Aldicarb sulfoxide          | X   |     |    |
| 1912-24-9  | Atrazine                    | X   |     |    |
| 71-43-2    | Benzene                     | X   | X   |    |
| 50-32-8    | Benzo[a]pyrene              | X   |     |    |
| 1563-66-2  | Carbofuran                  | X   |     |    |
| 56-23-5    | Carbon tetrachloride        | X   | X   |    |
| 57-74-9    | Chlordane                   | X   |     |    |
| 75-99-0    | Dalapon                     | X   |     |    |
| 94-75-7    | 2,4-D                       | X   |     |    |
| 103-23-1   | Di (2-ethylhexyl) adipate   | X   | X   |    |
| 117-81-7   | Di (2-ethylhexyl) phthalate | X   |     |    |
| 96-12-8    | Dibromochloropropane (DBCP) | X   | X   |    |
| 95-50-1    | o-Dichlorobenzene           | X   | X   |    |
| 106-46-7   | para-Dichlorobenzene        | X   | X   |    |
| 107-06-2   | 1,2-Dichloroethane          | X   | X   |    |
| 75-35-4    | 1,1-Dichloroethylene        | X   | X   |    |
| 156-59-2   | cis-1,2-Dichloroethylene    | X   | X   |    |

|            |                                 |   |   |   |
|------------|---------------------------------|---|---|---|
| 156-60-5   | trans-1,2-Dichloroethylene      | X | X |   |
| 75-09-2    | Dichloromethane                 |   | X |   |
| 78-87-5    | 1,2-Dichloropropane             | X | X |   |
| 88-85-7    | Dinoseb                         | X |   |   |
| 85-00-7    | Diquat                          | X |   |   |
| 145-73-3   | Endothall                       | X |   |   |
| 72-20-8    | Endrin                          | X |   |   |
| 100-41-4   | Ethylbenzene                    | X | X |   |
| 106-93-4   | Ethylene Dibromide (EDB)        | X | X |   |
| 1071-83-6  | Glyphosate                      |   |   | X |
| 76-44-8    | Heptachlor                      | X |   |   |
| 1024-57-3  | Heptachlor epoxide              | X |   |   |
| 118-74-1   | Hexachlorobenzene               | X |   |   |
| 77-47-3    | Hexachlorocyclopentadiene       | X | X |   |
| 58-89-9    | Lindane                         | X |   |   |
| 72-43-5    | Methoxychlor                    | X |   |   |
| 108-90-7   | Monochlorobenzene               | X | X |   |
| 23135-22-0 | Oxamyl (Vydate)                 | X |   |   |
| 87-86-5    | Pentachlorophenol               | X |   |   |
| 1918-02-1  | Picloram                        | X |   |   |
| 1336-36-3  | Polychlorinated biphenyls (PCB) | X |   |   |
| 122-34-9   | Simazine                        | X |   |   |
| 100-42-5   | Styrene                         | X | X |   |
| 1746-01-6  | 2,3,7,8-TCDD (Dioxin)           | X |   |   |
| 127-18-4   | Tetrachloroethylene             | X | X |   |
| 108-88-3   | Toluene                         | X | X |   |
| 8001-35-2  | Toxaphene                       | X |   |   |
| 93-72-1    | 2,4,5-TP (Silvex)               | X |   |   |
| 120-82-1   | 1,2,4-Trichlorobenzene          | X | X |   |
| 71-55-6    | 1,1,1-Trichloroethane           | X | X |   |
| 79-00-5    | 1,1,2-Trichloroethane           | X | X |   |
| 79-01-6    | Trichloroethylene               | X | X |   |
| 75-01-4    | Vinyl chloride                  |   | X |   |
| 1330-20-7  | Xylene                          | X | X |   |

(c) The following maximum contaminant levels for synthetic organic contaminants apply to community water systems and non-transient, non-community water systems:

| CAS No.        | Contaminant          | MCL (mg/l) |
|----------------|----------------------|------------|
| (1) 15972-60-8 | Alachlor             | 0.002      |
| (2) 116-06-3   | Aldicarb             | 0.003      |
| (3) 1646-87-3  | Aldicarb sulfoxide   | 0.004      |
| (4) 1646-87-4  | Aldicarb sulfone     | 0.002      |
| (5) 1912-24-9  | Atrazine             | 0.003      |
| (6) 1563-66-2  | Carbofuran           | 0.04       |
| (7) 57-74-9    | Chlordane            | 0.002      |
| (8) 96-12-8    | Dibromochloropropane | 0.0002     |
| (9) 94-75-7    | 2,4-D                | 0.07       |
| (10) 106-93-4  | Ethylene dibromide   | 0.00005    |

|                 |                            |                    |
|-----------------|----------------------------|--------------------|
| (11) 76-44-8    | Heptachlor                 | 0.0004             |
| (12) 1024-57-3  | Heptachlor epoxide         | 0.0002             |
| (13) 58-89-9    | Lindane                    | 0.0002             |
| (14) 72-43-5    | Methoxychlor               | 0.04               |
| (15) 1336-36-3  | Polychlorinated biphenyls  | 0.0005             |
| (16) 87-86-5    | Pentachlorophenol          | 0.001              |
| (17) 8001-35-2  | Toxaphene                  | 0.003              |
| (18) 93-72-1    | 2,4,5-TP                   | 0.05               |
| (19) 50-32-8    | Benzo[a]pyrene             | 0.0002             |
| (20) 75-99-0    | Dalapon                    | 0.2                |
| (21) 103-23-1   | Di(2-ethylhexyl) adipate   | 0.4                |
| (22) 117-81-7   | Di(2-ethylhexyl) phthalate | 0.006              |
| (23) 88-85-7    | Dinoseb                    | 0.007              |
| (24) 85-00-7    | Diquat                     | 0.02               |
| (25) 145-73-3   | Endothall                  | 0.1                |
| (26) 72-20-8    | Endrin                     | 0.002              |
| (27) 1071-53-6  | Glyphosate                 | 0.7                |
| (28) 118-74-1   | Hexachlorobenzene          | 0.001              |
| (29) 77-47-4    | Hexachlorocyclopentadiene  | 0.05               |
| (30) 23135-22-0 | Oxamyl (Vydate)            | 0.2                |
| (31) 1918-02-1  | Picloram                   | 0.5                |
| (32) 122-34-9   | Simazine                   | 0.004              |
| (33) 1746-01-6  | 2,3,7,8-TCDD (Dioxin)      | $3 \times 10^{-8}$ |

[56 FR 3593, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31846, July 17, 1992; 59 FR 34324, July 1, 1994]

#### § 141.62 Maximum contaminant levels for inorganic contaminants.

(a) [Reserved]

(b) The maximum contaminant levels for inorganic contaminants specified in paragraphs (b) (2)-(6), (b)(10), and (b) (11)-(16) of this section apply to community water systems and non-transient, non-community water systems. The maximum contaminant level specified in paragraph (b)(1) of this section only applies to community water systems. The maximum contaminant levels specified in (b)(7), (b)(8), and (b)(9) of this section apply to community water systems; non-transient, non-community water systems; and transient non-community water systems.

| Contaminant                   | MCL (mg/l)                                       |
|-------------------------------|--------------------------------------------------|
| (1) Fluoride                  | 4.0                                              |
| (2) Asbestos                  | 7 Million Fibers/liter (longer than 10 $\mu$ m). |
| (3) Barium                    | 2                                                |
| (4) Cadmium                   | 0.005                                            |
| (5) Chromium                  | 0.1                                              |
| (6) Mercury                   | 0.002                                            |
| (7) Nitrate                   | 10 (as Nitrogen)                                 |
| (8) Nitrite                   | 1 (as Nitrogen)                                  |
| (9) Total Nitrate and Nitrite | 10 (as Nitrogen)                                 |
| (10) Selenium                 | 0.05                                             |
| (11) Antimony                 | 0.006                                            |
| (12) Beryllium                | 0.004                                            |



|                                |       |
|--------------------------------|-------|
| (13) Cyanide (as free Cyanide) | 0.2   |
| (14) [Reserved]                |       |
| (15) Thallium                  | 0.002 |
| (16) Arsenic                   | 0.010 |

(c) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for inorganic contaminants identified in paragraph (b) of this section, except fluoride:

**BAT FOR INORGANIC COMPOUNDS LISTED IN SECTION 141.62(B)**

| <b>Chemical Name</b> | <b>BAT(s)</b>                                    |
|----------------------|--------------------------------------------------|
| Antimony             | 2,7                                              |
| Arsenic <sup>4</sup> | 1, 2, 5, 6, 7, 9, 12 <sup>5</sup>                |
| Asbestos             | 2,3,8                                            |
| Barium               | 5,6,7,9                                          |
| Beryllium            | 1,2,5,6,7                                        |
| Cadmium              | 2,5,6,7                                          |
| Chromium             | 2,5,6 <sup>2</sup> ,7                            |
| Cyanide              | 5,7,13                                           |
| Mercury              | 2 <sup>1</sup> ,4,6 <sup>1</sup> ,7 <sup>1</sup> |
| Nickel               | 5,6,7                                            |
| Nitrate              | 5,7,9                                            |
| Nitrite              | 5,7                                              |
| Selenium             | 1,2 <sup>3</sup> ,6,7,9                          |
| Thallium             | 1,5                                              |

<sup>1</sup> BAT only if influent Hg concentrations  $\leq 10\mu\text{g}/1$ .

<sup>2</sup> BAT for Chromium III only.

<sup>3</sup> BAT for Selenium IV only.

<sup>4</sup> BATs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.

<sup>5</sup> To obtain high removals, iron to arsenic ratio must be at least 20:1.

*Key to BATS in Table*

1 = Activated Alumina

2 = Coagulation/Filtration (not BAT for systems < 500 service connections)

3 = Direct and Diatomite Filtration

4 = Granular Activated Carbon

5 = Ion Exchange

6 = Lime Softening (not BAT for systems <500 service connections)

7 = Reverse Osmosis

8 = Corrosion Control

9 = Electrodialysis

10 = Chlorine

11 = Ultraviolet

12 = Oxidation/Filtration

13 = Alkaline Chlorination (pH  $\geq$  8.5)

(d) The Administrator, pursuant to section 1412 of the Act, hereby identifies in the following table the affordable technology, treatment technique, or other means available to systems serving 10,000 persons or fewer for achieving compliance with the maximum contaminant level for arsenic:

**SMALL SYSTEM COMPLIANCE TECHNOLOGIES (SSCTs) <sup>1</sup>FOR ARSENIC <sup>2</sup>**

| <b>Small system compliance technology</b>     | <b>Affordable for listed small system categories <sup>3</sup></b> |
|-----------------------------------------------|-------------------------------------------------------------------|
| Activated Alumina (centralized)               | All size categories.                                              |
| Activated Alumina (Point-of-Use) <sup>4</sup> | All size categories.                                              |
| Coagulation/Filtration <sup>5</sup>           | 501-3,300, 3,301-10,000.                                          |
| Coagulation-assisted Microfiltration          | 501-3,300, 3,301-10,000.                                          |
| Electrodialysis reversal <sup>6</sup>         | 501-3,300, 3,301-10,000.                                          |
| Enhanced coagulation/filtration               | All size categories                                               |
| Enhanced lime softening (pH > 10.5)           | All size categories.                                              |
| Ion Exchange                                  | All size categories.                                              |
| Lime Softening <sup>5</sup>                   | 501-3,300, 3,301-10,000.                                          |
| Oxidation/Filtration <sup>7</sup>             | All size categories.                                              |
| Reverse Osmosis (centralized) <sup>6</sup>    | 501-3,300, 3,301-10,000.                                          |
| Reverse Osmosis (Point-of-Use) <sup>4</sup>   | All size categories.                                              |

<sup>1</sup> Section 1412(b)(4)(E)(ii) of SDWA specifies that SSCTs must be affordable and technically feasible for small systems.

<sup>2</sup> SSCTs for Arsenic V. Pre-oxidation may be required to convert Arsenic III to Arsenic V.

<sup>3</sup> The Act (ibid.) specifies three categories of small systems: (i) those serving 25 or more, but fewer than 501, (ii) those serving more than 500, but fewer than 3,301, and (iii) those serving more than 3,300, but fewer than 10,001.

<sup>4</sup> When POU or POE devices are used for compliance, programs to ensure proper long-term operation, maintenance, and monitoring must be provided by the water system to ensure adequate performance.

<sup>5</sup> Unlikely to be installed solely for arsenic removal. May require pH adjustment to optimal range if high removals are needed.

<sup>6</sup> Technologies reject a large volume of water—may not be appropriate for areas where water quantity may be an issue.

<sup>7</sup> To obtain high removals, iron to arsenic ratio must be at least 20:1.

[56 FR 3594, Jan. 30, 1991, as amended at 56 FR 30280, July 1, 1991; 57 FR 31847, July 17, 1992; 59 FR 34325, July 1, 1994; 60 FR 33932, June 29, 1995; 66 FR 7063, Jan. 22, 2001; 68 FR 14506, Mar. 25, 2003; 69 FR 38855, June 29, 2004]

**§ 141.63 Maximum contaminant levels (MCLs) for microbiological contaminants.**

Link to an amendment published at 78 FR 10347, February 13, 2013.

(a) The MCL is based on the presence or absence of total coliforms in a sample, rather than coliform density.

(1) For a system which collects at least 40 samples per month, if no more than 5.0 percent of the samples collected during a month are total coliform-positive, the system is in compliance with the MCL for total coliforms.

(2) For a system which collects fewer than 40 samples/month, if no more than one sample collected during a month is total coliform-positive, the system is in compliance with the MCL for total coliforms.

(b) Any fecal coliform-positive repeat sample or *E. coli*-positive repeat sample, or any total coliform-positive repeat sample following a fecal coliform-positive or *E. coli*-positive routine sample constitutes a violation of the MCL for total coliforms. For purposes of the public notification requirements in subpart Q, this is a violation that may pose an acute risk to health.

(c) A public water system must determine compliance with the MCL for total coliforms in paragraphs (a) and (b) of this section for each month in which it is required to monitor for total coliforms.

(d) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant level for total coliforms in paragraphs (a) and (b) of this section:

(1) Protection of wells from contamination by coliforms by appropriate placement and construction;

(2) Maintenance of a disinfectant residual throughout the distribution system;

(3) Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system;

(4) Filtration and/or disinfection of surface water, as described in subpart H, or disinfection of ground water using strong oxidants such as chlorine, chlorine dioxide, or ozone; and

(5) For systems using ground water, compliance with the requirements of an EPA-approved State Wellhead Protection Program developed and implemented under section 1428 of the SDWA.

[54 FR 27566, June 29, 1989; 55 FR 25064, June 19, 1990, as amended at 65 FR 26022, May 4, 2000]

**§ 141.64 Maximum contaminant levels for disinfection byproducts.**

(a) *Bromate and chlorite*. The maximum contaminant levels (MCLs) for bromate and chlorite are as follows:

| Disinfection byproduct | MCL (mg/L) |
|------------------------|------------|
| Bromate                | 0.010      |
| Chlorite               | 1.0        |

(1) *Compliance dates for CWSs and NTNCWSs*. Subpart H systems serving 10,000 or more persons must comply with this paragraph (a) beginning January 1, 2002. Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this paragraph (a) beginning January 1, 2004.

(2) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for bromate and chlorite identified in this paragraph (a):

| <b>Disinfection byproduct</b> | <b>Best available technology</b>                                                                                                           |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Bromate                       | Control of ozone treatment process to reduce production of bromate                                                                         |
| Chlorite                      | Control of treatment processes to reduce disinfectant demand and control of disinfection treatment processes to reduce disinfectant levels |

(b) TTHM and HAA5. (1) Subpart L—RAA compliance. (i) Compliance dates. Subpart H systems serving 10,000 or more persons must comply with this paragraph (b)(1) beginning January 1, 2002. Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this paragraph (b)(1) beginning January 1, 2004. All systems must comply with these MCLs until the date specified for subpart V compliance in § 141.620(c).

| <b>Disinfection byproduct</b>  | <b>MCL (mg/L)</b> |
|--------------------------------|-------------------|
| Total trihalomethanes (TTHM)   | 0.080             |
| Haloacetic acids (five) (HAA5) | 0.060             |

(ii) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for TTHM and HAA5 identified in this paragraph (b)(1):

| <b>Disinfection byproduct</b>                                   | <b>Best available technology</b>                                                                            |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Total trihalomethanes (TTHM) and Haloacetic acids (five) (HAA5) | Enhanced coagulation or enhanced softening or GAC10, with chlorine as the primary and residual disinfectant |

(2) Subpart V—LRAA compliance. (i) Compliance dates. The subpart V MCLs for TTHM and HAA5 must be complied with as a locational running annual average at each monitoring location beginning the date specified for subpart V compliance in § 141.620(c).

| <b>Disinfection byproduct</b>  | <b>MCL (mg/L)</b> |
|--------------------------------|-------------------|
| Total trihalomethanes (TTHM)   | 0.080             |
| Haloacetic acids (five) (HAA5) | 0.060             |

(ii) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for TTHM and HAA5 identified in this paragraph (b)(2) for all systems that disinfect their source water:

| <b>Disinfection byproduct</b>                                   | <b>Best available technology</b>                                                                                                       |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Total trihalomethanes (TTHM) and Haloacetic acids (five) (HAA5) | Enhanced coagulation or enhanced softening, plus GAC10; or nanofiltration with a molecular weight cutoff $\leq 1000$ Daltons; or GAC20 |

(iii) The Administrator, pursuant to section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for TTHM and HAA5 identified in this paragraph (b)(2) for consecutive systems and applies only to the disinfected water that consecutive systems buy or otherwise receive:

| <b>Disinfection byproduct</b> | <b>Best available technology</b> |
|-------------------------------|----------------------------------|
|-------------------------------|----------------------------------|

|                                                                 |                                                                                                                                                                                      |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total trihalomethanes (TTHM) and Haloacetic acids (five) (HAA5) | Systems serving $\geq 10,000$ : Improved distribution system and storage tank management to reduce residence time, plus the use of chloramines for disinfectant residual maintenance |
|                                                                 | Systems serving $< 10,000$ : Improved distribution system and storage tank management to reduce residence time                                                                       |

[71 FR 478, Jan. 4, 2006]

#### § 141.65 Maximum residual disinfectant levels.

(a) Maximum residual disinfectant levels (MRDLs) are as follows:

| Disinfectant residual | MRDL (mg/L)               |
|-----------------------|---------------------------|
| Chlorine              | 4.0 (as $\text{Cl}_2$ ).  |
| Chloramines           | 4.0 (as $\text{Cl}_2$ ).  |
| Chlorine dioxide      | 0.8 (as $\text{ClO}_2$ ). |

(b) *Compliance dates* —(1) *CWSs and NTNCWSs*. Subpart H systems serving 10,000 or more persons must comply with this section beginning January 1, 2002. Subpart H systems serving fewer than 10,000 persons and systems using only ground water not under the direct influence of surface water must comply with this subpart beginning January 1, 2004.

(2) *Transient NCWSs*. Subpart H systems serving 10,000 or more persons and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2002. Subpart H systems serving fewer than 10,000 persons and using chlorine dioxide as a disinfectant or oxidant and systems using only ground water not under the direct influence of surface water and using chlorine dioxide as a disinfectant or oxidant must comply with the chlorine dioxide MRDL beginning January 1, 2004.

(c) The Administrator, pursuant to Section 1412 of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum residual disinfectant levels identified in paragraph (a) of this section: control of treatment processes to reduce disinfectant demand and control of disinfection treatment processes to reduce disinfectant levels.

[63 FR 69465, Dec. 16, 1998, as amended at 66 FR 3776, Jan. 16, 2001]

#### § 141.66 Maximum contaminant levels for radionuclides.

(a) [Reserved]

(b) *MCL for combined radium-226 and -228*. The maximum contaminant level for combined radium-226 and radium-228 is 5 pCi/L. The combined radium-226 and radium-228 value is determined by the addition of the results of the analysis for radium-226 and the analysis for radium-228.

(c) *MCL for gross alpha particle activity (excluding radon and uranium)*. The maximum contaminant level for gross alpha particle activity (including radium-226 but excluding radon and uranium) is 15 pCi/L.

(d) *MCL for beta particle and photon radioactivity*. (1) The average annual concentration of beta particle and photon radioactivity from man-made radionuclides in drinking water must not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem/year (mrem/year).

(2) Except for the radionuclides listed in table A, the concentration of man-made radionuclides causing 4 mrem total body or organ dose equivalents must be calculated on the basis of 2 liter per day drinking water intake using the 168 hour data list in "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," NBS (National Bureau of Standards) Handbook 69 as amended August 1963, U.S.

Department of Commerce. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of this document are available from the National Technical Information Service, NTIS ADA 280 282, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. The toll-free number is 800-553-6847. Copies may be inspected at EPA's Drinking Water Docket, 401 M Street, SW., Washington, DC 20460; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 mrem/year.

**TABLE A—AVERAGE ANNUAL CONCENTRATIONS ASSUMED TO PRODUCE: A TOTAL BODY OR ORGAN DOSE OF 4 MREM/YR**

| 1. Radionuclide | Critical organ | pCi per liter |
|-----------------|----------------|---------------|
| 2. Tritium      | Total body     | 20,000        |
| 3. Strontium-90 | Bone Marrow    | 8             |

(e) *MCL for uranium.* The maximum contaminant level for uranium is 30 µg/L.

(f) *Compliance dates.* (1) Compliance dates for combined radium-226 and -228, gross alpha particle activity, gross beta particle and photon radioactivity, and uranium: Community water systems must comply with the MCLs listed in paragraphs (b), (c), (d), and (e) of this section beginning December 8, 2003 and compliance shall be determined in accordance with the requirements of §§ 141.25 and 141.26. Compliance with reporting requirements for the radionuclides under appendix A to subpart O and appendices A and B to subpart Q is required on December 8, 2003.

(2) [Reserved]

(g) *Best available technologies (BATs) for radionuclides.* The Administrator, pursuant to section 1412 of the Act, hereby identifies as indicated in the following table the best technology available for achieving compliance with the maximum contaminant levels for combined radium-226 and -228, uranium, gross alpha particle activity, and beta particle and photon radioactivity.

**TABLE B—BAT FOR COMBINED RADIUM-226 AND RADIUM-228, URANIUM, GROSS ALPHA PARTICLE ACTIVITY, AND BETA PARTICLE AND PHOTON RADIOACTIVITY**

| Contaminant                                                    | BAT                                                                    |
|----------------------------------------------------------------|------------------------------------------------------------------------|
| 1. Combined radium-226 and radium-228                          | Ion exchange, reverse osmosis, lime softening.                         |
| 2. Uranium                                                     | Ion exchange, reverse osmosis, lime softening, coagulation/filtration. |
| 3. Gross alpha particle activity (excluding Radon and Uranium) | Reverse osmosis.                                                       |
| 4. Beta particle and photon radioactivity                      | Ion exchange, reverse osmosis.                                         |

(h) *Small systems compliance technologies list for radionuclides.*

**TABLE C—LIST OF SMALL SYSTEMS COMPLIANCE TECHNOLOGIES FOR RADIONUCLIDES AND LIMITATIONS TO USE**

| Unit technologies                      | Limitations (see footnotes) | Operator skill level required <sup>1</sup> | Raw water quality range and considerations. <sup>1</sup> |
|----------------------------------------|-----------------------------|--------------------------------------------|----------------------------------------------------------|
| 1. Ion exchange (IE)                   | ( <sup>a</sup> )            | Intermediate                               | All ground waters.                                       |
| 2. Point of use (POU <sup>2</sup> ) IE | ( <sup>b</sup> )            | Basic                                      | All ground waters.                                       |

|                                                  |                                    |                          |                                                                                      |
|--------------------------------------------------|------------------------------------|--------------------------|--------------------------------------------------------------------------------------|
| 3. Reverse osmosis (RO)                          | ( <sup>c</sup> )                   | Advanced                 | Surface waters usually require pre-filtration.                                       |
| 4. POU <sup>2</sup> RO                           | ( <sup>b</sup> )                   | Basic                    | Surface waters usually require pre-filtration.                                       |
| 5. Lime softening                                | ( <sup>d</sup> )                   | Advanced                 | All waters.                                                                          |
| 6. Green sand filtration                         | ( <sup>e</sup> )                   | Basic.                   |                                                                                      |
| 7. Co-precipitation with Barium sulfate          | ( <sup>f</sup> )                   | Intermediate to Advanced | Ground waters with suitable water quality.                                           |
| 8. Electrodialysis/electrodialysis reversal      |                                    | Basic to Intermediate    | All ground waters.                                                                   |
| 9. Pre-formed hydrous Manganese oxide filtration | ( <sup>g</sup> )                   | Intermediate             | All ground waters.                                                                   |
| 10. Activated alumina                            | ( <sup>a</sup> ), ( <sup>h</sup> ) | Advanced                 | All ground waters; competing anion concentrations may affect regeneration frequency. |
| 11. Enhanced coagulation/filtration              | ( <sup>i</sup> )                   | Advanced                 | Can treat a wide range of water qualities.                                           |

<sup>1</sup> National Research Council (NRC). Safe Water from Every Tap: Improving Water Service to Small Communities. National Academy Press. Washington, D.C. 1997.

<sup>2</sup> A POU, or "point-of-use" technology is a treatment device installed at a single tap used for the purpose of reducing contaminants in drinking water at that one tap. POU devices are typically installed at the kitchen tap. See the April 21, 2000 NODA for more details.

#### Limitations Footnotes: Technologies for Radionuclides:

<sup>a</sup> The regeneration solution contains high concentrations of the contaminant ions. Disposal options should be carefully considered before choosing this technology.

<sup>b</sup> When POU devices are used for compliance, programs for long-term operation, maintenance, and monitoring must be provided by water utility to ensure proper performance.

<sup>c</sup> Reject water disposal options should be carefully considered before choosing this technology. See other RO limitations described in the SWTR Compliance Technologies Table.

<sup>d</sup> The combination of variable source water quality and the complexity of the water chemistry involved may make this technology too complex for small surface water systems.

<sup>e</sup> Removal efficiencies can vary depending on water quality.

<sup>f</sup> This technology may be very limited in application to small systems. Since the process requires static mixing, detention basins, and filtration, it is most applicable to systems with sufficiently high sulfate levels that already have a suitable filtration treatment train in place.

<sup>g</sup> This technology is most applicable to small systems that already have filtration in place.

<sup>h</sup> Handling of chemicals required during regeneration and pH adjustment may be too difficult for small systems without an adequately trained operator.

<sup>i</sup> Assumes modification to a coagulation/filtration process already in place.

**TABLE D—COMPLIANCE TECHNOLOGIES BY SYSTEM SIZE CATEGORY FOR RADIONUCLIDE NPDWR'S**

| Contaminant                                   | Compliance technologies <sup>1</sup> for system size categories (population served) |                           | 3,300-10,000               |
|-----------------------------------------------|-------------------------------------------------------------------------------------|---------------------------|----------------------------|
|                                               | 25-500                                                                              | 501-3,300                 |                            |
| 1. Combined radium-226 and radium-228         | 1, 2, 3, 4, 5, 6, 7, 8, 9                                                           | 1, 2, 3, 4, 5, 6, 7, 8, 9 | 1, 2, 3, 4, 5, 6, 7, 8, 9. |
| 2. Gross alpha particle activity              | 3, 4                                                                                | 3, 4                      | 3, 4.                      |
| 3. Beta particle activity and photon activity | 1, 2, 3, 4                                                                          | 1, 2, 3, 4                | 1, 2, 3, 4.                |
| 4. Uranium                                    | 1, 2, 4, 10, 11                                                                     | 1, 2, 3, 4, 5, 10, 11     | 1, 2, 3, 4, 5, 10, 11.     |

Note:<sup>1</sup> Numbers correspond to those technologies found listed in the table C of 141.66(h).

[65 FR 76748, Dec. 7, 2000]

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## **APPENDIX B**

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### **Applicable Standards**

### **EPA Regional Screening Levels (RSLs)**

Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100x c SL; ** = where n SL < 10x c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |             |                                             |             |                                 |             |                                          |             |              |       |     |                             |                                       |               |                          |             |                            |             |                                      |             |                                        |             |                    |             |               |  |                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------|-------------|---------------------------------|-------------|------------------------------------------|-------------|--------------|-------|-----|-----------------------------|---------------------------------------|---------------|--------------------------|-------------|----------------------------|-------------|--------------------------------------|-------------|----------------------------------------|-------------|--------------------|-------------|---------------|--|---------------------------------|--|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                             |             |                                 |             |                                          |             |              |       |     |                             | Contaminant                           |               | Screening Levels         |             |                            |             |                                      |             |                                        |             |                    |             |               |  | Protection of Ground Water SSLs |  |
| SFO<br>(mg/kg-day) <sup>-1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | k<br>e<br>y | IUR<br>(ug/m <sup>3</sup> -h) <sup>-1</sup> | k<br>e<br>y | RfD <sub>h</sub><br>(mg/kg-day) | k<br>e<br>y | RfC <sub>i</sub><br>(mg/m <sup>3</sup> ) | k<br>e<br>y | muta-<br>gen | GIABS | ABS | C <sub>sat</sub><br>(mg/kg) | Analyte                               | CAS No.       | Resident Soil<br>(mg/kg) | k<br>e<br>y | Industrial Soil<br>(mg/kg) | k<br>e<br>y | Resident Air<br>(ug/m <sup>3</sup> ) | k<br>e<br>y | Industrial Air<br>(ug/m <sup>3</sup> ) | k<br>e<br>y | Tapwater<br>(ug/L) | k<br>e<br>y | MCL<br>(ug/L) |  |                                 |  |
| 1.8E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 5.1E-06                                     | C           | 1.5E-01                         | I           |                                          |             |              |       |     |                             | AIAR                                  | 1596-84-5     | 2.7E+01                  | c           | 9.6E+01                    | c           | 4.8E-01                              | c           | 2.4E+00                                | c           | 3.7E+00            | c           |               |  |                                 |  |
| 8.7E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           |                                             |             | 4.0E-03                         | I           |                                          |             |              |       | 1   | 0.1                         | Acetate                               | 30560-19-1    | 5.6E+01                  | c**         | 2.0E+02                    | c*          |                                      |             |                                        |             | 7.7E+00            | c**         |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | 2.2E-06                                     | I           |                                 |             | 9.0E-03                                  | I           | V            |       | 1   | 1.1E+05                     | Acetaldehyde                          | 75-07-0       | 1.0E+01                  | c**         | 5.2E+01                    | c**         | 1.1E+00                              | c**         | 5.6E+00                                | c**         | 2.2E+00            | c**         |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 2.0E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Acetochlor                            | 34256-82-1    | 1.2E+03                  | n           | 1.2E+04                    | n           |                                      |             |                                        |             | 2.7E+02            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 9.0E-01                         | I           | 3.1E+01                                  | A           | V            |       | 1   | 1.1E+05                     | Acetone                               | 67-64-1       | 6.1E+04                  | n           | 6.3E+05                    | nms         | 3.2E+04                              | n           | 1.4E+05                                | n           | 1.2E+04            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 2.0E-03                                  | X           | V            |       | 1   | 1.1E+05                     | Acetone Cyanohydrin                   | 75-86-5       | 5.3E+01                  | n           | 2.2E+02                    | n           | 2.1E+00                              | n           | 8.8E+00                                | n           | 4.2E+00            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 6.0E-02                                  | I           | V            |       | 1   | 1.3E+05                     | Acetonitrile                          | 75-05-8       | 8.7E+02                  | n           | 3.7E+03                    | n           | 6.3E+01                              | n           | 2.6E+02                                | n           | 1.3E+02            | n           |               |  |                                 |  |
| 3.8E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.3E-03                                     | C           |                                 |             |                                          |             |              |       | 1   | 0.1                         | Acetophenone                          | 98-86-2       | 7.8E+03                  | ns          | 1.0E+05                    | nms         |                                      |             |                                        |             | 1.5E+03            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 1.0E-01                         | I           |                                          |             |              |       | 1   | 2.5E+03                     | Acetylaminoofluorene, 2-              | 53-96-3       | 1.3E-01                  | c           | 4.5E-01                    | c           | 1.9E-03                              | c           | 9.4E-03                                | c           | 1.3E-02            | c           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 5.0E-04                         | I           | 2.0E-05                                  | I           | V            |       | 1   | 2.3E+04                     | Acrolein                              | 107-02-8      | 1.5E-01                  | n           | 6.5E-01                    | n           | 2.1E-02                              | n           | 8.8E-02                                | n           | 4.1E-02            | n           |               |  |                                 |  |
| 5.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 1.0E-04                                     | I           |                                 |             | 6.0E-03                                  | I           | M            |       | 1   | 0.1                         | Acrylamide                            | 79-06-1       | 2.3E-01                  | c           | 3.4E+00                    | c           | 9.6E-03                              | c           | 1.2E-01                                | c           | 4.3E-02            | c           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 5.0E-01                         | I           | 1.0E-03                                  | I           |              |       | 1   | 0.1                         | Acrylic Acid                          | 79-10-7       | 3.0E+04                  | n           | 2.9E+05                    | nm          | 1.0E+00                              | n           | 4.4E+00                                | n           | 7.7E+03            | n           |               |  |                                 |  |
| 5.4E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 6.8E-05                                     | I           |                                 |             | 4.0E-02                                  | A           | 2.0E-03      | I     | V   | 1                           | 1.1E+04                               | Acrylonitrile | 107-13-1                 | 2.4E-01     | c*                         | 1.2E+00     | c*                                   | 3.6E-02     | c*                                     | 1.8E-01     | c*                 | 4.5E-02     | c*            |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 6.0E-03                                  | P           |              |       | 1   | 0.1                         | Adiponitrile                          | 111-69-3      | 8.5E+06                  | nm          | 3.6E+07                    | nm          | 6.3E+00                              | n           | 2.6E+01                                | n           |                    |             |               |  |                                 |  |
| 5.6E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           |                                             |             | 1.0E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Alachlor                              | 15972-60-8    | 8.7E+00                  | c*          | 3.1E+01                    | c           |                                      |             |                                        |             | 9.1E-01            | c           | 2.0E+00       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 1.0E-03                                  | I           |              |       | 1   | 0.1                         | Aldicarb                              | 116-06-3      | 6.1E+01                  | n           | 6.2E+02                    | n           |                                      |             |                                        |             | 1.5E+01            | n           | 3.0E+00(F)    |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 1.0E-03                                  | I           |              |       | 1   | 0.1                         | Aldicarb Sulfone                      | 1646-88-4     | 6.1E+01                  | n           | 6.2E+02                    | n           |                                      |             |                                        |             | 1.6E+01            | n           | 2.0E+00(F)    |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             |                                          |             |              |       | 1   | 0.1                         | Aldicarb sulfoxide                    | 1646-87-3     |                          |             |                            |             |                                      |             |                                        |             |                    |             | 4.0E+00(F)    |  |                                 |  |
| 1.7E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 4.9E-03                                     | I           |                                 |             | 3.0E-05                                  | I           |              |       | 1   | 0.1                         | Aldrin                                | 309-00-2      | 2.9E-02                  | c*          | 1.0E-01                    | c           | 5.0E-04                              | c           | 2.5E-03                                | c           | 4.0E-03            | c           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 2.5E-01                                  | I           |              |       | 1   | 0.1                         | Allyl                                 | 74223-64-6    | 1.5E+04                  | n           | 1.5E+05                    | nm          |                                      |             |                                        |             | 3.8E+03            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 5.0E-03                                  | I           | 1.0E-04      | X     | 1   | 0.1                         | Allyl Alcohol                         | 107-18-6      | 3.0E+02                  | n           | 3.1E+03                    | n           | 1.0E-01                              | n           | 4.4E-01                                | n           | 7.8E+01            | n           |               |  |                                 |  |
| 2.1E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 6.0E-06                                     | C           |                                 |             | 1.0E-03                                  | I           | V            |       | 1   | 1.4E+03                     | Allyl Chloride                        | 107-05-1      | 6.8E-01                  | c**         | 3.4E+00                    | c**         | 4.1E-01                              | c**         | 2.0E+00                                | c**         | 6.3E-01            | c**         |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 1.0E+00                         | P           | 5.0E-03                                  | P           |              |       | 1   |                             | Aluminum                              | 7429-90-5     | 7.7E+04                  | n           | 9.9E+05                    | nm          | 5.2E+00                              | n           | 2.2E+01                                | n           | 1.6E+04            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 4.0E-04                         | I           |                                          |             |              |       | 1   |                             | Aluminum Phosphide                    | 20859-73-8    | 3.1E+01                  | n           | 4.1E+02                    | n           |                                      |             |                                        |             | 6.2E+00            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 3.0E-04                         | I           |                                          |             |              |       | 1   | 0.1                         | Amdro                                 | 67485-29-4    | 1.8E+01                  | n           | 1.8E+02                    | n           |                                      |             |                                        |             | 4.6E+00            | n           |               |  |                                 |  |
| 2.1E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 6.0E-03                                     | C           |                                 |             | 9.0E-03                                  | I           |              |       | 1   | 0.1                         | Ametryn                               | 834-12-8      | 5.5E+02                  | n           | 5.5E+03                    | n           |                                      |             |                                        |             | 1.2E+02            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             |                                          |             |              |       | 1   | 0.1                         | Aminobiphenyl, 4-                     | 92-67-1       | 2.3E-02                  | c           | 8.2E-02                    | c           | 4.1E-04                              | c           | 2.0E-03                                | c           | 2.6E-03            | c           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 8.0E-02                         | P           |                                          |             |              |       | 1   | 0.1                         | Aminophenol, m-                       | 591-27-5      | 4.9E+03                  | n           | 4.9E+04                    | n           |                                      |             |                                        |             | 1.2E+03            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 2.0E-02                         | P           |                                          |             |              |       | 1   | 0.1                         | Aminophenol, p-                       | 123-30-8      | 1.2E+03                  | n           | 1.2E+04                    | n           |                                      |             |                                        |             | 3.1E+02            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 2.5E-03                         | I           |                                          |             |              |       | 1   | 0.1                         | Amtraz                                | 33089-61-1    | 1.5E+02                  | n           | 1.5E+03                    | n           |                                      |             |                                        |             | 5.9E+00            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 1.0E-01                                  | I           |              |       | 1   |                             | Ammonia                               | 7664-41-7     |                          |             |                            |             | 1.0E+02                              | n           | 4.4E+02                                | n           |                    |             |               |  |                                 |  |
| 5.7E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 1.6E-06                                     | C           |                                 |             | 2.0E-01                                  | I           |              |       | 1   |                             | Ammonium Sulfamate                    | 7773-06-0     | 1.6E+04                  | n           | 2.0E+05                    | nm          |                                      |             |                                        |             | 3.1E+03            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 7.0E-03                         | P           | 1.0E-03                                  | I           |              |       | 1   | 0.1                         | Aniline                               | 62-53-3       | 8.5E+01                  | c**         | 3.0E+02                    | c*          | 1.0E+00                              | n           | 4.4E+00                                | n           | 1.2E+01            | c**         |               |  |                                 |  |
| 4.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                             |             | 2.0E-03                         | X           |                                          |             |              |       | 1   | 0.1                         | Anthraquinone, 9,10-                  | 84-65-1       | 1.2E+01                  | c*          | 4.3E+01                    | c*          |                                      |             |                                        |             | 1.2E+00            | c*          |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 4.0E-04                         | I           |                                          |             |              | 0.15  |     |                             | Antimony (metallic)                   | 7440-36-0     | 3.1E+01                  | n           | 4.1E+02                    | n           |                                      |             |                                        |             | 6.0E+00            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 5.0E-04                         | H           |                                          |             |              | 0.15  |     |                             | Antimony Pentoxide                    | 1314-60-9     | 3.9E+01                  | n           | 5.1E+02                    | n           |                                      |             |                                        |             | 7.5E+00            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 9.0E-04                         | H           |                                          |             |              | 0.15  |     |                             | Antimony Potassium Tartrate           | 11071-15-1    | 7.0E+01                  | n           | 9.2E+02                    | n           |                                      |             |                                        |             | 1.3E+01            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 4.0E-04                         | H           |                                          |             |              | 0.15  |     |                             | Antimony Trioxide                     | 1332-81-6     | 3.1E+01                  | n           | 4.1E+02                    | n           |                                      |             |                                        |             | 6.0E+00            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             |                                 |             | 2.0E-04                                  | I           |              | 0.15  |     |                             | Antimony Trioxide                     | 1309-64-4     | 2.8E+05                  | nm          | 1.2E+06                    | nm          | 2.1E-01                              | n           | 8.8E-01                                | n           |                    |             |               |  |                                 |  |
| 2.5E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 7.1E-06                                     | I           |                                 |             | 1.3E-02                                  | I           |              |       | 1   | 0.1                         | Apollo                                | 74115-24-5    | 7.9E+02                  | n           | 8.0E+03                    | n           |                                      |             |                                        |             | 1.8E+02            | n           |               |  |                                 |  |
| 1.5E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 4.3E-03                                     | I           |                                 |             | 5.0E-02                                  | H           |              |       | 1   | 0.1                         | Aramite                               | 140-57-8      | 1.9E+01                  | c           | 6.9E+01                    | c           | 3.4E-01                              | c           | 1.7E+00                                | c           | 1.1E+00            | c           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 3.0E-04                         | I           | 1.5E-05                                  | C           |              |       | 1   | 0.03                        | Arsenic, inorganic                    | 7440-38-2     | 3.9E-01                  | c*          | 1.6E+00                    | c           | 5.7E-04                              | c*          | 2.9E-03                                | c*          | 4.5E-02            | c           | 1.0E+01       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 3.5E-06                         | C           | 5.0E-05                                  | I           |              |       | 1   |                             | Arsine                                | 7784-42-1     | 2.7E-01                  | n           | 3.6E+00                    | n           | 5.2E-02                              | n           | 2.2E-01                                | n           | 5.4E-02            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 9.0E-03                         | I           |                                          |             |              |       | 1   | 0.1                         | Assure                                | 76578-14-8    | 5.5E+02                  | n           | 5.5E+03                    | n           |                                      |             |                                        |             | 9.3E+01            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 5.0E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Azulam                                | 3337-71-1     | 3.1E+03                  | n           | 3.1E+04                    | n           |                                      |             |                                        |             | 7.8E+02            | n           |               |  |                                 |  |
| 2.3E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           |                                             |             | 3.5E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Atrazine                              | 1912-24-9     | 2.1E+00                  | c           | 7.5E+00                    | c           |                                      |             |                                        |             | 2.6E-01            | c           | 3.0E+00       |  |                                 |  |
| 8.8E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 2.5E-04                                     | C           |                                 |             |                                          |             |              |       | 1   | 0.1                         | Auramine                              | 492-80-8      | 5.5E-01                  | c           | 2.0E+00                    | c           | 9.7E-03                              | c           | 4.9E-02                                | c           | 5.7E-02            | c           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 4.0E-04                         | I           |                                          |             |              |       | 1   | 0.1                         | Avermectin B1                         | 65195-55-3    | 2.4E+01                  | n           | 2.5E+02                    | n           |                                      |             |                                        |             | 6.3E+00            | n           |               |  |                                 |  |
| 1.1E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 3.1E-05                                     | I           |                                 |             |                                          |             | V            |       | 1   |                             | Azobenzene                            | 103-33-3      | 5.1E+00                  | c           | 2.3E+01                    | c           | 7.8E-02                              | c           | 4.0E-01                                | c           | 1.0E-01            | c           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 2.0E-01                         | I           | 5.0E-04                                  | H           |              | 0.07  |     |                             | Barium                                | 7440-39-3     | 1.5E+04                  | n           | 1.9E+05                    | nm          | 5.2E-01                              | n           | 2.2E+00                                | n           | 2.9E+03            | n           | 2.0E+03       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 4.0E-03                         | I           |                                          |             |              |       | 1   | 0.1                         | Baygon                                | 114-26-1      | 2.4E+02                  | n           | 2.5E+03                    | n           |                                      |             |                                        |             | 6.1E+01            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 3.0E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Bayleton                              | 43121-43-3    | 1.8E+03                  | n           | 1.8E+04                    | n           |                                      |             |                                        |             | 4.3E+02            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 2.5E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Baythroid                             | 68359-37-5    | 1.5E+03                  | n           | 1.5E+04                    | n           |                                      |             |                                        |             | 8.7E+01            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 3.0E-01                         | I           |                                          |             |              |       | 1   | 0.1                         | Benefin                               | 1861-40-1     | 1.8E+04                  | n           | 1.8E+05                    | nm          |                                      |             |                                        |             | 1.2E+03            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 5.0E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Benomyl                               | 17804-35-2    | 3.1E+03                  | n           | 3.1E+04                    | n           |                                      |             |                                        |             | 7.5E-02            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 3.0E-02                         | I           |                                          |             |              |       | 1   | 0.1                         | Bentazon                              | 25057-89-0    | 1.8E+03                  | n           | 1.8E+04                    | n           |                                      |             |                                        |             | 4.4E-02            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 1.0E-01                         | I           |                                          |             | V            |       | 1   | 1.2E+03                     | Benzaldehyde                          | 100-52-7      | 7.8E+03                  | ns          | 1.0E+05                    | nms         |                                      |             |                                        |             | 1.5E+03            | n           |               |  |                                 |  |
| 5.5E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 7.8E-06                                     | I           |                                 |             | 4.0E-03                                  | I           | V            |       | 1   | 1.8E+03                     | Benzene                               | 71-43-2       | 1.1E+00                  | c*          | 5.4E+00                    | c*          | 3.1E-01                              | c           | 1.6E+00                                | c*          | 3.9E-01            | c*          | 5.0E+00       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 2.0E-04                         | X           |                                          |             |              |       | 1   | 0.1                         | Benzenediamine-2-methyl sulfate, 1,4- | 6369-59-1     | 1.2E+01                  | n           | 1.2E+02                    | n           |                                      |             |                                        |             | 3.1E+00            | n           |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                             |             | 1.0E-03                         | P           |                                          |             | V            |       | 1   | 1.3E+03                     | Benzenethiol                          | 108-98-5      | 7.8E-01                  | n           | 1.0E+03                    | n           |                                      |             |                                        |             | 1.3E+01            | n           |               |  |                                 |  |
| 2.3E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 6.7E-02                                     | I           |                                 |             | 3.0E-03                                  | I           |              | M     | 1   | 0.1                         | Benztidine                            | 92-87-5       | 5.0E-04                  | c           | 7.5E-03                    | c           | 1.4E-05                              | c           | 1.8E-04                                | c           | 9.2E-05            | c           |               |  |                                 |  |
| 1.3E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           |                                             |             | 4.0E+00                         | I           |                                          |             |              |       |     |                             |                                       |               |                          |             |                            |             |                                      |             |                                        |             |                    |             |               |  |                                 |  |

| Key: I = IRIS; P = PRTT; A = ATSDR; C = Cal EPA; X = PPRVT Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DA=1 |                                                      |                                           |                               |                                 |                                        |                                          |                               |         |       |       |                             |                                   |                          |                          |         |                            |         |                                      |         |                                        |         |                    |                  |               |  |  |  |  |  |  |  |  |                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------|-------------------------------|---------------------------------|----------------------------------------|------------------------------------------|-------------------------------|---------|-------|-------|-----------------------------|-----------------------------------|--------------------------|--------------------------|---------|----------------------------|---------|--------------------------------------|---------|----------------------------------------|---------|--------------------|------------------|---------------|--|--|--|--|--|--|--|--|---------------------------------|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                      |                                           |                               |                                 |                                        |                                          |                               |         |       |       |                             |                                   | Contaminant              |                          |         |                            |         |                                      |         |                                        |         |                    | Screening Levels |               |  |  |  |  |  |  |  |  | Protection of Ground Water SSLs |
| SFO<br>(mg/kg-day) <sup>-1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | k <sub>e</sub><br>(ug/m <sup>3</sup> ) <sup>-1</sup> | IUR<br>(ug/m <sup>3</sup> ) <sup>-1</sup> | k <sub>e</sub><br>(mg/kg-day) | RD <sub>01</sub><br>(mg/kg-day) | k <sub>e</sub><br>(mg/m <sup>3</sup> ) | RF <sub>01</sub><br>(mg/m <sup>3</sup> ) | k <sub>e</sub><br>(mg/kg-day) | mutagen | GIABS | ABS   | C <sub>sat</sub><br>(mg/kg) | Analyte                           | CAS No.                  | Resident Soil<br>(mg/kg) | key     | Industrial Soil<br>(mg/kg) | key     | Resident Air<br>(ug/m <sup>3</sup> ) | key     | Industrial Air<br>(ug/m <sup>3</sup> ) | key     | Tapwater<br>(ug/L) | key              | MCL<br>(ug/L) |  |  |  |  |  |  |  |  |                                 |
| 2.4E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    |                                           | 2.0E-03                       | I                               | 2.0E-05                                |                                          |                               |         | 0.007 |       |                             | Beryllium and compounds           | 7440-41-7                | 1.6E+02                  | n       | 2.0E+03                    | n       | 1.0E-03                              | c*      | 5.1E-03                                | c*      | 1.6E+01            | n                | 4.0E+00       |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E-04                       | I                               |                                        |                                          |                               |         |       | 0.1   |                             | Bidrin                            | 141-66-2                 | 6.1E+00                  | n       | 6.2E+01                    | n       |                                      |         |                                        |         | 1.6E+00            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 9.0E-03                       | P                               |                                        |                                          |                               |         |       | 0.1   |                             | Bifenox                           | 42576-02-3               | 5.5E+02                  | n       | 5.5E+03                    | n       |                                      |         |                                        |         | 7.5E+01            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.5E-02                       | I                               |                                        |                                          |                               |         |       | 0.1   |                             | Biphenyl                          | 82657-04-3               | 9.2E+02                  | n       | 9.2E+03                    | n       |                                      |         |                                        |         | 2.3E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 8.0E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X                                                    |                                           | 5.0E-02                       | I                               | 4.0E-04                                | X                                        | V                             |         | 1     |       |                             | Biphenyl, 1,1'-                   | 92-52-4                  | 5.1E+01                  | n       | 2.1E+02                    | n       | 4.2E-01                              | n       | 1.8E+00                                | n       | 8.3E-01            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 7.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                                                    | 1.0E-05                                   | H                             | 4.0E-02                         | I                                      |                                          | V                             |         | 1     |       | 1.0E+03                     | Bis(2-chloro-1-methylethyl) ether | 108-60-1                 | 4.6E+00                  | c       | 2.2E+01                    | c       | 2.4E-01                              | c       | 1.2E+00                                | c       | 3.1E-01            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 3.0E-03                       | P                               |                                        |                                          |                               |         |       | 0.1   |                             | Bis(2-chloroethoxy)methane        | 111-91-1                 | 1.8E+02                  | n       | 1.8E+03                    | n       |                                      |         |                                        |         | 4.6E+01            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 1.1E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 3.3E-04                                   | I                             |                                 |                                        |                                          | V                             |         | 1     |       | 5.1E+03                     | Bis(2-chloroethyl)ether           | 111-44-4                 | 2.1E-01                  | c       | 1.0E+00                    | c       | 7.4E-03                              | c       | 3.7E-02                                | c       | 1.2E-02            | c                |               |  |  |  |  |  |  |  |  |                                 |
| 1.4E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 2.4E-06                                   | C                             | 2.0E-02                         | I                                      |                                          |                               |         | 1     |       | 0.1                         | Bis(2-ethylhexyl)phthalate        | 117-81-7                 | 3.5E+01                  | c*      | 1.2E+02                    | c       | 1.0E+00                              | c       | 5.1E+00                                | c       | 4.8E+00            | c*               | 6.0E+00       |  |  |  |  |  |  |  |  |                                 |
| 2.2E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 6.2E-02                                   | I                             |                                 |                                        |                                          | V                             |         | 1     |       | 4.2E+03                     | Bis(chloromethyl)ether            | 542-88-1                 | 7.7E-05                  | c       | 3.9E-04                    | c       | 3.9E-05                              | c       | 2.0E-04                                | c       | 6.2E-05            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 5.0E-02                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Bisphenol A                       | 80-05-7                  | 3.1E+03                  | n       | 3.1E+04                    | n       |                                      |         |                                        |         | 5.8E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E-01                       | I                               | 2.0E-02                                | H                                        |                               |         | 1     |       |                             | Boron And Borates Only            | 7440-42-8                | 1.6E+04                  | n       | 2.0E+05                    | nm      | 2.1E+01                              | n       | 8.8E+01                                | n       | 3.1E+03            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E+00                       | P                               | 2.0E-02                                | P                                        | M                             |         | 1     |       |                             | Boron Trichloride                 | 10294-34-5               | 1.6E+05                  | nm      | 2.0E+06                    | nm      | 2.1E+01                              | n       | 8.8E+01                                | n       | 3.1E+04            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 7.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    |                                           | 4.0E-02                       | C                               | 1.3E-02                                | C                                        |                               |         | 1     |       |                             | Boron Trifluoride                 | 7637-07-2                | 3.1E+03                  | n       | 4.1E+04                    | n       | 1.4E+01                              | n       | 5.7E+01                                | n       | 6.2E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 2.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X                                                    | 6.0E-04                                   | X                             | 4.0E-03                         | I                                      |                                          |                               |         | 1     |       | 2.4E+03                     | Bromate                           | 15541-45-4               | 9.1E-01                  | c       | 4.1E+00                    | c       |                                      |         |                                        |         | 9.6E-02            | c                | 1.0E+01       |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           |                               |                                 |                                        |                                          | V                             |         | 1     |       |                             | Bromo-2-chloroethane, 1-          | 107-04-0                 | 2.4E-02                  | c       | 1.2E-01                    | c       | 4.1E-03                              | c       | 2.0E-02                                | c       | 6.4E-03            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 8.0E-03                       | I                               | 6.0E-02                                | I                                        | V                             |         | 1     |       | 6.8E+02                     | Bromobenzene                      | 108-86-1                 | 3.0E+02                  | n       | 1.8E+03                    | ns      | 6.3E+01                              | n       | 2.6E+02                                | n       | 5.4E+01            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.4E-03                       | I                               | 5.0E-03                                | I                                        | V                             |         | 1     |       | 4.0E+03                     | Bromochloromethane                | 74-97-5                  | 1.6E+02                  | n       | 6.8E+02                    | n       | 4.2E+01                              | n       | 1.8E+02                                | n       | 8.3E+01            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 6.2E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 3.7E-05                                   | C                             | 2.0E-02                         | I                                      |                                          | V                             |         | 1     |       | 9.3E+02                     | Bromodichloromethane              | 75-27-4                  | 2.7E-01                  | c       | 1.4E+00                    | c       | 6.6E-02                              | c       | 3.3E-01                                | c       | 1.2E-01            | c                | 8.0E+01(F)    |  |  |  |  |  |  |  |  |                                 |
| 7.9E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 1.1E-06                                   | I                             | 2.0E-02                         | I                                      |                                          |                               |         | 1     | 0.1   |                             | Bromoforn                         | 75-25-2                  | 6.2E+01                  | c*      | 2.2E+02                    | c*      | 2.2E+00                              | c       | 1.1E+01                                | c       | 7.9E+00            | c*               | 8.0E+01(F)    |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.4E-03                       | I                               | 5.0E-03                                | I                                        | V                             |         | 1     |       | 3.6E+03                     | Bromomethane                      | 74-83-9                  | 7.3E+00                  | n       | 3.2E+01                    | n       | 5.2E+00                              | n       | 2.2E+01                                | n       | 7.0E+00            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 5.0E-03                       | H                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Bromophos                         | 2104-96-3                | 3.1E+02                  | n       | 3.1E+03                    | n       |                                      |         |                                        |         | 2.6E+01            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E-02                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Bromoxynil                        | 1689-84-5                | 1.2E+03                  | n       | 1.2E+04                    | n       |                                      |         |                                        |         | 2.5E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E-02                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Bromoxynil Octanoate              | 1689-99-2                | 1.2E+03                  | n       | 1.2E+04                    | n       |                                      |         |                                        |         | 1.0E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 3.4E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | C                                                    | 3.0E-05                                   | I                             |                                 | 2.0E-03                                | I                                        | V                             |         | 1     |       | 6.7E+02                     | Butadiene, 1,3-                   | 106-99-0                 | 5.4E-02                  | c*      | 2.6E-01                    | c*      | 8.1E-02                              | c*      | 4.1E-01                                | c*      | 1.6E-02            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E-01                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Butanol, N-                       | 71-36-3                  | 6.1E+03                  | n       | 6.2E+04                    | n       |                                      |         |                                        |         | 1.5E+03            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 1.9E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | P                                                    |                                           | 2.0E-01                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Butyl Benzyl Phthlate             | 85-68-7                  | 2.6E+02                  | c*      | 9.1E+02                    | c       |                                      |         |                                        |         | 1.4E+01            | c*               |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E+00                       | P                               | 3.0E+01                                | P                                        |                               |         | 1     | 0.1   |                             | Butyl alcohol, sec-               | 78-92-2                  | 1.2E+05                  | nm      | 1.2E+06                    | nm      | 3.1E+04                              | n       | 1.3E+05                                | n       | 3.1E+04            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 2.0E-04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | C                                                    | 5.7E-08                                   | C                             | 5.0E-02                         | I                                      |                                          |                               |         | 1     | 0.1   |                             | Butylate                          | 2008-41-5                | 3.1E+03                  | n       | 3.1E+04                    | n       |                                      |         |                                        |         | 3.4E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           |                               |                                 |                                        |                                          |                               |         | 1     | 0.1   |                             | Butylated hydroxyanisole          | 25013-16-5               | 2.4E+03                  | c       | 8.6E+03                    | c       | 4.3E+01                              | c       | 2.2E+02                                | c       | 2.1E+02            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 5.0E-02                       | P                               |                                        |                                          | V                             |         | 1     |       | 1.1E+02                     | Butylbenzene, n-                  | 104-51-8                 | 3.9E+03                  | ns      | 5.1E+04                    | ns      |                                      |         |                                        |         | 7.8E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E+00                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Butylphthalyl Butylglycolate      | 85-70-1                  | 6.1E+04                  | n       | 6.2E+05                    | nm      |                                      |         |                                        |         | 1.0E+04            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E-02                       | A                               |                                        |                                          |                               |         | 1     | 0.01  |                             | Cacodylic Acid                    | 75-60-5                  | 1.2E+03                  | n       | 1.2E+04                    | n       |                                      |         |                                        |         | 3.1E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 1.8E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 1.0E-03                                   | I                             | 2.0E-05                         | C                                      |                                          |                               |         | 0.025 | 0.001 |                             | Cadmium (Dist)                    | 7440-43-9                | 7.0E+01                  | n       | 8.0E+02                    | n       |                                      |         |                                        |         |                    |                  |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 5.0E-04                       | I                               | 2.0E-05                                | C                                        |                               |         | 0.05  | 0.001 |                             | Cadmium (Water)                   | 7440-43-9                |                          |         |                            |         | 1.4E-03                              | c*      | 6.8E-03                                | c*      | 6.9E+00            | n                | 5.0E+00       |  |  |  |  |  |  |  |  |                                 |
| 1.5E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | C                                                    | 4.3E-05                                   | C                             | 5.0E-01                         | I                                      |                                          |                               |         | 1     | 0.1   |                             | Caprolactam                       | 105-60-2                 | 3.1E+04                  | n       | 3.1E+05                    | nm      |                                      |         |                                        |         | 7.7E+03            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 2.3E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | C                                                    | 6.6E-07                                   | C                             | 2.0E-03                         | I                                      |                                          |                               |         | 1     | 0.1   |                             | Captafol                          | 2425-06-1                | 3.2E+00                  | c*      | 1.1E+01                    | c       | 5.7E-02                              | c       | 2.9E-01                                | c       | 3.5E-01            | c*               |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.3E-01                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Captan                            | 133-06-2                 | 2.1E+02                  | c*      | 7.5E+02                    | c       | 3.7E+00                              | c       | 1.9E+01                                | c       | 2.7E+01            | c*               |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E-01                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Carbaryl                          | 63-25-2                  | 6.1E+03                  | n       | 6.2E+04                    | n       |                                      |         |                                        |         | 1.4E+03            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 5.0E-03                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Carbofuran                        | 1563-66-2                | 3.1E+02                  | n       | 3.1E+03                    | n       |                                      |         |                                        |         | 7.3E+01            | n                | 4.0E+01       |  |  |  |  |  |  |  |  |                                 |
| 7.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 6.0E-06                                   | I                             | 1.0E-01                         | I                                      | 7.0E-01                                  | I                             | V       | 1     |       | 7.4E+02                     | Carbon Disulfide                  | 75-15-0                  | 8.2E+02                  | ns      | 3.7E+03                    | ns      | 7.9E+02                              | n       | 3.1E+03                                | n       | 7.2E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 4.0E-03                       | I                               | 1.0E-01                                | I                                        | V                             |         | 1     |       | 4.6E+02                     | Carbon Tetrachloride              | 56-23-5                  | 6.1E-01                  | c       | 3.0E+00                    | c       | 4.1E-01                              | c       | 2.0E+00                                | c       | 3.9E-01            | c                | 5.0E+00       |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E-02                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Carbosulfan                       | 55285-14-8               | 6.1E+02                  | n       | 6.2E+03                    | n       |                                      |         |                                        |         | 3.7E+01            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E-01                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Carboxin                          | 5234-68-4                | 6.1E+03                  | n       | 6.2E+04                    | n       |                                      |         |                                        |         | 1.5E+03            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           |                               | 9.0E-04                         | I                                      |                                          |                               |         | 1     |       |                             | Ceric oxide                       | 1306-38-3                | 1.3E+06                  | nm      | 5.4E+06                    | nm      | 9.4E-01                              | n       | 3.9E+00                                | n       |                    |                  |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E-01                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Chloral Hydrate                   | 302-17-0                 | 6.1E+03                  | n       | 6.2E+04                    | n       |                                      |         |                                        |         | 1.5E+03            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.5E-02                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Chloramben                        | 133-90-4                 | 9.2E+02                  | n       | 9.2E+03                    | n       |                                      |         |                                        |         | 2.2E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 4.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                                                    |                                           |                               |                                 |                                        |                                          |                               |         | 1     | 0.1   |                             | Chloranil                         | 118-75-2                 | 1.2E+00                  | c       | 4.3E+00                    | c       |                                      |         |                                        |         | 1.6E-01            | c                |               |  |  |  |  |  |  |  |  |                                 |
| 3.5E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 1.0E-04                                   | I                             | 5.0E-04                         | I                                      | 7.0E-04                                  | I                             |         | 1     | 0.04  |                             | Chlordane                         | 12789-03-6               | 1.6E+00                  | c*      | 6.5E+00                    | c*      | 2.4E-02                              | c*      | 1.2E-01                                | c*      | 1.9E-01            | c*               | 2.0E+00       |  |  |  |  |  |  |  |  |                                 |
| 1.0E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I                                                    | 4.6E-03                                   | C                             | 3.0E-04                         | I                                      |                                          |                               |         | 1     | 0.1   |                             | Chlordecone (Kepone)              | 143-50-0                 | 4.9E-02                  | c       | 1.7E-01                    | c       | 5.3E-04                              | c       | 2.7E-03                                | c       | 3.0E-03            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 7.0E-04                       | A                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Chlorfenvinphos                   | 470-90-6                 | 4.3E+01                  | n       | 4.3E+02                    | n       |                                      |         |                                        |         | 8.6E+00            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E-02                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Chlorimuron, Ethyl-               | 90982-32-4               | 1.2E+03                  | n       | 1.2E+04                    | n       |                                      |         |                                        |         | 3.0E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 1.0E-01                       | I                               | 1.5E-04                                | A                                        |                               |         | 1     |       |                             | Chlorine                          | 7782-50-5                | 7.5E+03                  | n       | 9.1E+04                    | n       | 1.5E-01                              | n       | 6.4E-01                                | n       | 1.6E+03            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 3.0E-02                       | I                               | 2.0E-04                                | I                                        |                               |         | 1     |       |                             | Chlorine Dioxide                  | 10049-04-4               | 2.3E+03                  | n       | 3.0E+04                    | n       | 2.1E-01                              | n       | 8.8E-01                                | n       | 4.7E+02            | n                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 3.0E-02                       | I                               |                                        |                                          |                               |         | 1     |       |                             | Chlorite (Sodium Salt)            | 7758-19-2                | 2.3E+03                  | n       | 3.1E+04                    | n       |                                      |         |                                        |         | 4.7E+02            | n                | 1.0E+03       |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           |                               | 5.0E+01                         | I                                      | V                                        |                               |         | 1     |       | 1.2E+03                     | Chloro-1,1-difluoroethane, 1-     | 75-68-3                  | 5.8E+04                  | ns      | 2.4E+05                    | nms     | 5.2E+04                              | n       | 2.2E+05                                | n       | 1.0E+05            | n                |               |  |  |  |  |  |  |  |  |                                 |
| 4.6E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | H                                                    |                                           | 3.0E-04                       | I                               | 2.0E-02                                | H                                        | 2.0E-02                       | I       | V     | 1     | 0.1                         | 7.5E+02                           | Chloro-1,3-butadiene, 2- | 126-99-8                 | 9.4E+03 | c                          | 4.7E-02 | c                                    | 8.1E-03 | c                                      | 4.1E-02 | c                  | 1.6E-02          | c             |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           |                               |                                 |                                        |                                          |                               |         |       |       |                             | Chloro-2-methylaniline HCl, 4-    | 3165-93-3                | 1.1E+00                  | c       | 3.7E+00                    | c       |                                      |         |                                        |         | 1.5E-01            | c                |               |  |  |  |  |  |  |  |  |                                 |
| 1.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | P                                                    | 7.7E-05                                   | C                             | 3.0E-03                         | X                                      |                                          |                               |         | 1     | 0.1   |                             | Chloro-2-methylaniline, 4-        | 95-69-2                  | 4.9E+00                  | c*      | 1.7E+01                    | c       | 3.2E-02                              | c       | 1.6E-01                                | c       | 6.0E-01            | c*               |               |  |  |  |  |  |  |  |  |                                 |
| 2.7E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X                                                    |                                           |                               |                                 |                                        |                                          | V                             |         | 1     | 0.1   | 2.8E+04                     | Chloroacetaldehyde, 2-            | 107-20-0                 | 1.8E+00                  | c       | 6.4E+00                    | c       |                                      |         |                                        |         | 2.5E-01            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E-03                       | H                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Chloroacetic Acid                 | 79-11-8                  | 1.2E+02                  | n       | 1.2E+03                    | n       |                                      |         |                                        |         | 3.1E+01            | n                | 6.0E+01       |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           |                               | 3.0E-05                         | I                                      |                                          |                               |         | 1     | 0.1   |                             | Chloroacetophenone, 2-            | 532-27-4                 | 4.3E+04                  | n       | 1.8E+05                    | nm      | 3.1E-02                              | n       | 1.3E-01                                | n       |                    |                  |               |  |  |  |  |  |  |  |  |                                 |
| 2.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | P                                                    |                                           | 4.0E-03                       | I                               |                                        |                                          |                               |         | 1     | 0.1   |                             | Chloroaniline, p-                 | 106-47-8                 | 2.4E+00                  | c       | 8.6E+00                    | c       |                                      |         |                                        |         | 3.2E-01            | c                |               |  |  |  |  |  |  |  |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                      |                                           | 2.0E-02                       | I                               | 5.0E-02                                | P                                        | V                             |         | 1     |       | 7.6E+02                     | Chlorobenzene                     | 108-90-7                 | 2.9E+02                  | n       | 1.4E+03                    | ns      | 5.2E+01                              | n       | 2.2E+02                                | n       | 7.2E+01            | n                | 1.0E+02       |  |  |  |  |  |  |  |  |                                 |
| 1.1E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | C                                                    | 3.1E-05                                   | C                             | 2.0E-02                         | I                                      |                                          |                               |         | 1     | 0.1   |                             | Chlorobenzilate                   | 510-15-6                 | 4.4E+00                  | c       | 1.6E+01                    | c       | 7.8E-02                              | c       | 4.0E-01                                | c       | 2.7E-01            | c                |               |  |  |  |  |  |  |  |  |                                 |

Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |             |                                           |             |                                 |             |                                         |             |                                           |              |       |     |                             |                                             |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------|---------------------------------|-------------|-----------------------------------------|-------------|-------------------------------------------|--------------|-------|-----|-----------------------------|---------------------------------------------|------------|--------------------------|-----|----------------------------|-----|--------------------------------------|-----|----------------------------------------|-----|--------------------|-----|---------------|---------------------------------|--|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                           |             |                                 |             |                                         |             |                                           |              |       |     |                             | Contaminant                                 |            | Screening Levels         |     |                            |     |                                      |     |                                        |     |                    |     |               | Protection of Ground Water SSLs |  |
| SFO<br>(mg/kg-day) <sup>-1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | k<br>e<br>y | IUR<br>(ug/m <sup>3</sup> ) <sup>-1</sup> | k<br>e<br>y | RfD <sub>o</sub><br>(mg/kg-day) | k<br>e<br>y | RF <sub>C</sub><br>(mg/m <sup>3</sup> ) | k<br>e<br>y | o<br>v<br>o<br>l<br>u<br>t<br>i<br>l<br>e | muta-<br>gen | GIABS | ABS | C <sub>sat</sub><br>(mg/kg) | Analyte                                     | CAS No.    | Resident Soil<br>(mg/kg) | key | Industrial Soil<br>(mg/kg) | key | Resident Air<br>(ug/m <sup>3</sup> ) | key | Industrial Air<br>(ug/m <sup>3</sup> ) | key | Tapwater<br>(ug/L) | key | MCL<br>(ug/L) |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 3.0E-02                         | X           |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorobenzoic Acid, p-                      | 74-11-3    | 1.8E+03                  | n   | 1.8E+04                    | n   |                                      |     |                                        |     |                    |     |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 3.0E-03                         | P           | 3.0E-01                                 | P           | V                                         |              |       | 1   |                             | Chlorobenzotrifluoride, 4-                  | 98-56-6    | 2.1E+02                  | ns  | 2.3E+03                    | ns  | 3.1E+02                              | n   | 1.3E+03                                | n   | 2.6E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 4.0E-02                         | P           |                                         |             | V                                         |              |       | 1   |                             | Chlorobutane, 1-                            | 109-69-3   | 3.1E+03                  | ns  | 4.1E+04                    | ns  |                                      |     |                                        |     | 4.8E+02            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             |                                 |             | 5.0E+01                                 | I           | V                                         |              |       | 1   |                             | Chlorodifluoromethane                       | 75-45-6    | 5.3E+04                  | ns  | 2.2E+05                    | nms | 5.2E+04                              | n   | 2.2E+05                                | n   | 1.0E+05            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 2.0E-02                         | P           |                                         |             |                                           | M            |       | 1   | 0.1                         | Chloroethanol, 2-                           | 107-07-3   | 1.2E+03                  | n   | 1.2E+04                    | n   |                                      |     |                                        |     | 3.1E+02            | n   |               |                                 |  |
| 3.1E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C           | 2.3E-05                                   | I           | 1.0E-02                         | I           | 9.8E-02                                 | A           | V                                         |              |       | 1   |                             | Chloroform                                  | 67-66-3    | 2.9E-01                  | c   | 1.5E+00                    | c   | 1.1E-01                              | c   | 5.3E-01                                | c   | 1.9E-01            | c   |               | 8.0E+01(F)                      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             |                                 |             | 9.0E-02                                 | I           | V                                         |              |       | 1   |                             | Chloromethane                               | 74-87-3    | 1.2E+02                  | n   | 5.0E+02                    | n   | 9.4E+01                              | n   | 3.9E+02                                | n   | 1.9E+02            | n   |               |                                 |  |
| 2.4E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C           | 6.9E-04                                   | C           |                                 |             |                                         |             | V                                         |              |       | 1   |                             | Chloromethyl Methyl Ether                   | 107-30-2   | 1.9E-02                  | c   | 9.4E-02                    | c   | 3.5E-03                              | c   | 1.8E-02                                | c   | 5.6E-03            | c   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 8.0E-02                         | I           |                                         |             | V                                         |              |       | 1   |                             | Chloronaphthalene, Beta-                    | 91-58-7    | 6.3E+03                  | n   | 8.2E+04                    | n   |                                      |     |                                        |     | 5.5E+02            | n   |               |                                 |  |
| 3.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P           |                                           |             | 3.0E-03                         | P           | 1.0E-05                                 | X           |                                           |              |       | 1   | 0.1                         | Chloronitrobenzene, o-                      | 88-73-3    | 1.6E+00                  | c   | 5.7E+00                    | c   | 1.0E-02                              | n   | 4.4E-02                                | n   | 2.0E-01            | c   |               |                                 |  |
| 6.3E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P           |                                           |             | 1.0E-03                         | P           | 6.0E-04                                 | P           |                                           |              |       | 1   | 0.1                         | Chloronitrobenzene, p-                      | 100-00-5   | 6.1E+01                  | n   | 2.7E+02                    | c** | 6.3E-01                              | n   | 2.6E+00                                | n   | 9.4E+00            | c** |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-03                         | I           |                                         |             | V                                         |              |       | 1   |                             | Chlorophenol, 2-                            | 95-57-8    | 3.9E+02                  | n   | 5.1E+03                    | n   |                                      |     |                                        |     | 7.1E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             |                                 |             | 4.0E-04                                 | C           | V                                         |              |       | 1   |                             | Chloropicrin                                | 76-06-2    | 2.1E+00                  | n   | 8.8E+00                    | n   | 4.2E-01                              | n   | 1.8E+00                                | n   | 8.3E-01            | n   |               |                                 |  |
| 3.1E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C           | 8.9E-07                                   | C           | 1.5E-02                         | I           |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorothalonil                              | 1897-45-6  | 1.6E+02                  | c** | 5.6E+02                    | c*  | 2.7E+00                              | c   | 1.4E+01                                | c   | 1.9E+01            | c*  |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 2.0E-02                         | I           |                                         |             | V                                         |              |       | 1   |                             | Chlorotoluene, o-                           | 95-49-8    | 1.6E+03                  | ns  | 2.0E+04                    | ns  |                                      |     |                                        |     | 1.8E+02            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 2.0E-02                         | X           |                                         |             | V                                         |              |       | 1   |                             | Chlorotoluene, p-                           | 106-43-4   | 1.6E+03                  | ns  | 2.0E+04                    | ns  |                                      |     |                                        |     | 1.9E+02            | n   |               |                                 |  |
| 2.4E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C           | 6.9E-02                                   | C           |                                 |             |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorozotocin                               | 54749-90-5 | 2.0E-03                  | c   | 7.2E-03                    | c   | 3.5E-05                              | c   | 1.8E-04                                | c   | 2.8E-04            | c   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 2.0E-01                         | I           |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorpropham                                | 101-21-3   | 1.2E+04                  | n   | 1.2E+05                    | nm  |                                      |     |                                        |     | 2.2E+03            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-03                         | A           |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorpyrifos                                | 2921-88-2  | 6.1E+01                  | n   | 6.2E+02                    | n   |                                      |     |                                        |     | 6.2E+00            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-02                         | H           |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorpyrifos Methyl                         | 5598-13-0  | 6.1E+02                  | n   | 6.2E+03                    | n   |                                      |     |                                        |     | 8.9E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-02                         | I           |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorsulfuron                               | 64902-72-3 | 3.1E+03                  | n   | 3.1E+04                    | n   |                                      |     |                                        |     | 7.7E+02            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 8.0E-04                         | H           |                                         |             |                                           |              |       | 1   | 0.1                         | Chlorthiophos                               | 60238-56-4 | 4.9E+01                  | n   | 4.9E+02                    | n   |                                      |     |                                        |     | 2.0E+00            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.5E+00                         | I           |                                         |             |                                           |              | 0.013 |     |                             | Chromium(III), Insoluble Salts              | 16065-83-1 | 1.2E+05                  | nm  | 1.5E+06                    | nm  |                                      |     |                                        |     | 1.6E+04            | n   |               |                                 |  |
| 5.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | J           | 8.4E-02                                   | S           | 3.0E-03                         | I           | 1.0E-04                                 | I           |                                           | M            | 0.025 |     |                             | Chromium(VI)                                | 18540-29-9 | 2.9E-01                  | c   | 5.6E+00                    | c   | 1.1E-05                              | c   | 1.5E-04                                | c   | 3.1E-02            | c   |               | 1.0E+02                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 9.0E-03                         | P           | 3.0E-04                                 | P           | 6.0E-06                                   | P            |       | 1   |                             | Chromium, Total                             | 7440-47-3  |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 6.2E-04                         | I           |                                         |             |                                           | M            | 1     | 0.1 |                             | Cobalt                                      | 7440-48-4  | 2.3E+01                  | n   | 3.0E+02                    | n   | 2.7E-04                              | c*  | 1.4E-03                                | c*  | 4.7E+00            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 4.0E-02                         | H           |                                         |             |                                           |              |       | 1   |                             | Coke Oven Emissions                         | 8007-45-2  |                          |     |                            |     | 1.5E-03                              | c   | 2.0E-02                                | c   | 6.2E+02            | n   |               | 1.3E+03                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-02                         | I           | 6.0E-01                                 | C           |                                           |              |       | 1   | 0.1                         | Copper                                      | 7440-50-8  | 3.1E+03                  | n   | 4.1E+04                    | n   |                                      |     |                                        |     | 6.2E+02            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             |                                 |             |                                         |             |                                           |              |       | 1   | 0.1                         | Cresol, m-                                  | 108-39-4   | 3.1E+03                  | n   | 3.1E+04                    | n   | 6.3E+02                              | n   | 2.6E+03                                | n   | 7.2E+02            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-02                         | I           | 6.0E-01                                 | C           |                                           |              |       | 1   | 0.1                         | Cresol, o-                                  | 95-48-7    | 3.1E+03                  | n   | 3.1E+04                    | n   | 6.3E+02                              | n   | 2.6E+03                                | n   | 7.2E+02            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-01                         | A           | 6.0E-01                                 | C           |                                           |              |       | 1   | 0.1                         | Cresol, p-                                  | 106-44-5   | 6.1E+03                  | n   | 6.2E+04                    | n   | 6.3E+02                              | n   | 2.6E+03                                | n   | 1.4E+03            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-01                         | A           |                                         |             |                                           |              |       | 1   | 0.1                         | Cresol, p-chloro-m-                         | 59-50-7    | 6.1E+03                  | n   | 6.2E+04                    | n   |                                      |     |                                        |     | 1.1E+03            | n   |               |                                 |  |
| 1.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H           |                                           |             | 1.0E-01                         | A           | 6.0E-01                                 | C           |                                           |              |       | 1   | 0.1                         | Cresols                                     | 1319-77-3  | 6.1E+03                  | n   | 6.2E+04                    | n   | 6.3E+02                              | n   | 2.6E+03                                | n   | 1.4E+03            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-03                         | P           |                                         |             | V                                         |              |       | 1   |                             | Crotonaldehyde, trans-                      | 123-73-9   | 3.4E-01                  | c   | 1.5E+00                    | c   |                                      |     |                                        |     | 3.5E-02            | c   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-01                         | I           | 4.0E-01                                 | I           | V                                         |              |       | 1   |                             | Cumene                                      | 98-82-8    | 2.1E+03                  | ns  | 1.1E+04                    | ns  | 4.2E+02                              | n   | 1.8E+03                                | n   | 3.9E+02            | n   |               |                                 |  |
| 2.2E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C           | 6.3E-05                                   | C           |                                 |             |                                         |             |                                           |              |       | 1   | 0.1                         | Cupferron                                   | 135-20-6   | 2.2E+00                  | c   | 7.8E+00                    | c   | 3.9E-02                              | c   | 1.9E-01                                | c   | 3.1E-01            | c   |               |                                 |  |
| 8.4E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H           |                                           |             | 2.0E-03                         | H           |                                         |             |                                           |              |       | 1   | 0.1                         | Cyanazine                                   | 21725-46-2 | 5.8E-01                  | c   | 2.1E+00                    | c   |                                      |     |                                        |     | 7.6E-02            | c   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             |                                 |             |                                         |             |                                           |              |       |     |                             | Cyanides                                    |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-03                         | I           |                                         |             |                                           |              |       | 1   |                             | *Calcium Cyanide                            | 592-01-8   | 7.8E+01                  | n   | 1.0E+03                    | n   |                                      |     |                                        |     | 1.6E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-03                         | I           |                                         |             |                                           |              |       | 1   |                             | *Copper Cyanide                             | 544-92-3   | 3.9E+02                  | n   | 5.1E+03                    | n   |                                      |     |                                        |     | 7.8E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 6.0E-04                         | I           | 8.0E-04                                 | S           | V                                         |              |       | 1   |                             | *Cyanide (CN-)                              | 57-12-5    | 2.2E+01                  | n   | 1.4E+02                    | n   | 8.3E-01                              | n   | 3.5E+00                                | n   | 1.4E+00            | n   |               | 2.0E+02                         |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-03                         | I           |                                         |             | V                                         |              |       | 1   |                             | *Cyanogen                                   | 460-19-5   | 7.8E+01                  | n   | 1.0E+03                    | n   |                                      |     |                                        |     | 1.6E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 9.0E-02                         | I           |                                         |             | V                                         |              |       | 1   |                             | *Cyanogen Bromide                           | 506-68-3   | 7.0E+03                  | n   | 9.2E+04                    | n   |                                      |     |                                        |     | 1.4E+03            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-02                         | I           |                                         |             | V                                         |              |       | 1   |                             | *Cyanogen Chloride                          | 506-77-4   | 3.9E+03                  | n   | 5.1E+04                    | n   |                                      |     |                                        |     | 7.8E+02            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 6.0E-04                         | I           | 8.0E-04                                 | I           | V                                         |              |       | 1   |                             | *Hydrogen Cyanide                           | 74-90-8    | 2.3E+01                  | n   | 1.5E+02                    | n   | 8.3E-01                              | n   | 3.5E+00                                | n   | 1.4E+00            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 2.0E-03                         | I           |                                         |             |                                           |              |       | 1   |                             | *Potassium Cyanide                          | 151-50-8   | 1.6E+02                  | n   | 2.0E+03                    | n   |                                      |     |                                        |     | 3.1E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-03                         | I           |                                         |             |                                           |              | 0.04  |     |                             | *Potassium Silver Cyanide                   | 506-61-6   | 3.9E+02                  | n   | 5.1E+03                    | n   |                                      |     |                                        |     | 5.9E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-01                         | I           |                                         |             |                                           |              | 0.04  |     |                             | *Silver Cyanide                             | 506-64-9   | 7.8E+03                  | n   | 1.0E+05                    | nm  |                                      |     |                                        |     | 1.3E+03            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 1.0E-03                         | I           |                                         |             |                                           |              |       | 1   |                             | *Sodium Cyanide                             | 143-33-9   | 7.8E+01                  | n   | 1.0E+03                    | n   |                                      |     |                                        |     | 1.6E+01            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 2.0E-04                         | X           |                                         |             |                                           |              |       | 1   |                             | *Thiocyanate                                | 463-56-9   | 1.6E+01                  | n   | 2.0E+02                    | n   |                                      |     |                                        |     | 3.1E+00            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             | 5.0E-02                         | I           |                                         |             |                                           |              |       | 1   |                             | *Zinc Cyanide                               | 557-21-1   | 3.9E+03                  | n   | 5.1E+04                    | n   |                                      |     |                                        |     | 7.8E+02            | n   |               |                                 |  |
| 2.3E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | H           |                                           |             |                                 |             | 6.0E+00                                 | I           | V                                         |              |       | 1   | 0.1                         | Cyclohexane                                 | 110-82-7   | 7.0E+03                  | ns  | 2.9E+04                    | ns  | 6.3E+03                              | n   | 2.6E+04                                | n   | 1.3E+04            | n   |               |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |             |                                           |             |                                 |             |                                         |             |                                           |              |       | 1   |                             | Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro- | 87-84-     |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |  |

Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |             |                                          |             |                                 |             |                                                       |             |              |       |     |                             |                                        |            |                          |             |                            |             |                                      |             |                                        |             |                    |             |               |            |                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------|-------------|---------------------------------|-------------|-------------------------------------------------------|-------------|--------------|-------|-----|-----------------------------|----------------------------------------|------------|--------------------------|-------------|----------------------------|-------------|--------------------------------------|-------------|----------------------------------------|-------------|--------------------|-------------|---------------|------------|---------------------------------|--|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                          |             |                                 |             |                                                       |             |              |       |     |                             | Contaminant                            |            |                          |             |                            |             | Screening Levels                     |             |                                        |             |                    |             |               |            | Protection of Ground Water SSLs |  |
| SFO<br>(mg/kg-day) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | k<br>e<br>y | IUR<br>(ug/m <sup>3</sup> ) <sup>1</sup> | k<br>e<br>y | RfD <sub>a</sub><br>(mg/kg-day) | k<br>e<br>y | RF <sub>C1</sub><br>(mg/m <sup>3</sup> ) <sup>1</sup> | k<br>e<br>y | muta-<br>gen | GIABS | ABS | C <sub>100</sub><br>(mg/kg) | Analyte                                | CAS No.    | Resident Soil<br>(mg/kg) | k<br>e<br>y | Industrial Soil<br>(mg/kg) | k<br>e<br>y | Resident Air<br>(ug/m <sup>3</sup> ) | k<br>e<br>y | Industrial Air<br>(ug/m <sup>3</sup> ) | k<br>e<br>y | Tapwater<br>(ug/L) | k<br>e<br>y | MCL<br>(ug/L) |            |                                 |  |
| 1.2E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           |                                          |             | 4.0E-05                         | I           |                                                       |             |              |       |     | 0.1                         | Demeton                                | 8065-48-3  | 2.4E+00                  | n           | 2.5E+01                    | n           |                                      |             |                                        |             | 5.2E-01            | n           |               |            |                                 |  |
| 6.1E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H           |                                          |             | 6.0E-01                         | I           |                                                       |             |              |       |     | 0.1                         | Di(2-ethylhexyl)adipate                | 103-23-1   | 4.1E+02                  | c*          | 1.4E+03                    | c           |                                      |             |                                        |             | 5.6E+01            | c           |               | 4.0E+02    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             |                                                       |             |              |       |     | 0.1                         | Diallate                               | 2303-16-4  | 8.0E+00                  | c           | 2.8E+01                    | c           |                                      |             |                                        |             | 4.6E-01            | c           |               |            |                                 |  |
| 8.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           | 6.0E-03                                  | P           | 7.0E-04                         | A           | 2.0E-04                                               | I           | V            | M     | 1   | 9.8E+02                     | Diazinon                               | 333-41-5   | 4.3E+01                  | n           | 4.3E+02                    | n           |                                      |             |                                        |             | 7.9E+00            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-02                         | I           |                                                       |             |              |       |     | 0.1                         | Dibromo-3-chloropropane, 1,2-          | 96-12-8    | 5.4E-03                  | c           | 6.9E-02                    | c           | 1.6E-04                              | c           | 2.0E-03                                | c           | 3.2E-04            | c           |               | 2.0E-01    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             |                                                       |             |              |       |     | 0.1                         | Dibromobenzene, 1,4-                   | 106-37-6   | 6.1E+02                  | n           | 6.2E+03                    | n           |                                      |             |                                        |             | 9.8E+01            | n           |               |            |                                 |  |
| 8.4E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 2.7E-05                                  | C           | 2.0E-02                         | I           |                                                       |             | V            |       | 1   | 8.0E+02                     | Dibromochloromethane                   | 124-48-1   | 6.8E-01                  | c           | 3.3E+00                    | c           | 9.0E-02                              | c           | 4.5E-01                                | c           | 1.5E-01            | c           |               | 8.0E+01(F) |                                 |  |
| 2.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 6.0E-04                                  | I           | 9.0E-03                         | I           | 9.0E-03                                               | I           | V            |       | 1   | 1.3E+03                     | Dibromoethane, 1,2-                    | 106-93-4   | 3.4E-02                  | c           | 1.7E-01                    | c           | 4.1E-03                              | c           | 2.0E-02                                | c           | 6.5E-03            | c           |               | 5.0E-02    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-02                         | H           | 4.0E-03                                               | X           | V            |       | 1   | 2.8E+03                     | Dibromomethane (Methylene Bromide)     | 74-95-3    | 2.5E+01                  | n           | 1.1E+02                    | n           | 4.2E+00                              | n           | 1.8E+01                                | n           | 7.9E+00            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-01                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dibutyl Phthalate                      | 84-74-2    | 6.1E+03                  | n           | 6.2E+04                    | n           |                                      |             |                                        |             | 6.7E+02            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-04                         | P           |                                                       |             |              |       | 1   | 0.1                         | Dibutyltin Compounds                   | NA         | 1.8E+01                  | n           | 1.8E+02                    | n           |                                      |             |                                        |             | 4.7E+00            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-02                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dicamba                                | 1918-00-9  | 1.8E+03                  | n           | 1.8E+04                    | n           |                                      |             |                                        |             | 4.4E+02            | n           |               |            |                                 |  |
| 4.2E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                          |             |                                 |             |                                                       |             | V            |       | 1   | 5.2E+02                     | Dichloro-2-butene, 1,4-                | 764-41-0   | 6.9E-03                  | c           | 3.5E-02                    | c           | 5.8E-04                              | c           | 2.9E-03                                | c           | 1.2E-03            | c           |               |            |                                 |  |
| 4.2E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                          |             |                                 |             |                                                       |             | V            |       | 1   | 0.1                         | Dichloro-2-butene, cis-1,4-            | 1476-11-5  | 6.9E-03                  | c           | 3.5E-02                    | c           | 5.8E-04                              | c           | 2.9E-03                                | c           | 1.2E-03            | c           |               |            |                                 |  |
| 4.2E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                          |             |                                 |             |                                                       |             | V            |       | 1   | 0.1                         | Dichloro-2-butene, trans-1,4-          | 110-57-6   | 6.9E-03                  | c           | 3.5E-02                    | c           | 5.8E-04                              | c           | 2.9E-03                                | c           | 1.2E-03            | c           |               |            |                                 |  |
| 5.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           |                                          |             | 4.0E-03                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dichloroacetic Acid                    | 79-43-6    | 9.7E+00                  | c*          | 3.4E+01                    | c*          |                                      |             |                                        |             | 1.3E+00            | c*          |               | 6.0E+01    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 9.0E-02                         | I           | 2.0E-01                                               | H           | V            |       | 1   | 3.8E+02                     | Dichlorobenzene, 1,2-                  | 95-50-1    | 1.9E+03                  | ns          | 9.8E+03                    | ns          | 2.1E+02                              | n           | 8.8E+02                                | n           | 2.8E+02            | n           |               | 6.0E+02    |                                 |  |
| 5.4E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.1E-05                                  | C           | 7.0E-02                         | A           | 8.0E-01                                               | I           | V            |       | 1   |                             | Dichlorobenzene, 1,4-                  | 106-46-7   | 2.4E+00                  | c           | 1.2E+01                    | c           | 2.2E-01                              | c           | 1.1E+00                                | c           | 4.2E-01            | c           |               | 7.5E+01    |                                 |  |
| 4.5E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 3.4E-04                                  | C           |                                 |             |                                                       |             |              |       | 1   | 0.1                         | Dichlorobenzidine, 3,3'-               | 91-94-1    | 1.1E+00                  | c           | 3.8E+00                    | c           | 7.2E-03                              | c           | 3.6E-02                                | c           | 1.1E-01            | c           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 9.0E-03                         | X           |                                                       |             |              |       | 1   | 0.1                         | Dichlorobenzophenone, 4,4'-            | 90-98-2    | 5.5E+02                  | n           | 5.5E+03                    | n           |                                      |             |                                        |             | 5.7E+01            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-01                         | I           | 1.0E-01                                               | X           | V            |       | 1   | 8.5E+02                     | Dichlorodifluoromethane                | 75-71-8    | 9.4E+01                  | n           | 4.0E+02                    | n           | 1.0E+02                              | n           | 4.4E+02                                | n           | 1.9E+02            | n           |               |            |                                 |  |
| 5.7E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.6E-06                                  | C           | 2.0E-01                         | P           |                                                       |             | V            |       | 1   | 1.7E+03                     | Dichloroethane, 1,1-                   | 75-34-3    | 3.3E+00                  | c           | 1.7E+01                    | c           | 1.5E+00                              | c           | 7.7E+00                                | c           | 2.4E+00            | c           |               |            |                                 |  |
| 9.1E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 2.6E-05                                  | I           | 6.0E-03                         | X           | 7.0E-03                                               | P           | V            |       | 1   | 3.0E+03                     | Dichloroethane, 1,2-                   | 107-06-2   | 4.3E-01                  | c*          | 2.2E+00                    | c*          | 9.4E-02                              | c*          | 4.7E-01                                | c*          | 1.5E-01            | c*          |               | 5.0E+00    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-02                         | I           | 2.0E-01                                               | I           | V            |       | 1   | 1.2E+03                     | Dichloroethylene, 1,1-                 | 75-35-4    | 2.4E+02                  | n           | 1.1E+03                    | n           | 2.1E+02                              | n           | 8.8E+02                                | n           | 2.6E+02            | n           |               | 7.0E+00    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 9.0E-03                         | H           |                                                       |             | V            |       | 1   | 1.3E+03                     | Dichloroethylene, 1,2- (Mixed Isomers) | 540-59-0   | 7.0E+02                  | n           | 9.2E+03                    | ns          |                                      |             |                                        |             | 1.3E+02            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-03                         | I           |                                                       |             | V            |       | 1   | 2.4E+03                     | Dichloroethylene, 1,2-cis-             | 156-59-2   | 1.6E+02                  | n           | 2.0E+03                    | n           |                                      |             |                                        |             | 2.8E+01            | n           |               | 7.0E+01    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-02                         | I           | 6.0E-02                                               | P           | V            |       | 1   | 1.7E+03                     | Dichloroethylene, 1,2-trans-           | 156-60-5   | 1.5E+02                  | n           | 6.9E+02                    | n           | 6.3E+01                              | n           | 2.6E+02                                | n           | 8.6E+01            | n           |               | 1.0E+02    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-03                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dichlorophenol, 2,4-                   | 120-83-2   | 1.8E+02                  | n           | 1.8E+03                    | n           |                                      |             |                                        |             | 3.5E+01            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-02                         | I           |                                                       |             |              |       | 1   | 0.05                        | Dichlorophenoxy Acetic Acid, 2,4-      | 94-75-7    | 6.9E+02                  | n           | 7.7E+03                    | n           |                                      |             |                                        |             | 1.3E+02            | n           |               | 7.0E+01    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-03                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dichlorophenoxybutyric Acid, 4-(2,4-   | 94-82-6    | 4.9E+02                  | n           | 4.9E+03                    | n           |                                      |             |                                        |             | 9.1E+01            | n           |               |            |                                 |  |
| 3.6E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.0E-05                                  | C           | 9.0E-02                         | A           | 4.0E-03                                               | I           | V            |       | 1   | 1.4E+03                     | Dichloropropane, 1,2-                  | 78-87-5    | 9.4E-01                  | c*          | 4.7E+00                    | c*          | 2.4E-01                              | c*          | 1.2E+00                                | c*          | 3.8E-01            | c*          |               | 5.0E+00    |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-02                         | P           |                                                       |             | V            |       | 1   | 1.5E+03                     | Dichloropropane, 1,3-                  | 142-28-9   | 1.6E+03                  | ns          | 2.0E+04                    | ns          |                                      |             |                                        |             | 2.9E+02            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-03                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dichloropropanol, 2,3-                 | 616-23-9   | 1.8E+02                  | n           | 1.8E+03                    | n           |                                      |             |                                        |             | 4.6E+01            | n           |               |            |                                 |  |
| 1.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 4.0E-06                                  | I           | 3.0E-02                         | I           | 2.0E-02                                               | I           | V            |       | 1   | 1.6E+03                     | Dichloropropene, 1,3-                  | 542-75-6   | 1.7E+00                  | c*          | 8.3E+00                    | c*          | 6.1E-01                              | c*          | 3.1E+00                                | c*          | 4.1E-01            | c*          |               |            |                                 |  |
| 2.9E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 8.3E-05                                  | C           | 5.0E-04                         | I           | 5.0E-04                                               | I           |              |       | 1   | 0.1                         | Dichlorvos                             | 62-73-7    | 1.7E+00                  | c*          | 5.9E+00                    | c*          | 2.9E-02                              | c*          | 1.5E-01                                | c*          | 2.3E-01            | c*          |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-03                         | P           | 7.0E-03                                               | P           | V            |       | 1   |                             | Dicyclopentadiene                      | 77-73-6    | 3.1E+01                  | n           | 1.3E+02                    | n           | 7.3E+00                              | n           | 3.1E+01                                | n           | 1.2E+01            | n           |               |            |                                 |  |
| 1.6E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 4.6E-03                                  | I           | 5.0E-05                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dieldrin                               | 60-57-1    | 3.0E-02                  | c           | 1.1E-01                    | c           | 5.3E-04                              | c           | 2.7E-03                                | c           | 1.5E-03            | c           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             | 3.0E-04                                  | C           |                                 |             | 5.0E-03                                               | I           |              |       | 1   | 0.1                         | Diesel Engine Exhaust                  | NA         |                          |             |                            | 8.1E-03     | c                                    | 4.1E-02     | c                                      |             |                    |             |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-03                         | P           | 2.0E-04                                               | P           |              |       | 1   | 0.1                         | Diethanolamine                         | 111-42-2   | 1.2E+02                  | n           | 1.2E+03                    | n           | 2.1E-01                              | n           | 8.8E-01                                | n           | 3.1E+01            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-01                         | I           |                                                       |             |              |       | 1   | 0.1                         | Diethyl Phthalate                      | 84-66-2    | 4.9E+04                  | n           | 4.9E+05                    | nm          |                                      |             |                                        |             | 1.1E+04            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-02                         | P           | 1.0E-04                                               | P           |              |       | 1   | 0.1                         | Diethylene Glycol Monobutyl Ether      | 112-34-5   | 1.8E+03                  | n           | 1.8E+04                    | n           | 1.0E-01                              | n           | 4.4E-01                                | n           | 4.7E+02            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 6.0E-02                         | P           | 3.0E-04                                               | P           |              |       | 1   | 0.1                         | Diethylene Glycol Monoethyl Ether      | 111-90-0   | 3.6E+03                  | n           | 3.6E+04                    | n           | 3.1E-01                              | n           | 1.3E+00                                | n           | 9.4E+02            | n           |               |            |                                 |  |
| 3.5E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.0E-01                                  | C           | 1.0E-03                         | P           |                                                       |             |              |       | 1   | 0.1                         | Diethylformamide                       | 617-84-5   | 6.1E+01                  | n           | 6.2E+02                    | n           |                                      |             |                                        |             | 1.6E+01            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             |                                                       |             |              |       | 1   | 0.1                         | Diethylstilbestrol                     | 56-53-1    | 1.4E-03                  | c           | 4.9E-03                    | c           | 2.4E-05                              | c           | 1.2E-04                                | c           | 4.3E-05            | c           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-02                         | I           |                                                       |             |              |       | 1   | 0.1                         | Difentozquat                           | 43222-48-6 | 4.9E+03                  | n           | 4.9E+04                    | n           |                                      |             |                                        |             | 1.2E+03            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-02                         | I           |                                                       |             |              |       | 1   | 0.1                         | Diflubenzuron                          | 35367-38-5 | 1.2E+03                  | n           | 1.2E+04                    | n           |                                      |             |                                        |             | 2.2E+02            | n           |               |            |                                 |  |
| 4.4E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.3E-05                                  | C           |                                 |             | 4.0E+01                                               | I           | V            |       | 1   | 1.4E+03                     | Difluoroethane, 1,1-                   | 75-37-6    | 5.2E+04                  | ns          | 2.2E+05                    | nms         | 4.2E+04                              | n           | 1.8E+05                                | n           | 8.3E+04            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             |                                                       |             | V            |       | 1   | 0.1                         | Dihydrosafrole                         | 94-58-6    | 2.4E-01                  | c           | 1.2E+00                    | c           | 1.9E-01                              | c           | 9.4E-01                                | c           | 2.6E-01            | c           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             | 7.0E-01                                               | P           | V            |       | 1   | 2.3E+03                     | Diisopropyl Ether                      | 108-20-3   | 2.4E+03                  | ns          | 1.0E+04                    | ns          | 7.3E+02                              | n           | 3.1E+03                                | n           | 1.5E+03            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-02                         | I           |                                                       |             | V            |       | 1   | 5.3E+02                     | Diisopropyl Methylphosphonate          | 1445-75-6  | 6.3E+03                  | ns          | 8.2E+04                    | ns          |                                      |             |                                        |             | 1.2E+03            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-02                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dimethipin                             | 55290-64-7 | 1.2E+03                  | n           | 1.2E+04                    | n           |                                      |             |                                        |             | 3.1E+02            | n           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-04                         | I           |                                                       |             |              |       | 1   | 0.1                         | Dimethoate                             | 60-51-5    | 1.2E+01                  | n           | 1.2E+02                    | n           |                                      |             |                                        |             | 3.1E+00            | n           |               |            |                                 |  |
| 1.4E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H           |                                          |             |                                 |             |                                                       |             |              |       | 1   | 0.1                         | Dimethoxybenzidine, 3,3'-              | 119-90-4   | 3.5E+01                  | c           | 1.2E+02                    | c           |                                      |             |                                        |             | 4.7E+00            | c           |               |            |                                 |  |
| 1.7E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                          |             | 6.0E-02                         | P           |                                                       |             |              |       | 1   | 0.1                         | Dimethyl methylphosphonate             | 756-79-6   | 2.9E+02                  | c*          | 1.0E+03                    | c*          |                                      |             |                                        |             | 3.9E+01            | c*          |               |            |                                 |  |
| 4.6E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.3E-03                                  | C           |                                 |             |                                                       |             |              |       | 1   | 0.1                         | Dimethylamino azobenzene [p-]          | 60-11-7    | 1.1E-01                  | c           | 3.7E-01                    | c           | 1.9E-03                              | c           | 9.4E-03                                | c           | 4.3E-03            | c           |               |            |                                 |  |
| 5.8E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H           |                                          |             |                                 |             |                                                       |             |              |       | 1   | 0.1                         | Dimethylaniline HCl, 2,4-              | 21436-96-4 | 8.4E-01                  | c           | 3.0E+00                    | c           |                                      |             |                                        |             | 1.2E-01            | c           |               |            |                                 |  |
| 2.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                          |             | 2.0E-03                         | X           |                                                       |             |              |       | 1   | 0.1                         | Dimethylaniline, 2,4-                  | 95-68-1    | 2.4E+00                  | c*          | 8.6E+00                    | c           |                                      |             |                                        |             | 3.2E-01            | c*          |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-03                         | I           |                                                       |             | V            |       | 1   | 8.3E+02                     | Dimethylaniline, N,N-                  | 121-69-7   | 1.6E+02                  | n           | 2.0E+03                    | ns          |                                      |             |                                        |             | 2.7E+01            | n           |               |            |                                 |  |
| 1.1E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                          |             | 1.0E-01                         | P           | 3.0E-02                                               | I           |              |       | 1   | 0.1                         | Dimethylbenzidine, 3,3'-               | 119-93-7   | 4.4E-02                  | c           | 1.6E-01                    | c           |                                      |             |                                        |             | 5.6E-03            | c           |               |            |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             |                                                       |             |              |       | 1   | 0.1                         | Dimethylformamide                      | 68-12-2    | 6.1E+03                  | n           | 6.2E+04                    | n           | 3.1E+01                              | n           | 1.3E+02                                | n           | 1.6E+03            | n           |               |            |                                 |  |
| 5.5E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                          |             |                                 |             |                                                       |             |              |       |     |                             |                                        |            |                          |             |                            |             |                                      |             |                                        |             |                    |             |               |            |                                 |  |

Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide). SSL values are based on DAF=1 |             |                                              |             |                                 |             |                                          |             |              |       |       |                             |                                     |                       |                          |         |                            |         |                                      |     |                                        |     |                    |         |               |  |                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------------------------|-------------|---------------------------------|-------------|------------------------------------------|-------------|--------------|-------|-------|-----------------------------|-------------------------------------|-----------------------|--------------------------|---------|----------------------------|---------|--------------------------------------|-----|----------------------------------------|-----|--------------------|---------|---------------|--|---------------------------------|--|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                              |             |                                 |             |                                          |             |              |       |       |                             | Contaminant                         |                       | Screening Levels         |         |                            |         |                                      |     |                                        |     |                    |         |               |  | Protection of Ground Water SSLs |  |
| SFO<br>(mg/kg-day) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | k<br>e<br>v | IUR<br>(ug/m <sup>3</sup> -day) <sup>1</sup> | k<br>e<br>v | RfD <sub>o</sub><br>(mg/kg-day) | k<br>e<br>v | RfC <sub>o</sub><br>(mg/m <sup>3</sup> ) | k<br>e<br>v | muta-<br>gen | GIABS | ABS   | C <sub>sat</sub><br>(mg/kg) | Analyte                             | CAS No.               | Resident Soil<br>(mg/kg) | key     | Industrial Soil<br>(mg/kg) | key     | Resident Air<br>(ug/m <sup>3</sup> ) | key | Industrial Air<br>(ug/m <sup>3</sup> ) | key | Tapwater<br>(ug/L) | key     | MCL<br>(ug/L) |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-01                         | I           |                                          |             | V            |       | 1     |                             |                                     | Dimethylterephthalate | 120-61-6                 | 7.8E+03 | n                          | 1.0E+05 | nm                                   |     |                                        |     |                    | 1.4E+03 | n             |  |                                 |  |
| 4.5E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.3E-05                                      | C           |                                 |             |                                          |             |              |       | 0.1   | 1.1E+03                     | Dimethylvinylchloride               | 513-37-1              | 2.0E-01                  | c       | 1.0E+00                    | c       | 1.9E-01                              | c   | 9.4E-01                                | c   | 2.8E-01            | c       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 8.0E-05                         | X           |                                          |             |              |       | 0.1   |                             | Dinitro-o-cresol, 4,6-              | 534-52-1              | 4.9E+00                  | n       | 4.9E+01                    | n       |                                      |     |                                        |     | 1.2E+00            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-03                         | I           |                                          |             |              |       | 0.1   |                             | Dinitro-o-cyclohexyl Phenol, 4,6-   | 131-89-5              | 1.2E+02                  | n       | 1.2E+03                    | n       |                                      |     |                                        |     | 1.7E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-04                         | P           |                                          |             |              |       | 0.1   |                             | Dinitrobenzene, 1,2-                | 528-29-0              | 6.1E+00                  | n       | 6.2E+01                    | n       |                                      |     |                                        |     | 1.5E+00            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-04                         | I           |                                          |             |              |       | 0.1   |                             | Dinitrobenzene, 1,3-                | 99-65-0               | 6.1E+00                  | n       | 6.2E+01                    | n       |                                      |     |                                        |     | 1.5E+00            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-04                         | P           |                                          |             |              |       | 0.1   |                             | Dinitrobenzene, 1,4-                | 100-25-4              | 6.1E+00                  | n       | 6.2E+01                    | n       |                                      |     |                                        |     | 1.5E+00            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-03                         | I           |                                          |             |              |       | 0.1   |                             | Dinitrophenol, 2,4-                 | 51-28-5               | 1.2E+02                  | n       | 1.2E+03                    | n       |                                      |     |                                        |     | 3.0E+01            | n       |               |  |                                 |  |
| 6.8E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           |                                              |             |                                 |             |                                          |             |              |       | 0.1   |                             | Dinitrotoluene Mixture, 2,4/2,6-    | 25321-14-6            | 7.2E-01                  | c       | 2.5E+00                    | c       |                                      |     |                                        |     | 9.2E-02            | c       |               |  |                                 |  |
| 3.1E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 8.9E-05                                      | C           | 2.0E-03                         | I           |                                          |             |              |       | 0.102 |                             | Dinitrotoluene, 2,4-                | 121-14-2              | 1.6E+00                  | c*      | 5.5E+00                    | c       | 2.7E-02                              | c   | 1.4E-01                                | c   | 2.0E-01            | c       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-03                         | P           |                                          |             |              |       | 0.099 |                             | Dinitrotoluene, 2,6-                | 606-20-2              | 6.1E+01                  | n       | 6.2E+02                    | n       |                                      |     |                                        |     | 1.5E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-03                         | S           |                                          |             |              |       | 0.006 |                             | Dinitrotoluene, 2-Amino-4,6-        | 35572-78-2            | 1.5E+02                  | n       | 2.0E+03                    | n       |                                      |     |                                        |     | 3.0E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-03                         | S           |                                          |             |              |       | 0.009 |                             | Dinitrotoluene, 4-Amino-2,6-        | 19406-51-0            | 1.5E+02                  | n       | 1.9E+03                    | n       |                                      |     |                                        |     | 3.0E+01            | n       |               |  |                                 |  |
| 1.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 7.7E-06                                      | C           | 3.0E-02                         | I           | 3.0E+00                                  | C           |              |       | 0.1   |                             | Dinoseb                             | 88-85-7               | 6.1E+01                  | n       | 6.2E+02                    | n       |                                      |     |                                        |     | 1.1E+01            | n       | 7.0E+00       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             |                                 |             |                                          |             |              |       | 0.1   |                             | Dioxane, 1,4-                       | 123-91-1              | 4.9E+00                  | c       | 1.7E+01                    | c       | 3.2E-01                              | c   | 1.6E+00                                | c   | 6.7E-01            | c       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             |                                 |             |                                          |             |              |       |       |                             | Dioxins                             |                       |                          |         |                            |         |                                      |     |                                        |     |                    |         |               |  |                                 |  |
| 6.2E+03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 1.3E+00                                      | I           |                                 |             |                                          |             |              |       | 0.03  |                             | Hexachlorodibenzo-p-dioxin, Mixture | NA                    | 9.4E-05                  | c       | 3.9E-04                    | c       | 1.9E-06                              | c   | 9.4E-06                                | c   | 1.1E-05            | c       |               |  |                                 |  |
| 1.3E+05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 3.8E+01                                      | C           | 7.0E-10                         | I           | 4.0E-08                                  | C           |              |       | 0.03  |                             | TCDD, 2,3,7,8-                      | 1746-01-6             | 4.5E-06                  | c*      | 1.8E-05                    | c*      | 6.4E-08                              | c   | 3.2E-07                                | c   | 5.2E-07            | c*      | 3.0E-05       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 3.0E-02                         | I           |                                          |             |              |       | 0.1   |                             | Diphenamid                          | 957-51-7              | 1.8E+03                  | n       | 1.8E+04                    | n       |                                      |     |                                        |     | 4.1E+02            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 8.0E-04                         | X           |                                          |             |              |       | 0.1   |                             | Diphenyl Sulfone                    | 127-63-9              | 4.9E+01                  | n       | 4.9E+02                    | n       |                                      |     |                                        |     | 1.1E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.5E-02                         | I           |                                          |             |              |       | 0.1   |                             | Diphenylamine                       | 122-39-4              | 1.5E+03                  | n       | 1.5E+04                    | n       |                                      |     |                                        |     | 2.4E+02            | n       |               |  |                                 |  |
| 8.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 2.2E-04                                      | I           |                                 |             |                                          |             |              |       | 0.1   |                             | Diphenylhydrazine, 1,2-             | 122-66-7              | 6.1E-01                  | c       | 2.2E+00                    | c       | 1.1E-02                              | c   | 5.6E-02                                | c   | 6.7E-02            | c       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.2E-03                         | I           |                                          |             |              |       | 0.1   |                             | Diquat                              | 85-00-7               | 1.3E+02                  | n       | 1.4E+03                    | n       |                                      |     |                                        |     | 3.4E+01            | n       | 2.0E+01       |  |                                 |  |
| 7.4E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 2.1E-03                                      | C           |                                 |             |                                          |             |              |       | 0.1   |                             | Direct Black 38                     | 1937-37-7             | 6.6E-02                  | c       | 2.3E-01                    | c       | 1.2E-03                              | c   | 5.8E-03                                | c   | 9.1E-03            | c       |               |  |                                 |  |
| 7.4E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 2.1E-03                                      | C           |                                 |             |                                          |             |              |       | 0.1   |                             | Direct Blue 6                       | 2602-46-2             | 6.6E-02                  | c       | 2.3E-01                    | c       | 1.2E-03                              | c   | 5.8E-03                                | c   | 9.1E-03            | c       |               |  |                                 |  |
| 6.7E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.9E-03                                      | C           |                                 |             |                                          |             |              |       | 0.1   |                             | Direct Brown 95                     | 16071-86-6            | 7.3E-02                  | c       | 2.6E-01                    | c       | 1.3E-03                              | c   | 6.5E-03                                | c   | 1.0E-02            | c       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 4.0E-05                         | I           |                                          |             |              |       | 0.1   |                             | Disulfoton                          | 298-04-4              | 2.4E+00                  | n       | 2.5E+01                    | n       |                                      |     |                                        |     | 3.8E-01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-02                         | I           |                                          |             | V            |       | 0.1   |                             | Dithiane, 1,4-                      | 505-29-3              | 6.1E+02                  | n       | 6.2E+03                    | n       |                                      |     |                                        |     | 1.5E+02            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-03                         | I           |                                          |             |              |       | 0.1   |                             | Diuron                              | 330-54-1              | 1.2E+02                  | n       | 1.2E+03                    | n       |                                      |     |                                        |     | 2.8E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 4.0E-03                         | I           |                                          |             |              |       | 0.1   |                             | Dodine                              | 2439-10-3             | 2.4E+02                  | n       | 2.5E+03                    | n       |                                      |     |                                        |     | 6.2E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.5E-02                         | I           |                                          |             | V            |       | 0.1   |                             | EPTC                                | 759-94-4              | 2.0E+03                  | n       | 2.6E+04                    | n       |                                      |     |                                        |     | 2.9E+02            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 6.0E-03                         | I           |                                          |             |              |       | 0.1   |                             | Endosulfan                          | 115-29-7              | 3.7E+02                  | n       | 3.7E+03                    | n       |                                      |     |                                        |     | 7.8E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-02                         | I           |                                          |             |              |       | 0.1   |                             | Endothall                           | 145-73-3              | 1.2E+03                  | n       | 1.2E+04                    | n       |                                      |     |                                        |     | 3.0E+02            | n       | 1.0E+02       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 3.0E-04                         | I           |                                          |             |              |       | 0.1   |                             | Endrin                              | 72-20-8               | 1.8E+01                  | n       | 1.8E+02                    | n       |                                      |     |                                        |     | 1.7E+00            | n       | 2.0E+00       |  |                                 |  |
| 9.9E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I           | 1.2E-06                                      | I           | 6.0E-03                         | P           | 1.0E-03                                  | I           | V            |       |       | 1.1E+04                     | Epichlorohydrin                     | 106-89-8              | 2.0E+01                  | n       | 8.8E+01                    | n       | 1.0E+00                              | n   | 4.4E+00                                | n   | 2.0E+00            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-02                         | I           | 2.0E-02                                  | I           | V            |       |       | 1.5E+04                     | Epoxybutane, 1,2-                   | 106-88-7              | 1.7E+02                  | n       | 7.2E+02                    | n       | 2.1E+01                              | n   | 8.8E+01                                | n   | 4.2E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 5.0E-03                         | I           |                                          |             |              |       | 0.1   |                             | Ethephon                            | 16672-87-0            | 3.1E+02                  | n       | 3.1E+03                    | n       |                                      |     |                                        |     | 7.8E+01            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 5.0E-04                         | I           |                                          |             |              |       | 0.1   |                             | Ethion                              | 563-12-2              | 3.1E+01                  | n       | 3.1E+02                    | n       |                                      |     |                                        |     | 3.2E+00            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-01                         | P           | 6.0E-02                                  | P           |              |       | 0.1   |                             | Ethoxyethanol Acetate, 2-           | 111-15-9              | 6.1E+03                  | n       | 6.2E+04                    | n       | 6.3E+01                              | n   | 2.6E+02                                | n   | 1.5E+03            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 4.0E-01                         | H           | 2.0E-01                                  | I           |              |       | 0.1   |                             | Ethoxyethanol, 2-                   | 110-80-5              | 2.4E+04                  | n       | 2.5E+05                    | nm      | 2.1E+02                              | n   | 8.8E+02                                | n   | 6.2E+03            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 9.0E-01                         | I           |                                          |             | V            |       |       | 1.1E+04                     | Ethyl Acetate                       | 141-78-6              | 7.0E+04                  | ns      | 9.2E+05                    | nms     |                                      |     |                                        |     | 1.4E+04            | n       |               |  |                                 |  |
| 4.8E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H           |                                              |             |                                 |             |                                          |             | V            |       |       | 2.5E+03                     | Ethyl Acrylate                      | 140-88-5              | 1.3E+01                  | c       | 6.0E+01                    | c       |                                      |     |                                        |     | 1.4E+00            | c       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E+01                         | I           | V                                        |             |              |       |       | 2.1E+03                     | Ethyl Chloride                      | 75-00-3               | 1.5E+04                  | ns      | 6.1E+04                    | ns      | 1.0E+04                              | n   | 4.4E+04                                | n   | 2.1E+04            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E-01                         | I           |                                          |             | V            |       |       | 1.0E+04                     | Ethyl Ether                         | 60-29-7               | 1.6E+04                  | ns      | 2.0E+05                    | nms     |                                      |     |                                        |     | 3.1E+03            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 9.0E-02                         | H           | 3.0E-01                                  | P           | V            |       |       | 1.1E+03                     | Ethyl Methacrylate                  | 97-63-2               | 1.5E+03                  | ns      | 7.5E+03                    | ns      | 3.1E+02                              | n   | 1.3E+03                                | n   | 4.2E+02            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 1.0E-05                         | I           |                                          |             |              |       | 0.1   |                             | Ethyl-p-nitrophenyl Phosphonate     | 2104-64-5             | 6.1E-01                  | n       | 6.2E+00                    | n       |                                      |     |                                        |     | 6.6E-02            | n       |               |  |                                 |  |
| 1.1E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 2.5E-06                                      | C           | 1.0E-01                         | I           | 1.0E+00                                  | I           | V            |       |       | 4.8E+02                     | Ethylbenzene                        | 100-41-4              | 5.4E+00                  | c       | 2.7E+01                    | c       | 9.7E-01                              | c   | 4.9E+00                                | c   | 1.3E+00            | c       | 7.0E+02       |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 7.0E-02                         | P           |                                          |             |              |       | 0.1   |                             | Ethylene Cyanohydrin                | 109-78-4              | 4.3E+03                  | n       | 4.3E+04                    | n       |                                      |     |                                        |     | 1.1E+03            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 9.0E-02                         | P           |                                          |             |              |       | 0.1   |                             | Ethylene Diamine                    | 107-15-3              | 5.5E+03                  | n       | 5.5E+04                    | n       |                                      |     |                                        |     | 1.4E+03            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 2.0E+00                         | I           | 4.0E-01                                  | C           |              |       | 0.1   |                             | Ethylene Glycol                     | 107-21-1              | 1.2E+05                  | nm      | 1.2E+06                    | nm      | 4.2E+02                              | n   | 1.8E+03                                | n   | 3.1E+04            | n       |               |  |                                 |  |
| 3.1E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 8.8E-05                                      | C           | 1.0E-01                         | I           | 1.6E+00                                  | I           |              |       | 0.1   |                             | Ethylene Glycol Monobutyl Ether     | 111-76-2              | 6.1E+03                  | n       | 6.2E+04                    | n       | 1.7E+03                              | n   | 7.0E+03                                | n   | 1.5E+03            | n       |               |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                              |             | 3.0E-02                         | C           | 3.0E-02                                  | C           | V            |       |       | 1.2E+05                     | Ethylene Oxide                      | 75-21-8               | 1.7E-01                  | c       | 8.3E-01                    | c       | 2.8E-02                              | c   | 1.4E-01                                | c   | 4.4E-02            | c       |               |  |                                 |  |
| 4.5E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.3E-05                                      | C           | 8.0E-05                         | I           |                                          |             |              |       | 0.1   |                             | Ethylene Thiourea                   | 96-45-7               | 4.9E+00                  | n       | 3.8E+01                    | c**     | 1.9E-01                              | c   | 9.4E-01                                | c   | 1.2E+00            | n       |               |  |                                 |  |
| 6.5E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.9E-02                                      | C           |                                 |             |                                          |             | V            |       | 0.    |                             |                                     |                       |                          |         |                            |         |                                      |     |                                        |     |                    |         |               |  |                                 |  |

Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |                     |                                           |                     |                                 |                     |                                          |                     |              |       |     |                             |                                                    |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |  |  |  |  |  |  |  |                                 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------|---------------------|---------------------------------|---------------------|------------------------------------------|---------------------|--------------|-------|-----|-----------------------------|----------------------------------------------------|------------|--------------------------|-----|----------------------------|-----|--------------------------------------|-----|----------------------------------------|-----|--------------------|-----|---------------|--|--|--|--|--|--|--|---------------------------------|--|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                     |                                           |                     |                                 |                     |                                          |                     |              |       |     |                             | Contaminant                                        |            |                          |     |                            |     |                                      |     |                                        |     | Screening Levels   |     |               |  |  |  |  |  |  |  | Protection of Ground Water SSLs |  |
| SFO<br>(mg/kg-day) <sup>-1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | k <sub>e</sub><br>y | IUR<br>(ug/m <sup>3</sup> ) <sup>-1</sup> | k <sub>e</sub><br>y | RfD <sub>o</sub><br>(mg/kg-day) | k <sub>e</sub><br>y | RfC <sub>i</sub><br>(mg/m <sup>3</sup> ) | k <sub>e</sub><br>y | muta-<br>gen | GIABS | ABS | C <sub>sat</sub><br>(mg/kg) | Analyte                                            | CAS No.    | Resident Soil<br>(mg/kg) | key | Industrial Soil<br>(mg/kg) | key | Resident Air<br>(ug/m <sup>3</sup> ) | key | Industrial Air<br>(ug/m <sup>3</sup> ) | key | Tapwater<br>(ug/L) | key | MCL<br>(ug/L) |  |  |  |  |  |  |  |                                 |  |
| 3.5E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   |                                           |                     | 1.0E-01                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Folpet                                             | 133-07-3   | 1.4E+02                  | c*  | 4.9E+02                    | c   |                                      |     |                                        |     | 1.7E+01            | c*  |               |  |  |  |  |  |  |  |                                 |  |
| 1.9E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   |                                           |                     |                                 |                     |                                          |                     |              |       | 1   | 0.1                         | Fomesafen                                          | 72178-02-0 | 2.6E+00                  | c   | 9.1E+00                    | c   |                                      |     |                                        |     | 3.4E-01            | c   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     | 1.3E-05                                   | I                   | 2.0E-03                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Fonofos                                            | 944-22-9   | 1.2E+02                  | n   | 1.2E+03                    | n   |                                      |     |                                        |     | 1.8E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 2.0E-01                         | I                   | 9.8E-03                                  | A                   |              |       | 1   | 0.1                         | Formaldehyde                                       | 50-00-0    | 1.2E+04                  | n   | 1.2E+05                    | nm  | 1.9E-01                              | c*  | 9.4E-01                                | c*  | 3.1E+03            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 9.0E-01                         | P                   | 3.0E-04                                  | X                   |              |       | 1   | 0.1                         | Formic Acid                                        | 64-18-6    | 4.9E+04                  | n   | 4.2E+05                    | nm  | 3.1E-01                              | n   | 1.3E+00                                | n   | 1.4E+04            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 3.0E+00                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Fosetyl-AL                                         | 39148-24-8 | 1.8E+05                  | nm  | 1.8E+06                    | nm  |                                      |     |                                        |     | 4.7E+04            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.0E-03                         | X                   |                                          |                     | V            |       | 1   |                             | Furans                                             |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.0E-03                         | I                   |                                          |                     | V            |       | 1   | 6.2E+03                     | ~Dibenzofuran                                      | 132-64-9   | 7.8E+01                  | n   | 1.0E+03                    | n   |                                      |     |                                        |     | 5.8E+00            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 9.0E-01                         | I                   | 2.0E+00                                  | I                   | V            |       | 1   | 0.1                         | ~Furan                                             | 110-00-9   | 7.8E+01                  | n   | 1.0E+03                    | n   |                                      |     |                                        |     | 1.5E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
| 3.8E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                   |                                           |                     |                                 |                     |                                          |                     |              |       | 1   | 0.1                         | ~Tetrahydrofuran                                   | 109-99-9   | 1.8E+04                  | n   | 9.5E+04                    | n   | 2.1E+03                              | n   | 8.8E+03                                | n   | 3.2E+03            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     |                                 |                     |                                          |                     |              |       | 1   | 0.1                         | Furazolidone                                       | 67-45-8    | 1.3E-01                  | c   | 4.5E-01                    | c   |                                      |     |                                        |     | 1.8E-02            | c   |               |  |  |  |  |  |  |  |                                 |  |
| 1.5E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C                   | 4.3E-04                                   | C                   | 3.0E-03                         | I                   | 5.0E-02                                  | H                   |              |       | 1   | 0.1                         | Furfural                                           | 98-01-1    | 1.8E+02                  | n   | 1.8E+03                    | n   | 5.2E+01                              | n   | 2.2E+02                                | n   | 4.6E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
| 3.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 8.6E-06                                   | C                   |                                 |                     |                                          |                     |              |       | 1   | 0.1                         | Furium                                             | 531-82-8   | 3.2E-01                  | c   | 1.1E+00                    | c   | 5.7E-03                              | c   | 2.9E-02                                | c   | 4.4E-02            | c   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     |                                 |                     |                                          |                     |              |       | 1   | 0.1                         | Furmecycloz                                        | 60568-05-0 | 1.6E+01                  | c   | 5.7E+01                    | c   | 2.8E-01                              | c   | 1.4E+00                                | c   | 9.6E-01            | c   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 4.0E-04                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Glufosinate, Ammonium                              | 77182-82-2 | 2.4E+01                  | n   | 2.5E+02                    | n   |                                      |     |                                        |     | 6.3E+00            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     |                                 |                     | 8.0E-05                                  | C                   |              |       | 1   | 0.1                         | Glutaraldehyde                                     | 111-30-8   | 1.1E+05                  | nm  | 4.8E+05                    | nm  | 8.3E-02                              | n   | 3.5E-01                                | n   |                    |     |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 4.0E-04                         | I                   | 1.0E-03                                  | H                   |              |       | 1   | 0.1                         | Glycidyl                                           | 765-34-4   | 2.4E+01                  | n   | 2.5E+02                    | n   | 1.0E+00                              | n   | 4.4E+00                                | n   | 6.2E+00            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.0E-01                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Glyphosate                                         | 1071-83-6  | 6.1E+03                  | n   | 6.2E+04                    | n   |                                      |     |                                        |     | 1.6E+03            | n   | 7.0E+02       |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 3.0E-03                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Goal                                               | 42874-03-3 | 1.8E+02                  | n   | 1.8E+03                    | n   |                                      |     |                                        |     | 2.4E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 3.0E-03                         | A                   | 1.0E-02                                  | A                   |              |       | 1   | 0.1                         | Guthion                                            | 86-50-0    | 1.8E+02                  | n   | 1.8E+03                    | n   | 1.0E+01                              | n   | 4.4E+01                                | n   | 4.3E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 5.0E-05                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Haloxypol, Methyl                                  | 69806-40-2 | 3.1E+00                  | n   | 3.1E+01                    | n   |                                      |     |                                        |     | 5.8E-01            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.3E-02                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Harmony                                            | 79277-27-3 | 7.9E+02                  | n   | 8.0E+03                    | n   |                                      |     |                                        |     | 2.0E+02            | n   |               |  |  |  |  |  |  |  |                                 |  |
| 4.5E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 1.3E-03                                   | I                   | 5.0E-04                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Heptachlor                                         | 76-44-8    | 1.1E-01                  | c   | 3.8E-01                    | c   | 1.9E-03                              | c   | 9.4E-03                                | c   | 1.8E-03            | c   | 4.0E-01       |  |  |  |  |  |  |  |                                 |  |
| 9.1E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 2.6E-03                                   | I                   | 1.3E-05                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Heptachlor Epoxide                                 | 1024-57-3  | 5.3E-02                  | c*  | 1.9E-01                    | c*  | 9.4E-04                              | c   | 4.7E-03                                | c   | 3.3E-03            | c*  | 2.0E-01       |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 2.0E-03                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Hexabromobenzene                                   | 87-82-1    | 1.2E+02                  | n   | 1.2E+03                    | n   |                                      |     |                                        |     | 3.1E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 2.0E-04                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153) | 68631-49-2 | 1.2E+01                  | n   | 1.2E+02                    | n   |                                      |     |                                        |     | 3.1E+00            | n   |               |  |  |  |  |  |  |  |                                 |  |
| 1.6E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 4.6E-04                                   | I                   | 8.0E-04                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Hexachlorobenzene                                  | 118-74-1   | 3.0E-01                  | c   | 1.1E+00                    | c   | 5.3E-03                              | c   | 2.7E-02                                | c   | 4.2E-02            | c   | 1.0E+00       |  |  |  |  |  |  |  |                                 |  |
| 7.8E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 2.2E-05                                   | I                   | 1.0E-03                         | P                   |                                          |                     |              |       | 1   | 0.1                         | Hexachlorobutadiene                                | 87-68-3    | 6.2E+00                  | c** | 2.2E+01                    | c*  | 1.1E-01                              | c   | 5.6E-01                                | c   | 2.6E-01            | c*  |               |  |  |  |  |  |  |  |                                 |  |
| 6.3E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 1.8E-03                                   | I                   | 8.0E-03                         | A                   |                                          |                     |              |       | 1   | 0.1                         | Hexachlorocyclohexane, Alpha-                      | 319-84-6   | 7.7E-02                  | c   | 2.7E-01                    | c   | 1.4E-03                              | c   | 6.8E-03                                | c   | 6.2E-03            | c   |               |  |  |  |  |  |  |  |                                 |  |
| 1.8E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 5.3E-04                                   | I                   |                                 |                     |                                          |                     |              |       | 1   | 0.1                         | Hexachlorocyclohexane, Beta-                       | 319-85-7   | 2.7E-01                  | c   | 9.6E-01                    | c   | 4.6E-03                              | c   | 2.3E-02                                | c   | 2.2E-02            | c   |               |  |  |  |  |  |  |  |                                 |  |
| 1.1E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C                   | 3.1E-04                                   | C                   | 3.0E-04                         | I                   |                                          |                     |              |       | 1   | 0.04                        | Hexachlorocyclohexane, Gamma- (Lindane)            | 58-89-9    | 5.2E-01                  | c*  | 2.1E+00                    | c   | 7.8E-03                              | c   | 4.0E-02                                | c   | 3.6E-02            | c*  | 2.0E-01       |  |  |  |  |  |  |  |                                 |  |
| 1.8E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 5.1E-04                                   | I                   |                                 |                     |                                          |                     |              |       | 1   | 0.1                         | Hexachlorocyclohexane, Technical                   | 608-73-1   | 2.7E-01                  | c   | 9.6E-01                    | c   | 4.8E-03                              | c   | 2.4E-02                                | c   | 2.2E-02            | c   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 6.0E-03                         | I                   | 2.0E-04                                  | I                   |              |       | 1   | 0.1                         | Hexachlorocyclopentadiene                          | 77-47-4    | 3.7E+02                  | n   | 3.7E+03                    | n   | 2.1E-01                              | n   | 8.8E-01                                | n   | 2.2E+01            | n   | 5.0E+01       |  |  |  |  |  |  |  |                                 |  |
| 4.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 1.1E-05                                   | C                   | 7.0E-04                         | I                   | 3.0E-02                                  | I                   |              |       | 1   | 0.1                         | Hexachloroethane                                   | 67-72-1    | 1.2E+01                  | c** | 4.3E+01                    | c*  | 2.2E-01                              | c   | 1.1E+00                                | c   | 7.9E-01            | c** |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 3.0E-04                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Hexachlorophene                                    | 70-30-4    | 1.8E+01                  | n   | 1.8E+02                    | n   |                                      |     |                                        |     | 4.7E+00            | n   |               |  |  |  |  |  |  |  |                                 |  |
| 1.1E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   |                                           |                     | 3.0E-03                         | I                   |                                          |                     |              |       | 1   | 0.015                       | Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)      | 121-82-4   | 5.6E+00                  | c*  | 2.4E+01                    | c   |                                      |     |                                        |     | 6.1E-01            | c*  |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     |                                 |                     | 1.0E-05                                  | I                   | V            |       | 1   |                             | Hexamethylene Disocyanate, 1,6-                    | 822-06-0   | 3.4E+00                  | n   | 1.4E+01                    | n   | 1.0E-02                              | n   | 4.4E-02                                | n   | 2.1E-02            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 4.0E-04                         | P                   |                                          |                     |              |       | 1   | 0.1                         | Hexamethylphosphoramide                            | 680-31-9   | 2.4E+01                  | n   | 2.5E+02                    | n   |                                      |     |                                        |     | 6.2E+00            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 6.0E-02                         | H                   | 7.0E-01                                  | I                   | V            |       | 1   | 1.4E+02                     | Hexane, N-                                         | 110-54-3   | 5.7E+02                  | ns  | 2.6E+03                    | ns  | 7.3E+02                              | n   | 3.1E+03                                | n   | 2.5E+02            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 2.0E+00                         | P                   |                                          |                     |              |       | 1   | 0.1                         | Hexanedioic Acid                                   | 124-04-9   | 1.2E+05                  | nm  | 1.2E+06                    | nm  |                                      |     |                                        |     | 3.1E+04            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 5.0E-03                         | I                   | 3.0E-02                                  | I                   | V            |       | 1   | 3.3E+03                     | Hexanone, 2-                                       | 591-78-6   | 2.1E+02                  | n   | 1.4E+03                    | n   | 3.1E+01                              | n   | 1.3E+02                                | n   | 3.4E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 3.3E-02                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Hexazinone                                         | 51235-04-2 | 2.0E+03                  | n   | 2.0E+04                    | n   |                                      |     |                                        |     | 5.0E+02            | n   |               |  |  |  |  |  |  |  |                                 |  |
| 3.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 4.9E-03                                   | I                   |                                 |                     | 3.0E-05                                  | P                   |              |       | 1   |                             | Hydrazine                                          | 302-01-2   | 2.1E-01                  | c   | 9.5E-01                    | c   | 5.0E-04                              | c*  | 2.5E-03                                | c*  | 2.2E-02            | c   |               |  |  |  |  |  |  |  |                                 |  |
| 3.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   | 4.9E-03                                   | I                   |                                 |                     |                                          |                     |              |       | 1   |                             | Hydrazine Sulfate                                  | 10034-93-2 | 2.1E-01                  | c   | 9.5E-01                    | c   | 5.0E-04                              | c   | 2.5E-03                                | c   | 2.2E-02            | c   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     |                                 |                     | 2.0E-02                                  | I                   |              |       | 1   |                             | Hydrogen Chloride                                  | 7647-01-0  | 2.8E+07                  | nm  | 1.2E+08                    | nm  | 2.1E+01                              | n   | 8.8E+01                                | n   |                    |     |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 4.0E-02                         | C                   | 1.4E-02                                  | C                   |              |       | 1   |                             | Hydrogen Fluoride                                  | 7664-39-3  | 3.1E+03                  | n   | 4.1E+04                    | n   | 1.5E+01                              | n   | 6.1E+01                                | n   | 6.2E+02            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     |                                 |                     | 2.0E-03                                  | I                   |              |       | 1   |                             | Hydrogen Sulfide                                   | 7783-06-4  | 2.8E+06                  | nm  | 1.2E+07                    | nm  | 2.1E+00                              | n   | 8.8E+00                                | n   |                    |     |               |  |  |  |  |  |  |  |                                 |  |
| 6.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P                   |                                           |                     | 4.0E-02                         | P                   |                                          |                     |              |       | 1   | 0.1                         | Hydroquinone                                       | 123-31-9   | 8.1E+00                  | c   | 2.9E+01                    | c   |                                      |     |                                        |     | 1.1E+00            | c   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.3E-02                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Imazali                                            | 35554-44-0 | 7.9E+02                  | n   | 8.0E+03                    | n   |                                      |     |                                        |     | 1.4E+02            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 2.5E-01                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Imazaquin                                          | 81335-37-7 | 1.5E+04                  | n   | 1.5E+05                    | nm  |                                      |     |                                        |     | 3.8E+03            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.0E-02                         | A                   |                                          |                     |              |       | 1   |                             | Iodine                                             | 7553-56-2  | 7.8E+02                  | n   | 1.0E+04                    | n   |                                      |     |                                        |     | 1.6E+02            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 4.0E-02                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Iprodione                                          | 36734-19-7 | 2.4E+03                  | n   | 2.5E+04                    | n   |                                      |     |                                        |     | 5.7E+02            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 7.0E-01                         | P                   |                                          |                     |              |       | 1   |                             | Iron                                               | 7439-89-6  | 5.5E+04                  | n   | 7.2E+05                    | nm  |                                      |     |                                        |     | 1.1E+04            | n   |               |  |  |  |  |  |  |  |                                 |  |
| 9.5E-04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                   |                                           |                     | 3.0E-01                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Isobutyl Alcohol                                   | 78-83-1    | 1.8E+04                  | n   | 1.8E+05                    | nm  |                                      |     |                                        |     | 4.6E+03            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 2.0E-01                         | I                   | 2.0E+00                                  | C                   |              |       | 1   | 0.1                         | Isophorone                                         | 78-59-1    | 5.1E+02                  | c*  | 1.8E+03                    | c*  | 2.1E+03                              | n   | 8.8E+03                                | n   | 6.7E+01            | c*  |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.5E-02                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Isopropalin                                        | 33820-53-0 | 9.2E+02                  | n   | 9.2E+03                    | n   |                                      |     |                                        |     | 2.9E+01            | n   |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     |                                 |                     | 7.0E+00                                  | C                   |              |       | 1   | 0.1                         | Isopropanol                                        | 67-63-0    | 9.9E+09                  | nm  | 4.2E+10                    | nm  | 7.3E+03                              | n   | 3.1E+04                                | n   |                    |     |               |  |  |  |  |  |  |  |                                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |                                           |                     | 1.0E-01                         | I                   |                                          |                     |              |       | 1   | 0.1                         | Isopropyl Methyl Phosphonic Acid                   | 1832-54-8  | 6.1E+03                  | n   | 6.2E+04                    | n   |                                      |     |                                        |     | 1.6E+03            | n   |               |  |  |  |  |  |  |  |                                 |  |



Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |             |                                          |             |                                 |             |                                          |             |                            |                                 |       |     |                             |                                                 |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------|-------------|---------------------------------|-------------|------------------------------------------|-------------|----------------------------|---------------------------------|-------|-----|-----------------------------|-------------------------------------------------|------------|--------------------------|-----|----------------------------|-----|--------------------------------------|-----|----------------------------------------|-----|--------------------|-----|---------------|---------------------------------|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                          |             |                                 |             |                                          |             |                            |                                 |       |     |                             | Contaminant                                     |            | Screening Levels         |     |                            |     |                                      |     |                                        |     |                    |     |               | Protection of Ground Water SSLs |
| SFO<br>(mg/kg-day) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | k<br>e<br>y | IUR<br>(ug/m <sup>3</sup> ) <sup>1</sup> | k<br>e<br>y | RfD <sub>a</sub><br>(mg/kg-day) | k<br>e<br>y | RfC <sub>i</sub><br>(mg/m <sup>3</sup> ) | k<br>e<br>y | v<br>o<br>l<br>u<br>t<br>e | m<br>u<br>t<br>a<br>g<br>e<br>n | GIABS | ABS | C <sub>sat</sub><br>(mg/kg) | Analyte                                         | CAS No.    | Resident Soil<br>(mg/kg) | key | Industrial Soil<br>(mg/kg) | key | Resident Air<br>(ug/m <sup>3</sup> ) | key | Industrial Air<br>(ug/m <sup>3</sup> ) | key | Tapwater<br>(ug/L) | key | MCL<br>(ug/L) |                                 |
| 3.8E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.1E-05                                  | C           |                                 |             |                                          |             |                            |                                 |       |     |                             | *Lead subacetate                                | 1335-32-6  | 1.3E+01                  | c   | 4.5E+01                    | c   | 2.2E-01                              | c   | 1.1E+00                                | c   | 1.8E+00            | c   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-07                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | *Tetraethyl Lead                                | 78-00-2    | 6.1E+03                  | n   | 6.2E-02                    | n   |                                      |     |                                        |     | 9.9E-04            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-03                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Linuron                                         | 330-55-2   | 1.2E+02                  | n   | 1.2E+03                    | n   |                                      |     |                                        |     | 2.6E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-03                         | P           |                                          |             |                            |                                 |       | 1   |                             | Lithium                                         | 7439-93-2  | 1.6E+02                  | n   | 2.0E+03                    | n   |                                      |     |                                        |     | 3.1E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-01                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Londax                                          | 83055-99-6 | 1.2E+04                  | n   | 1.2E+05                    | nm  |                                      |     |                                        |     | 3.1E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-04                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | MCPA                                            | 94-74-6    | 3.1E+01                  | n   | 3.1E+02                    | n   |                                      |     |                                        |     | 5.7E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-02                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | MCPB                                            | 94-81-5    | 6.1E+02                  | n   | 6.2E+03                    | n   |                                      |     |                                        |     | 1.1E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-03                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | MCPP                                            | 93-65-2    | 6.1E+01                  | n   | 6.2E+02                    | n   |                                      |     |                                        |     | 1.2E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-02                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Malathion                                       | 121-75-5   | 1.2E+03                  | n   | 1.2E+04                    | n   |                                      |     |                                        |     | 3.0E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-01                         | I           | 7.0E-04                                  | C           |                            |                                 |       | 1   | 0.1                         | Maleic Anhydride                                | 108-31-6   | 6.1E+03                  | n   | 6.1E+04                    | n   | 7.3E-01                              | n   | 3.1E+00                                | n   | 1.5E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-01                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Maleic Hydrazide                                | 123-33-1   | 3.1E+04                  | n   | 3.1E+05                    | nm  |                                      |     |                                        |     | 7.8E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-04                         | P           |                                          |             |                            |                                 |       | 1   | 0.1                         | Malononitrile                                   | 109-77-3   | 6.1E+00                  | n   | 6.2E+01                    | n   |                                      |     |                                        |     | 1.6E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-02                         | H           |                                          |             |                            |                                 |       | 1   | 0.1                         | Mancozeb                                        | 8018-01-7  | 1.8E+03                  | n   | 1.8E+04                    | n   |                                      |     |                                        |     | 4.6E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-03                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Maneb                                           | 12427-38-2 | 3.1E+02                  | n   | 3.1E+03                    | n   |                                      |     |                                        |     | 7.7E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.4E-01                         | I           | 5.0E-05                                  | I           |                            |                                 |       | 1   |                             | Manganese (Diet)                                | 7439-96-5  |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.4E-02                         | S           | 5.0E-05                                  | I           |                            |                                 | 0.04  |     |                             | Manganese (Non-diet)                            | 7439-96-5  | 1.8E+03                  | n   | 2.3E+04                    | n   | 5.2E-02                              | n   | 2.2E-01                                | n   | 3.2E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 9.0E-05                         | H           |                                          |             |                            |                                 |       | 1   | 0.1                         | Mephosfolan                                     | 950-10-7   | 5.5E+00                  | n   | 5.5E+01                    | n   |                                      |     |                                        |     | 1.4E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-02                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Mepiquat Chloride                               | 24307-26-4 | 1.8E+03                  | n   | 1.8E+04                    | n   |                                      |     |                                        |     | 4.7E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-04                         | I           | 3.0E-04                                  | S           |                            |                                 | 0.07  |     |                             | Mercury Compounds                               |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-04                         | I           | 3.0E-04                                  | I           | V                          |                                 |       | 1   | 3.1E+00                     | *Mercuric Chloride (and other Mercury salts)    | 7487-94-7  | 2.3E+01                  | n   | 3.1E+02                    | n   | 3.1E-01                              | n   | 1.3E+00                                | n   | 4.3E+00            | n   | 2.0E+00       |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             |                                          |             |                            |                                 |       |     |                             | *Mercury (elemental)                            | 7439-97-6  | 1.0E+01                  | ns  | 4.3E+01                    | ns  | 3.1E-01                              | n   | 1.3E+00                                | n   | 6.3E-01            | n   | 2.0E+00       |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-04                         | I           |                                          |             |                            |                                 |       | 1   |                             | *Methyl Mercury                                 | 22967-92-6 | 7.8E+00                  | n   | 1.0E+02                    | n   |                                      |     |                                        |     | 1.6E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-05                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | *Phenylmercuric Acetate                         | 62-38-4    | 4.9E+00                  | n   | 4.9E+01                    | n   |                                      |     |                                        |     | 1.2E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-05                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Merphos                                         | 150-50-5   | 1.8E+00                  | n   | 1.8E+01                    | n   |                                      |     |                                        |     | 4.7E-01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-05                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Merphos Oxide                                   | 78-48-8    | 1.8E+00                  | n   | 1.8E+01                    | n   |                                      |     |                                        |     | 6.1E-02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 6.0E-02                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Metalaxyl                                       | 57837-19-1 | 3.7E+03                  | n   | 3.7E+04                    | n   |                                      |     |                                        |     | 9.2E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-04                         | I           | 3.0E-02                                  | P           | V                          |                                 |       | 1   | 4.6E+03                     | Methacrylonitrile                               | 126-98-7   | 7.6E+00                  | n   | 9.2E+01                    | n   | 3.1E+01                              | n   | 1.3E+02                                | n   | 1.5E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-05                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methamidophos                                   | 10265-92-6 | 3.1E+00                  | n   | 3.1E+01                    | n   |                                      |     |                                        |     | 7.8E-01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-01                         | I           | 4.0E+00                                  | C           |                            |                                 |       | 1   | 0.1                         | Methanol                                        | 67-56-1    | 3.1E+04                  | n   | 3.1E+05                    | nm  | 4.2E+03                              | n   | 1.8E+04                                | n   | 7.8E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-03                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methidathion                                    | 950-37-8   | 6.1E+01                  | n   | 6.2E+02                    | n   |                                      |     |                                        |     | 1.5E+01            | n   |               |                                 |
| 4.9E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 1.4E-05                                  | C           |                                 |             |                                          |             |                            |                                 |       |     |                             | Methomyl                                        | 16752-77-5 | 1.5E+03                  | n   | 1.5E+04                    | n   |                                      |     |                                        |     | 3.9E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-03                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methoxy-5-nitroaniline, 2-                      | 99-59-2    | 9.9E+00                  | c   | 3.5E+01                    | c   | 1.7E-01                              | c   | 8.8E-01                                | c   | 1.3E+00            | c   | 4.0E+01       |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             |                                          |             |                            |                                 |       | 1   | 0.1                         | Methoxychlor                                    | 72-43-5    | 3.1E+02                  | n   | 3.1E+03                    | n   |                                      |     |                                        |     | 2.7E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-03                         | P           | 1.0E-03                                  | P           |                            |                                 |       | 1   | 0.1                         | Methoxyethanol Acetate, 2-                      | 110-49-6   | 4.9E+02                  | n   | 4.9E+03                    | n   | 1.0E+00                              | n   | 4.4E+00                                | n   | 1.2E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 5.0E-03                         | P           | 2.0E-02                                  | I           |                            |                                 |       | 1   | 0.1                         | Methoxyethanol, 2-                              | 109-86-4   | 3.1E+02                  | n   | 3.1E+03                    | n   | 2.1E+01                              | n   | 8.8E+01                                | n   | 7.8E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E+00                         | X           |                                          |             | V                          |                                 |       | 1   | 2.9E+04                     | Methyl Acetate                                  | 79-20-9    | 7.8E+04                  | ns  | 1.0E+06                    | nms |                                      |     |                                        |     | 1.5E+04            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 3.0E-02                         | H           | 2.0E-02                                  | P           | V                          |                                 |       | 1   | 6.8E+03                     | Methyl Acrylate                                 | 96-33-3    | 1.5E+02                  | n   | 6.4E+02                    | n   | 2.1E+01                              | n   | 8.8E+01                                | n   | 3.8E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 6.0E-01                         | I           | 5.0E+00                                  | I           | V                          |                                 |       | 1   | 2.8E+04                     | Methyl Ethyl Ketone (2-Butanone)                | 78-93-3    | 2.8E+04                  | n   | 2.0E+05                    | nms | 5.2E+03                              | n   | 2.2E+04                                | n   | 4.9E+03            | n   |               |                                 |
| 1.0E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | X           |                                          |             | 1.0E-03                         | P           | 2.0E-05                                  | X           |                            |                                 |       | 1   | 0.1                         | Methyl Hydrazine                                | 60-34-4    | 6.1E+01                  | n   | 6.1E+02                    | n   | 2.4E-03                              | c** | 1.2E-02                                | c** | 1.6E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 8.0E-02                         | H           | 3.0E+00                                  | I           | V                          |                                 |       | 1   | 3.4E+03                     | Methyl Isobutyl Ketone (4-methyl-2-pentanone)   | 108-10-1   | 5.3E+03                  | ns  | 5.3E+04                    | ns  | 3.1E+03                              | n   | 1.3E+04                                | n   | 1.0E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             |                                 |             | 1.0E-03                                  | C           | V                          |                                 |       | 1   | 0.1                         | Methyl Isocyanate                               | 624-83-9   | 5.0E+00                  | n   | 2.1E+01                    | n   | 1.0E+00                              | n   | 4.4E+00                                | n   | 2.1E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.4E+00                         | I           | 7.0E-01                                  | I           | V                          |                                 |       | 1   | 2.4E+03                     | Methyl Methacrylate                             | 80-62-6    | 4.8E+03                  | ns  | 2.1E+04                    | ns  | 7.3E+02                              | n   | 3.1E+03                                | n   | 1.4E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.5E-04                         | I           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methyl Parathion                                | 298-00-0   | 1.5E+01                  | n   | 1.5E+02                    | n   |                                      |     |                                        |     | 3.4E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 6.0E-02                         | X           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methyl Phosphonic Acid                          | 993-13-5   | 3.7E+03                  | n   | 3.7E+04                    | n   |                                      |     |                                        |     | 9.4E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 6.0E-03                         | H           | 4.0E-02                                  | H           | V                          |                                 |       | 1   | 3.9E+02                     | Methyl Styrene (Mixed Isomers)                  | 25013-15-4 | 2.4E+02                  | n   | 1.5E+03                    | ns  | 4.2E+01                              | n   | 1.8E+02                                | n   | 3.2E+01            | n   |               |                                 |
| 9.9E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 2.8E-05                                  | C           |                                 |             |                                          |             |                            |                                 |       | 1   | 0.1                         | Methyl methanesulfonate                         | 66-27-3    | 4.9E+00                  | c   | 1.7E+01                    | c   | 8.7E-02                              | c   | 4.4E-01                                | c   | 6.8E-01            | c   |               |                                 |
| 1.8E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 2.6E-07                                  | C           |                                 |             |                                          |             |                            |                                 |       | 1   | 8.9E+03                     | Methyl tert-Butyl Ether (MTBE)                  | 1634-04-4  | 4.3E+01                  | c   | 2.2E+02                    | c   | 9.4E+00                              | c   | 4.7E+01                                | c   | 1.2E+01            | c   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-04                         | X           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methyl-1,4-benzenediamine dihydrochloride, 2-   | 615-45-2   | 1.2E+01                  | n   | 1.2E+02                    | n   |                                      |     |                                        |     | 3.1E+00            | n   |               |                                 |
| 9.0E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P           |                                          |             | 2.0E-02                         | X           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methyl-5-Nitroaniline, 2-                       | 99-55-8    | 5.4E+01                  | c*  | 1.9E+02                    | c*  |                                      |     |                                        |     | 7.0E+00            | c*  |               |                                 |
| 8.3E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 2.4E-03                                  | C           |                                 |             |                                          |             |                            |                                 |       | 1   | 0.1                         | Methyl-N-nitro-N-nitrosoguanidine, N-           | 70-25-7    | 5.9E-02                  | c   | 2.1E-01                    | c   | 1.0E-03                              | c   | 5.1E-03                                | c   | 8.1E-03            | c   |               |                                 |
| 1.3E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C           | 3.7E-05                                  | C           |                                 |             |                                          |             |                            |                                 |       | 1   | 0.1                         | Methylaniline Hydrochloride, 2-                 | 636-21-5   | 3.7E+00                  | c   | 1.3E+01                    | c   | 6.6E-02                              | c   | 3.3E-01                                | c   | 5.0E-01            | c   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 1.0E-02                         | A           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methylarsonic acid                              | 124-58-3   | 6.1E+02                  | n   | 6.2E+03                    | n   |                                      |     |                                        |     | 1.6E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-04                         | X           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methylbenzene,1,4-diamine monohydrochloride, 2- | 74612-12-7 | 1.2E+01                  | n   | 1.2E+02                    | n   |                                      |     |                                        |     | 3.1E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                                          |             | 2.0E-04                         | X           |                                          |             |                            |                                 |       | 1   | 0.1                         | Methylbenzene-1,4-diamine sulfate, 2-           | 615-50-9   | 1.2E+01                  | n   |                            |     |                                      |     |                                        |     |                    |     |               |                                 |



Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |                     |                                           |                     |                                 |                     |                                                       |                     |                                |       |       |                             |                                                  |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |  |                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------|---------------------|---------------------------------|---------------------|-------------------------------------------------------|---------------------|--------------------------------|-------|-------|-----------------------------|--------------------------------------------------|------------|--------------------------|-----|----------------------------|-----|--------------------------------------|-----|----------------------------------------|-----|--------------------|-----|---------------|--|---------------------------------|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |                                           |                     |                                 |                     |                                                       |                     |                                |       |       |                             | Contaminant                                      |            |                          |     | Screening Levels           |     |                                      |     |                                        |     |                    |     |               |  | Protection of Ground Water SSLs |
| 5FO<br>(mg/kg-day) <sup>-1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | k <sub>e</sub><br>y | IUR<br>(ug/m <sup>3</sup> ) <sup>-1</sup> | k <sub>e</sub><br>y | RfD <sub>o</sub><br>(mg/kg-day) | k <sub>e</sub><br>y | RF <sub>c</sub><br>(mg/m <sup>3</sup> ) <sup>-1</sup> | k <sub>e</sub><br>y | v <sub>o</sub><br>muta-<br>gen | GIABS | ABS   | C <sub>sat</sub><br>(mg/kg) | Analyte                                          | CAS No.    | Resident Soil<br>(mg/kg) | key | Industrial Soil<br>(mg/kg) | key | Resident Air<br>(ug/m <sup>3</sup> ) | key | Industrial Air<br>(ug/m <sup>3</sup> ) | key | Tapwater<br>(ug/L) | key | MCL<br>(ug/L) |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-03                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Molinate                                         | 2212-67-1  | 1.2E+02                  | n   | 1.2E+03                    | n   |                                      |     |                                        |     | 2.3E+01            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 5.0E-03                         | I                   |                                                       |                     |                                | 1     |       |                             | Molybdenum                                       | 7439-98-7  | 3.9E+02                  | n   | 5.1E+03                    | n   |                                      |     |                                        |     | 7.8E+01            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.0E-01                         | I                   |                                                       |                     |                                | 1     |       |                             | Monochloramine                                   | 10599-90-3 | 7.8E+03                  | n   | 1.0E+05                    | nm  |                                      |     |                                        |     | 1.6E+03            | n   | 4.0E+03       |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-03                         | P                   |                                                       |                     |                                | 1     | 0.1   |                             | Monomethylaniline                                | 100-61-8   | 1.2E+02                  | n   | 1.2E+03                    | n   |                                      |     |                                        |     | 3.0E+01            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 3.0E-04                         | X                   |                                                       |                     |                                | 1     | 0.1   |                             | N,N'-Diphenyl-1,4-benzenediamine                 | 74-31-7    | 1.8E+01                  | n   | 1.8E+02                    | n   |                                      |     |                                        |     | 2.7E+00            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-03                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Naled                                            | 300-76-5   | 1.2E+02                  | n   | 1.2E+03                    | n   |                                      |     |                                        |     | 3.1E+01            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 3.0E-02                         | X                   | 1.0E-01                                               | P                   | V                              | 1     |       |                             | Naphtha, High Flash Aromatic (HFAN)              | 64724-95-6 | 2.3E+03                  | n   | 3.1E+04                    | n   | 1.0E+02                              | n   | 4.4E+02                                | n   | 1.4E+02            | n   |               |  |                                 |
| 1.8E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 0.0E+00                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Naphthylamine, 2-                                | 91-59-8    | 2.7E-01                  | c   | 9.6E-01                    | c   |                                      |     |                                        |     | 3.3E-02            | c   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.0E-01                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Napropemide                                      | 15299-99-7 | 6.1E+03                  | n   | 6.2E+04                    | n   |                                      |     |                                        |     | 1.3E+03            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 5.0E-02                         | C                   | 5.0E-05                                               | C                   |                                | 0.04  |       |                             | Nickel Carbonyl                                  | 13463-39-3 | 3.7E+03                  | n   | 4.4E+04                    | n   | 5.2E-02                              | n   | 2.2E-01                                | n   | 6.7E+02            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 5.0E-02                         | C                   | 1.0E-04                                               | C                   |                                | 1     |       |                             | Nickel Oxide                                     | 1313-99-1  | 3.8E+03                  | n   | 4.7E+04                    | n   | 1.0E-01                              | n   | 4.4E-01                                | n   | 7.8E+02            | n   |               |  |                                 |
| 2.4E-04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   |                                           |                     | 5.0E-02                         | C                   | 5.0E-05                                               | C                   |                                | 0.04  |       |                             | Nickel Refinery Dust                             | NA         | 3.7E+03                  | n   | 4.4E+04                    | n   | 1.0E-02                              | c** | 5.1E-02                                | c** | 7.6E+02            | n   |               |  |                                 |
| 2.6E-04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   |                                           |                     | 2.0E-02                         | I                   | 9.0E-05                                               | A                   |                                | 0.04  |       |                             | Nickel Soluble Salts                             | 7440-02-0  | 1.5E+03                  | n   | 2.0E+04                    | n   | 9.4E-03                              | c*  | 4.7E-02                                | c** | 3.0E+02            | n   |               |  |                                 |
| 1.7E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 4.8E-04                                   | I                   | 5.0E-02                         | C                   | 5.0E-05                                               | C                   |                                | 0.04  |       |                             | Nickel Subulfide                                 | 12035-72-2 | 3.8E-01                  | c   | 1.7E+00                    | c   | 5.1E-03                              | c*  | 2.6E-02                                | c** | 3.9E-02            | c   | 1.0E+04       |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.6E+00                         | I                   |                                                       |                     |                                | 1     |       |                             | Nitrate                                          | 14797-55-8 | 1.3E+05                  | nm  | 1.6E+06                    | nm  |                                      |     |                                        |     | 2.5E+04            | n   | 1.0E+04       |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     |                                 |                     |                                                       |                     |                                | 1     |       |                             | Nitrate + Nitrite (as N)                         | NA         |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.0E-01                         | I                   |                                                       |                     |                                | 1     |       |                             | Nitrite                                          | 14797-65-0 | 7.8E+03                  | n   | 1.0E+05                    | nm  |                                      |     |                                        |     | 1.6E+03            | n   | 1.0E+03       |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.0E-02                         | X                   | 5.0E-05                                               | X                   |                                | 1     | 0.1   |                             | Nitroaniline, 2-                                 | 88-74-4    | 6.1E+02                  | n   | 6.0E+03                    | n   | 5.2E-02                              | n   | 2.2E-01                                | n   | 1.5E+02            | n   |               |  |                                 |
| 2.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P                   |                                           |                     | 4.0E-03                         | P                   | 6.0E-03                                               | P                   |                                | 1     | 0.1   |                             | Nitroaniline, 4-                                 | 100-01-6   | 2.4E+01                  | c*  | 8.6E+01                    | c*  | 6.3E+00                              | n   | 2.6E+01                                | n   | 3.3E+00            | c*  |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     | 4.0E-05                                   | I                   | 2.0E-03                         | I                   | 9.0E-03                                               | I                   | V                              | 1     |       | 3.1E+03                     | Nitrobenzene                                     | 98-95-3    | 4.8E+00                  | c*  | 2.4E+01                    | c*  | 6.1E-02                              | c   | 3.1E-01                                | c   | 1.2E-01            | c*  |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 3.0E+03                         | P                   |                                                       |                     |                                | 1     | 0.1   |                             | Nitrocellulose                                   | 9004-70-0  | 1.8E+08                  | nm  | 1.8E+09                    | nm  |                                      |     |                                        |     | 4.7E+07            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 7.0E-02                         | H                   |                                                       |                     |                                | 1     | 0.1   |                             | Nitrofurantoin                                   | 67-20-9    | 4.3E+03                  | n   | 4.3E+04                    | n   |                                      |     |                                        |     | 1.1E+03            | n   |               |  |                                 |
| 1.3E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 3.7E-04                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitrofurazone                                    | 59-87-0    | 3.7E-01                  | c   | 1.3E+00                    | c   | 6.6E-03                              | c   | 3.3E-02                                | c   | 5.2E-02            | c   |               |  |                                 |
| 1.7E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P                   |                                           |                     | 1.0E-04                         | P                   |                                                       |                     |                                | 1     | 0.1   |                             | Nitroglycerin                                    | 55-63-0    | 6.1E+00                  | n   | 6.2E+01                    | n   |                                      |     |                                        |     | 1.5E+00            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.0E-01                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Nitroguanidine                                   | 556-88-7   | 6.1E+03                  | n   | 6.2E+04                    | n   |                                      |     |                                        |     | 1.6E+03            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     | 9.0E-06                                   | P                   |                                 |                     | 2.0E-02                                               | P                   | V                              | 1     |       | 1.8E+04                     | Nitromethane                                     | 75-52-5    | 4.9E+00                  | c*  | 2.5E+01                    | c*  | 2.7E-01                              | c*  | 1.4E+00                                | c*  | 5.4E-01            | c*  |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     | 2.7E-03                                   | H                   |                                 |                     | 2.0E-02                                               | I                   | V                              | 1     |       | 4.9E+03                     | Nitropropane, 2-                                 | 79-46-9    | 1.3E-02                  | c   | 6.4E-02                    | c   | 9.0E-04                              | c   | 4.5E-03                                | c   | 1.8E-03            | c   |               |  |                                 |
| 2.7E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 7.7E-03                                   | C                   |                                 |                     |                                                       |                     |                                | M     | 1     | 0.1                         | Nitroso-N-ethylurea, N-                          | 759-73-9   | 4.3E-03                  | c   | 6.4E-02                    | c   | 1.2E-04                              | c   | 1.6E-03                                | c   | 7.9E-04            | c   |               |  |                                 |
| 1.2E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 3.4E-02                                   | C                   |                                 |                     |                                                       |                     |                                | M     | 1     | 0.1                         | Nitroso-N-methylurea, N-                         | 684-93-5   | 9.6E-04                  | c   | 1.4E-02                    | c   | 2.8E-05                              | c   | 3.6E-04                                | c   | 1.8E-04            | c   |               |  |                                 |
| 5.4E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 1.6E-03                                   | I                   |                                 |                     |                                                       |                     |                                | V     | 1     |                             | Nitroso-di-N-butylamine, N-                      | 924-16-3   | 8.7E-02                  | c   | 4.0E-01                    | c   | 1.5E-03                              | c   | 7.7E-03                                | c   | 2.4E-03            | c   |               |  |                                 |
| 7.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 2.0E-03                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitroso-di-N-propylamine, N-                     | 621-64-7   | 6.9E-02                  | c   | 2.5E-01                    | c   | 1.2E-03                              | c   | 6.1E-03                                | c   | 9.3E-03            | c   |               |  |                                 |
| 2.8E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 8.0E-04                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitrosodiethanolamine, N-                        | 1116-54-7  | 1.7E-01                  | c   | 6.2E-01                    | c   | 3.0E-03                              | c   | 1.5E-02                                | c   | 2.4E-02            | c   |               |  |                                 |
| 1.5E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 4.3E-02                                   | I                   |                                 |                     |                                                       |                     |                                | M     | 1     | 0.1                         | Nitrosodiethylamine, N-                          | 55-18-5    | 7.7E-04                  | c   | 1.1E-02                    | c   | 2.2E-05                              | c   | 2.9E-04                                | c   | 1.4E-04            | c   |               |  |                                 |
| 5.1E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 1.4E-02                                   | I                   | 8.0E-06                         | P                   | 4.0E-05                                               | X                   |                                | M     | 1     | 0.1                         | Nitrosodimethylamine, N-                         | 62-75-9    | 2.3E-03                  | c   | 3.4E-02                    | c   | 6.9E-05                              | c   | 8.8E-04                                | c   | 4.2E-04            | c   |               |  |                                 |
| 4.9E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 2.6E-06                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitrosodiphenylamine, N-                         | 86-30-6    | 9.9E+01                  | c   | 3.5E+02                    | c   | 9.4E-01                              | c   | 4.7E+00                                | c   | 1.0E+01            | c   |               |  |                                 |
| 2.2E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 6.3E-03                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitrosomethylethylamine, N-                      | 10595-95-6 | 2.2E-02                  | c   | 7.8E-02                    | c   | 3.9E-04                              | c   | 1.9E-03                                | c   | 3.0E-03            | c   |               |  |                                 |
| 6.7E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 1.9E-03                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitrosomorpholine [N-]                           | 59-89-2    | 7.3E-02                  | c   | 2.6E-01                    | c   | 1.3E-03                              | c   | 6.5E-03                                | c   | 1.0E-02            | c   |               |  |                                 |
| 9.4E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 2.7E-03                                   | C                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitrosopiperidine [N-]                           | 100-75-4   | 5.2E-02                  | c   | 1.8E-01                    | c   | 9.0E-04                              | c   | 4.5E-03                                | c   | 7.1E-03            | c   |               |  |                                 |
| 2.1E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 6.1E-04                                   | I                   |                                 |                     |                                                       |                     |                                | 1     | 0.1   |                             | Nitrosopyrrolidine, N-                           | 930-55-2   | 2.3E-01                  | c   | 8.2E-01                    | c   | 4.0E-03                              | c   | 2.0E-02                                | c   | 3.2E-02            | c   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.0E-04                         | X                   |                                                       |                     |                                | 1     | 0.1   |                             | Nitrotoluene, m-                                 | 99-08-1    | 6.1E+00                  | n   | 6.2E+01                    | n   |                                      |     |                                        |     | 1.3E+00            | n   |               |  |                                 |
| 2.2E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P                   |                                           |                     | 9.0E-04                         | P                   |                                                       |                     |                                | V     | 1     | 1.5E+03                     | Nitrotoluene, o-                                 | 88-72-2    | 2.9E+00                  | c*  | 1.3E+01                    | c*  |                                      |     |                                        |     | 2.7E-01            | c*  |               |  |                                 |
| 1.6E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P                   |                                           |                     | 4.0E-03                         | P                   |                                                       |                     |                                | 1     | 0.1   |                             | Nitrotoluene, p-                                 | 99-09-0    | 3.0E+01                  | c** | 1.1E+02                    | c*  |                                      |     |                                        |     | 3.7E+00            | c*  |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 3.0E-04                         | X                   | 2.0E-01                                               | P                   | V                              | 1     |       | 6.9E+00                     | Nonane, n-                                       | 111-84-2   | 2.1E+01                  | ns  | 2.3E+02                    | ns  | 2.1E+02                              | n   | 8.8E+02                                | n   | 4.6E+00            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 4.0E-02                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Norflurazon                                      | 27314-13-2 | 2.4E+03                  | n   | 2.5E+04                    | n   |                                      |     |                                        |     | 6.0E+02            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 7.0E-04                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Nustar                                           | 85509-19-9 | 4.3E+01                  | n   | 4.3E+02                    | n   |                                      |     |                                        |     | 8.3E+00            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 3.0E-03                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Octabromodiphenyl Ether                          | 32536-52-0 | 1.8E+02                  | n   | 1.8E+03                    | n   |                                      |     |                                        |     | 4.7E+01            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 5.0E-02                         | I                   |                                                       |                     |                                | 1     | 0.006 |                             | Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetra (HMX) | 2691-41-0  | 3.8E+03                  | n   | 4.9E+04                    | n   |                                      |     |                                        |     | 7.8E+02            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-03                         | H                   |                                                       |                     |                                | 1     | 0.1   |                             | Octamethylpyrophosphoramide                      | 152-16-9   | 1.2E+02                  | n   | 1.2E+03                    | n   |                                      |     |                                        |     | 3.1E+01            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.2E-02                         | P                   |                                                       |                     |                                | 1     | 0.1   |                             | Octyl Phthalate, di-N-                           | 117-94-0   | 7.3E+02                  | n   | 7.4E+03                    | n   |                                      |     |                                        |     | 1.9E+02            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 5.0E-02                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Oryzalin                                         | 19044-88-3 | 3.1E+03                  | n   | 3.1E+04                    | n   |                                      |     |                                        |     | 6.2E+02            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 5.0E-03                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Oxadiazon                                        | 19666-30-9 | 3.1E+02                  | n   | 3.1E+03                    | n   |                                      |     |                                        |     | 3.5E+01            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.5E-02                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Oxamyl                                           | 23135-22-0 | 1.5E+03                  | n   | 1.5E+04                    | n   |                                      |     |                                        |     | 3.9E+02            | n   | 2.0E+02       |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.3E-02                         | I                   |                                                       |                     |                                | 1     | 0.1   |                             | Paclobutrazol                                    | 76738-62-0 | 7.9E+02                  | n   | 8.0E+03                    | n   |                                      |     |                                        |     | 1.7E+02            | n   |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 4.5E-03                         | I                   |                                                       |                     |                                |       |       |                             |                                                  |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |  |                                 |

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |                                                     |                                          |                               |                                |                                        |                                         |                                        |   |              |       |      |                             |                                                                      |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------|-------------------------------|--------------------------------|----------------------------------------|-----------------------------------------|----------------------------------------|---|--------------|-------|------|-----------------------------|----------------------------------------------------------------------|------------|--------------------------|-----|----------------------------|-----|--------------------------------------|-----|----------------------------------------|-----|--------------------|-----|---------------|---------------------------------|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                     |                                          |                               |                                |                                        |                                         |                                        |   |              |       |      |                             | Contaminant                                                          |            | Screening Levels         |     |                            |     |                                      |     |                                        |     |                    |     |               | Protection of Ground Water SSLs |
| SFO<br>(mg/kg-day) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | k <sub>e</sub><br>(ug/m <sup>3</sup> ) <sup>1</sup> | IUR<br>(ug/m <sup>3</sup> ) <sup>1</sup> | k <sub>e</sub><br>(mg/kg-day) | RD <sub>0</sub><br>(mg/kg-day) | k <sub>e</sub><br>(mg/m <sup>3</sup> ) | RF <sub>C</sub><br>(mg/m <sup>3</sup> ) | k <sub>e</sub><br>(ug/m <sup>3</sup> ) | v | muta-<br>gen | GIABS | ABS  | C <sub>sat</sub><br>(mg/kg) | Analyte                                                              | CAS No.    | Resident Soil<br>(mg/kg) | key | Industrial Soil<br>(mg/kg) | key | Resident Air<br>(ug/m <sup>3</sup> ) | key | Industrial Air<br>(ug/m <sup>3</sup> ) | key | Tapwater<br>(ug/L) | key | MCL<br>(ug/L) |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-04                       | I                              |                                        |                                         |                                        |   |              |       | 1    |                             | Perchlorates                                                         |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-04                       | I                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Ammonium Perchlorate                                                | 7790-98-9  | 5.5E+01                  | n   | 7.2E+02                    | n   |                                      |     |                                        |     | 1.1E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-04                       | I                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Lithium Perchlorate                                                 | 7791-03-9  | 5.5E+01                  | n   | 7.2E+02                    | n   |                                      |     |                                        |     | 1.1E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-04                       | I                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Perchlorate and Perchlorate Salts                                   | 14797-73-0 | 5.5E+01                  | n   | 7.2E+02                    | n   |                                      |     |                                        |     | 1.1E+01            | n   | 1.5E+01(F)    |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-04                       | I                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Potassium Perchlorate                                               | 7778-74-7  | 5.5E+01                  | n   | 7.2E+02                    | n   |                                      |     |                                        |     | 1.1E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-04                       | I                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium Perchlorate                                                  | 7601-89-0  | 5.5E+01                  | n   | 7.2E+02                    | n   |                                      |     |                                        |     | 1.1E+01            | n   |               |                                 |
| 2.2E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C                                                   | 6.3E-07                                  | C                             |                                |                                        |                                         |                                        |   |              |       | 0.1  |                             | Permethrin                                                           | 52645-53-1 | 3.1E+03                  | n   | 3.1E+04                    | n   |                                      |     |                                        |     | 7.8E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 5.0E-02                       | I                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phenacetin                                                           | 62-44-2    | 2.2E+02                  | c   | 7.8E+02                    | c   | 3.9E+00                              | c   | 1.9E+01                                | c   | 3.0E+01            | c   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 2.5E-01                       | I                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phenmedipham                                                         | 13684-63-4 | 1.5E+04                  | n   | 1.5E+05                    | nm  |                                      |     |                                        |     | 3.0E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 3.0E-01                       | I                              | 2.0E-01                                | C                                       |                                        |   |              |       | 0.1  |                             | Phenol                                                               | 108-95-2   | 1.8E+04                  | n   | 1.8E+05                    | nm  | 2.1E+02                              | n   | 8.8E+02                                | n   | 4.5E+03            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 5.0E-04                       | X                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phenothiazine                                                        | 92-84-2    | 3.1E+01                  | n   | 3.1E+02                    | n   |                                      |     |                                        |     | 3.2E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 6.0E-03                       | I                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phenylenediamine, m-                                                 | 108-45-2   | 3.7E+02                  | n   | 3.7E+03                    | n   |                                      |     |                                        |     | 9.4E+01            | n   |               |                                 |
| 4.7E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                                                   |                                          |                               |                                |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phenylenediamine, o-                                                 | 95-54-5    | 1.0E+01                  | c   | 3.7E+01                    | c   |                                      |     |                                        |     | 1.4E+00            | c   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 1.9E-01                       | H                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phenylenediamine, p-                                                 | 106-50-3   | 1.2E+04                  | n   | 1.2E+05                    | nm  |                                      |     |                                        |     | 3.0E+03            | n   |               |                                 |
| 1.9E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                                                   |                                          |                               |                                |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phenylphenol, 2-                                                     | 90-43-7    | 2.5E+02                  | c   | 8.9E+02                    | c   |                                      |     |                                        |     | 2.6E+01            | c   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 2.0E-04                       | H                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phorate                                                              | 298-02-2   | 1.2E+01                  | n   | 1.2E+02                    | n   |                                      |     |                                        |     | 2.3E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          |                               |                                | 3.0E-04                                | I                                       | V                                      |   |              |       | 1    | 1.6E+03                     | Phosgene                                                             | 75-44-5    | 3.3E-01                  | n   | 1.4E+00                    | n   | 3.1E-01                              | n   | 1.3E+00                                | n   |                    |     |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 2.0E-02                       | I                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phosmet                                                              | 732-11-6   | 1.2E+03                  | n   | 1.2E+04                    | n   |                                      |     |                                        |     | 2.9E+02            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | Phosphates, Inorganic                                                |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          |                               |                                |                                        |                                         |                                        |   |              |       | 1    |                             | *Aluminum metaphosphate                                              | 13776-88-0 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Ammonium polyphosphate                                              | 68333-79-9 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Calcium pyrophosphate                                               | 7790-76-3  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Diammonium phosphate                                                | 7783-28-0  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Dicalcium phosphate                                                 | 7757-93-9  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Dimagnesium phosphate                                               | 7782-75-4  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Dipotassium phosphate                                               | 7758-11-4  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Disodium phosphate                                                  | 7558-79-4  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Monoaluminum phosphate                                              | 13530-50-2 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Monoammonium phosphate                                              | 7722-76-1  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Monocalcium phosphate                                               | 7758-23-8  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Monomagnesium phosphate                                             | 7757-86-0  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Monopotassium phosphate                                             | 7778-77-0  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Monosodium phosphate                                                | 7558-80-7  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Polyphosphoric acid                                                 | 8017-16-1  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Potassium triphosphate                                              | 13845-36-8 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium acid pyrophosphate                                           | 7758-16-9  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium aluminum phosphate (acidic)                                  | 7785-88-8  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium aluminum phosphate (anhydrous)                               | 10279-59-1 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium aluminum phosphate (tetrahydrate)                            | 10305-76-7 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium hexametaphosphate                                            | 10124-56-8 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium polyphosphate                                                | 68915-31-1 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium trimetaphosphate                                             | 7785-84-4  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Sodium triphosphate                                                 | 7758-29-4  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Tetrapotassium phosphate                                            | 7320-34-5  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Tetrasodium pyrophosphate                                           | 7722-88-5  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate) | 15136-87-5 | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Tricalcium phosphate                                                | 7758-87-4  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Trimagnesium phosphate                                              | 7757-87-1  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Tripotassium phosphate                                              | 7778-53-2  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              |                                        |                                         |                                        |   |              |       | 1    |                             | *Trisodium phosphate                                                 | 7601-54-9  | 3.8E+06                  | nm  | 5.0E+07                    | nm  |                                      |     |                                        |     | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 3.0E-04                       | I                              | 3.0E-04                                | I                                       |                                        |   |              |       | 1    |                             | Phosphine                                                            | 7803-51-2  | 2.3E+01                  | n   | 3.1E+02                    | n   | 3.1E-01                              | n   | 1.3E+00                                | n   | 4.7E+00            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 4.9E+01                       | P                              | 1.0E-02                                | I                                       |                                        |   |              |       | 1    |                             | Phosphoric Acid                                                      | 7664-38-2  | 3.0E+06                  | nm  | 2.7E+07                    | nm  | 1.0E+01                              | n   | 4.4E+01                                | n   | 7.6E+05            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 2.0E-05                       | I                              |                                        |                                         |                                        |   |              |       | 1    |                             | Phosphorus, White                                                    | 7723-14-0  | 1.6E+00                  | n   | 2.0E+01                    | n   |                                      |     |                                        |     | 3.1E-01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 1.0E+00                       | H                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Phthalic Acid, P-                                                    | 100-21-0   | 6.1E+04                  | n   | 6.2E+05                    | nm  |                                      |     |                                        |     | 1.5E+04            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 2.0E+00                       | I                              | 2.0E-02                                | C                                       |                                        |   |              |       | 0.1  |                             | Phthalic Anhydride                                                   | 85-44-9    | 1.2E+05                  | nm  | 1.2E+06                    | nm  | 2.1E+01                              | n   | 8.8E+01                                | n   | 3.0E+04            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-02                       | I                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Picloram                                                             | 1918-02-1  | 4.3E+03                  | n   | 4.3E+04                    | n   |                                      |     |                                        |     | 1.1E+03            | n   | 5.0E+02       |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 1.0E-04                       | X                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Picramic Acid (2-Amino-4,6-dinitrophenol)                            | 96-91-3    | 6.1E+00                  | n   | 6.2E+01                    | n   |                                      |     |                                        |     | 1.5E+00            | n   |               |                                 |
| 3.0E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C                                                   | 8.6E-03                                  | C                             |                                |                                        |                                         |                                        |   |              |       | 0.1  |                             | Pirimiphos, Methyl                                                   | 29232-93-7 | 6.1E+02                  | n   | 6.2E+03                    | n   |                                      |     |                                        |     | 9.1E+01            | n   |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          | 7.0E-06                       | H                              |                                        |                                         |                                        |   |              |       | 0.1  |                             | Polybrominated Biphenyls                                             | 59536-65-1 | 1.6E-02                  | c*  | 5.7E-02                    | c*  | 2.8E-04                              | c   | 1.4E-03                                | c   | 2.2E-03            | c*  |               |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                     |                                          |                               |                                |                                        |                                         |                                        |   |              |       |      |                             | Polychlorinated Biphenyls (PCBs)                                     |            |                          |     |                            |     |                                      |     |                                        |     |                    |     |               |                                 |
| 7.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | S                                                   | 2.0E-05                                  | S                             |                                |                                        |                                         |                                        |   |              |       | 0.14 |                             | *Aroclor 1016                                                        | 12674-11-2 | 3.9E+00                  | n   | 2.1E+01                    | c** | 1.2E-01                              | c   | 6.1E-01                                | c   | 9.6E-01            | c** |               |                                 |
| 2.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | S                                                   | 5.7E-04                                  | S                             |                                |                                        |                                         |                                        |   |              |       | 0.14 | 7.6E+02                     | *Aroclor 1221                                                        | 11104-28-2 | 1.4E-01                  | c   | 5.4E-01                    | c   | 4.3E-03                              | c   |                                        |     |                    |     |               |                                 |

Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |                     |                                           |                     |                                 |                     |                                                        |                     |              |       |     |                             |         |                                                   |                          |                  |                            |         |                                      |         |                                        |         |                    |         |               |  |                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------------------|---------------------|---------------------------------|---------------------|--------------------------------------------------------|---------------------|--------------|-------|-----|-----------------------------|---------|---------------------------------------------------|--------------------------|------------------|----------------------------|---------|--------------------------------------|---------|----------------------------------------|---------|--------------------|---------|---------------|--|---------------------------------|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |                                           |                     |                                 |                     |                                                        |                     |              |       |     |                             |         | Contaminant                                       |                          | Screening Levels |                            |         |                                      |         |                                        |         |                    |         |               |  | Protection of Ground Water SSLs |
| SFO<br>(mg/kg-day) <sup>-1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | k <sub>e</sub><br>y | IUR<br>(ug/m <sup>3</sup> ) <sup>-1</sup> | k <sub>e</sub><br>y | RfD <sub>o</sub><br>(mg/kg-day) | k <sub>e</sub><br>y | RfC <sub>i</sub><br>(mg/m <sup>3</sup> ) <sup>-1</sup> | k <sub>e</sub><br>y | muta-<br>gen | GIABS | ABS | C <sub>sat</sub><br>(mg/kg) | Analyte | CAS No.                                           | Resident Soil<br>(mg/kg) | key              | Industrial Soil<br>(mg/kg) | key     | Resident Air<br>(ug/m <sup>3</sup> ) | key     | Industrial Air<br>(ug/m <sup>3</sup> ) | key     | Tapwater<br>(ug/L) | key     | MCL<br>(ug/L) |  |                                 |
| 2.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | S                   | 5.7E-04                                   | S                   | 2.0E-05                         | I                   |                                                        |                     |              |       |     | 1                           | 0.14    | *Aroclor 1254                                     | 11097-69-1               | 2.2E-01          | c**                        | 7.4E-01 | c*                                   | 4.3E-03 | c                                      | 2.1E-02 | c                  | 3.4E-02 | c**           |  |                                 |
| 2.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | S                   | 5.7E-04                                   | S                   |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.14    | *Aroclor 1260                                     | 11096-82-5               | 2.2E-01          | c                          | 7.4E-01 | c                                    | 4.3E-03 | c                                      | 2.1E-02 | c                  | 3.4E-02 | c             |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189) | 39635-31-9               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)    | 52663-72-6               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)    | 69782-90-7               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)     | 38380-08-4               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 3.9E+03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E+00                                   | E                   | 3.3E-08                         | E                   | 1.3E-06                                                | E                   |              |       |     | 1                           | 0.14    | *Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)    | 32774-16-6               | 1.1E-04          | c*                         | 3.8E-04 | c*                                   | 2.1E-06 | c                                      | 1.1E-05 | c                  | 1.7E-05 | c*            |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)      | 65510-44-3               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)      | 31508-00-6               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)      | 32598-14-4               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 3.9E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-03                                   | E                   | 3.3E-05                         | E                   | 1.3E-03                                                | E                   |              |       |     | 1                           | 0.14    | *Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)       | 74472-37-0               | 1.1E-01          | c*                         | 3.8E-01 | c*                                   | 2.1E-03 | c                                      | 1.1E-02 | c                  | 1.7E-02 | c*            |  |                                 |
| 1.3E+04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 3.8E+00                                   | E                   | 1.0E-08                         | E                   | 4.0E-07                                                | E                   |              |       |     | 1                           | 0.14    | *Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)      | 57465-28-8               | 3.4E-05          | c*                         | 1.1E-04 | c*                                   | 6.4E-07 | c                                      | 3.2E-06 | c                  | 5.2E-06 | c*            |  |                                 |
| 2.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 5.7E-04                                   | I                   |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.14    | *Polychlorinated Biphenyls (high risk)            | 1336-36-3                | 2.2E-01          | c                          | 7.4E-01 | c                                    | 4.3E-03 | c                                      | 2.1E-02 | c                  |         |               |  |                                 |
| 4.0E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 1.0E-04                                   | I                   |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.14    | *Polychlorinated Biphenyls (low risk)             | 1336-36-3                |                  |                            |         |                                      | 2.4E-02 | c                                      | 1.2E-01 | c                  | 1.7E-01 | c             |  | 5.0E-01                         |
| 7.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 2.0E-05                                   | I                   |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.14    | *Polychlorinated Biphenyls (lowest risk)          | 1336-36-3                |                  |                            |         |                                      | 1.2E-01 | c                                      | 6.1E-01 | c                  |         |               |  |                                 |
| 1.3E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 3.8E-03                                   | E                   | 1.0E-05                         | E                   | 4.0E-04                                                | E                   |              |       |     | 1                           | 0.14    | *Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)         | 32598-13-3               | 3.4E-02          | c*                         | 1.1E-01 | c*                                   | 6.4E-04 | c                                      | 3.2E-03 | c                  | 5.2E-03 | c*            |  |                                 |
| 3.9E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-02                                   | E                   | 3.3E-06                         | E                   | 1.3E-04                                                | E                   |              |       |     | 1                           | 0.14    | *Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)          | 70362-50-4               | 1.1E-02          | c*                         | 3.8E-02 | c*                                   | 2.1E-04 | c                                      | 1.1E-03 | c                  | 1.7E-03 | c*            |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 6.0E-04                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | Polymeric Methylene Diphenyl Diisocyanate (PMDI)  | 9016-87-9                | 8.5E+05          | nm                         | 3.6E+06 | nm                                   | 6.3E-01 | n                                      | 2.6E+00 | n                  |         |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 6.0E-02                         | I                   |                                                        |                     |              |       |     | 1                           | 0.13    | Polynuclear Aromatic Hydrocarbons (PAHs)          |                          |                  |                            |         |                                      |         |                                        |         |                    |         |               |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 3.0E-01                         | I                   |                                                        |                     |              |       |     | 1                           | 0.13    | *Acenaphthene                                     | 83-32-9                  | 3.4E+03          | n                          | 3.3E+04 | n                                    |         |                                        |         |                    | 4.0E+02 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.13    | *Anthracene                                       | 120-12-7                 | 1.7E+04          | n                          | 1.7E+05 | nm                                   |         |                                        |         |                    | 1.3E+03 | n             |  |                                 |
| 7.3E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-04                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Benz[a]anthracene                                | 56-55-3                  | 1.5E-01          | c                          | 2.1E+00 | c                                    | 8.7E-03 | c                                      | 1.1E-01 | c                  | 2.9E-02 | c             |  |                                 |
| 1.2E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 1.1E-04                                   | C                   |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.13    | *Benzo[b]fluoranthene                             | 205-82-3                 | 3.8E-01          | c                          | 1.3E+00 | c                                    | 2.2E-02 | c                                      | 1.1E-01 | c                  | 5.6E-02 | c             |  |                                 |
| 7.3E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   | 1.1E-03                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Benzo[a]pyrene                                   | 50-32-8                  | 1.5E-02          | c                          | 2.1E-01 | c                                    | 8.7E-04 | c                                      | 1.1E-02 | c                  | 2.9E-03 | c             |  | 2.0E-01                         |
| 7.3E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-04                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Benzo[b]fluoranthene                             | 205-99-2                 | 1.5E-01          | c                          | 2.1E+00 | c                                    | 8.7E-03 | c                                      | 1.1E-01 | c                  | 2.9E-02 | c             |  |                                 |
| 7.3E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-04                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Benzo[k]fluoranthene                             | 207-08-9                 | 1.5E+00          | c                          | 2.1E+01 | c                                    | 8.7E-03 | c                                      | 1.1E-01 | c                  | 2.9E-01 | c             |  |                                 |
| 7.3E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-05                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Chrysene                                         | 218-01-9                 | 1.5E+01          | c                          | 2.1E+02 | c                                    | 8.7E-02 | c                                      | 1.1E+00 | c                  | 2.9E+00 | c             |  |                                 |
| 7.3E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.2E-03                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Dibenz[a,h]anthracene                            | 53-70-3                  | 1.5E-02          | c                          | 2.1E-01 | c                                    | 8.0E-04 | c                                      | 1.0E-02 | c                  | 2.9E-03 | c             |  |                                 |
| 1.2E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 1.1E-03                                   | C                   |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.13    | *Dibenzo[a,e]pyrene                               | 192-65-4                 | 3.8E-02          | c                          | 1.3E-01 | c                                    | 2.2E-03 | c                                      | 1.1E-02 | c                  | 5.6E-03 | c             |  |                                 |
| 2.5E+02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 7.1E-02                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Dimethylbenz[a]anthracene, 7,12-                 | 57-97-6                  | 4.3E-04          | c                          | 6.2E-03 | c                                    | 1.4E-05 | c                                      | 1.7E-04 | c                  | 8.6E-05 | c             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 4.0E-02                         | I                   |                                                        |                     |              |       |     | 1                           | 0.13    | *Fluoranthene                                     | 206-44-0                 | 2.3E+03          | n                          | 2.2E+04 | n                                    |         |                                        |         |                    | 6.3E+02 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 4.0E-02                         | I                   |                                                        |                     | V            |       |     | 1                           | 0.13    | *Fluorene                                         | 86-73-7                  | 2.3E+03          | n                          | 2.2E+04 | n                                    |         |                                        |         |                    | 2.2E+02 | n             |  |                                 |
| 7.3E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | E                   | 1.1E-04                                   | C                   |                                 |                     |                                                        |                     | M            |       |     | 1                           | 0.13    | *Indeno[1,2,3-cd]pyrene                           | 193-39-5                 | 1.5E-01          | c                          | 2.1E+00 | c                                    | 8.7E-03 | c                                      | 1.1E-01 | c                  | 2.9E-02 | c             |  |                                 |
| 2.9E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | P                   |                                           |                     | 7.0E-02                         | A                   |                                                        |                     | V            |       |     | 1                           | 0.13    | *Methylnaphthalene, 1-                            | 90-12-0                  | 1.6E+01          | c                          | 5.3E+01 | c                                    |         |                                        |         |                    | 9.7E-01 | c             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 4.0E-03                         | I                   |                                                        |                     | V            |       |     | 1                           | 0.13    | *Methylnaphthalene, 2-                            | 91-57-6                  | 2.3E+02          | n                          | 2.2E+03 | n                                    |         |                                        |         |                    | 2.7E+01 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     | 3.4E-05                                   | C                   | 2.0E-02                         | I                   | 3.0E-03                                                | I                   | V            |       |     | 1                           | 0.13    | *Naphthalene                                      | 91-20-3                  | 3.6E+00          | c*                         | 1.8E+01 | c*                                   | 7.2E-02 | c*                                     | 3.6E-01 | c*                 | 1.4E-01 | c*            |  |                                 |
| 1.2E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C                   | 1.1E-04                                   | C                   |                                 |                     |                                                        |                     |              |       |     | 1                           | 0.13    | *Nitropyrene, 4-                                  | 57835-92-4               | 3.8E-01          | c                          | 1.3E+00 | c                                    | 2.2E-02 | c                                      | 1.1E-01 | c                  | 1.6E-02 | c             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 3.0E-02                         | I                   |                                                        |                     | V            |       |     | 1                           | 0.13    | *Pyrene                                           | 129-00-0                 | 1.7E+03          | n                          | 1.7E+04 | n                                    |         |                                        |         |                    | 8.7E+01 | n             |  |                                 |
| 1.5E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I                   |                                           |                     | 9.0E-03                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Prochloraz                                       | 67747-09-5               | 3.2E+00          | c                          | 1.1E+01 | c                                    |         |                                        |         |                    | 3.2E-01 | c             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 6.0E-03                         | H                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Profluralin                                      | 26399-36-0               | 3.7E+02          | n                          | 3.7E+03 | n                                    |         |                                        |         |                    | 1.9E+01 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.5E-02                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Prometon                                         | 1610-18-0                | 9.2E+02          | n                          | 9.2E+03 | n                                    |         |                                        |         |                    | 1.9E+02 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 4.0E-03                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Prometryn                                        | 7287-19-6                | 2.4E+02          | n                          | 2.5E+03 | n                                    |         |                                        |         |                    | 4.5E+01 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 1.3E-02                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Propachlor                                       | 1918-16-7                | 7.9E+02          | n                          | 8.0E+03 | n                                    |         |                                        |         |                    | 1.9E+02 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 5.0E-03                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Propanil                                         | 709-98-8                 | 3.1E+02          | n                          | 3.1E+03 | n                                    |         |                                        |         |                    | 6.3E+01 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-02                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Propargite                                       | 2312-35-8                | 1.2E+03          | n                          | 1.2E+04 | n                                    |         |                                        |         |                    | 1.2E+02 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-03                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Propargyl Alcohol                                | 107-19-7                 | 1.2E+02          | n                          | 1.2E+03 | n                                    |         |                                        |         |                    | 3.1E+01 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-02                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Propazine                                        | 139-40-2                 | 1.2E+03          | n                          | 1.2E+04 | n                                    |         |                                        |         |                    | 2.6E+02 | n             |  |                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                     |                                           |                     | 2.0E-02                         | I                   |                                                        |                     |              |       |     | 1                           | 0.1     | *Propham                                          | 122-42-9                 | 1.2E+03          | n                          | 1.2E+04 | n                                    |         |                                        |         |                    | 2.7E+02 | n             |  | </                              |

Regional Screening Level (RSL) Summary Table November 2012

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| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide lead; F = see FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; *** = where n SL < 100X c SL; **** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; ***** = where n SL < 100X c SL; ***** = where n SL < 10X c SL; 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Regional Screening Level (RSL) Summary Table November 2012

| Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = PPRTV Appendix; H = HEAST; J = New Jersey; O = EPA Office of Water; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; F = See FAQ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1 |                                                                |                                                      |                                                               |                                                      |                                                               |         |       |       |                             |                                         |                         |                          |         |                            |         |                                      |         |                                        |         |                    |         |                                 |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------|---------|-------|-------|-----------------------------|-----------------------------------------|-------------------------|--------------------------|---------|----------------------------|---------|--------------------------------------|---------|----------------------------------------|---------|--------------------|---------|---------------------------------|---------|
| Toxicity and Chemical-specific Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                |                                                      |                                                               |                                                      |                                                               |         |       |       |                             | Contaminant                             |                         | Screening Levels         |         |                            |         |                                      |         |                                        |         |                    |         | Protection of Ground Water SSLs |         |
| SFO<br>(mg/kg-day) <sup>-1</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <sup>k</sup><br>e<br>IUR<br>(ug/m <sup>3</sup> ) <sup>-1</sup> | <sup>k</sup><br>e<br>RfD <sub>a</sub><br>(mg/kg-day) | <sup>k</sup><br>e<br>RfC <sub>a</sub><br>(mg/m <sup>3</sup> ) | <sup>k</sup><br>e<br>EC <sub>01</sub><br>(mg/kg-day) | <sup>k</sup><br>e<br>EC <sub>01</sub><br>(mg/m <sup>3</sup> ) | mutagen | GIABS | ABS   | C <sub>sat</sub><br>(mg/kg) | Analyte                                 | CAS No.                 | Resident Soil<br>(mg/kg) | key     | Industrial Soil<br>(mg/kg) | key     | Resident Air<br>(ug/m <sup>3</sup> ) | key     | Industrial Air<br>(ug/m <sup>3</sup> ) | key     | Tapwater<br>(ug/L) | key     | MCL<br>(ug/L)                   |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-04                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Tributyltin Oxide                       | 56-35-9                 | 1.8E+01                  | n       | 1.8E+02                    | n       |                                      |         |                                        |         | 4.4E+00            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E+01                                              | I                                                             | 3.0E+01                                              | H V                                                           |         |       | 1     | 9.1E+02                     | Trichloro-1,2,2-trifluoroethane, 1,1,2- | 76-13-1                 | 4.3E+04                  | ns      | 1.8E+05                    | nms     | 3.1E+04                              | n       | 1.3E+05                                | n       | 5.3E+04            | n       |                                 |         |
| 7.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 2.0E-02                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Trichloroacetic Acid                    | 76-03-9                 | 6.9E+00                  | c       | 2.5E+01                    | c       |                                      |         |                                        |         | 9.4E-01            | c       | 6.0E+01                         |         |
| 2.9E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                                                              |                                                      |                                                               |                                                      |                                                               |         |       | 1     | 0.1                         | Trichloroaniline HCl, 2,4,6-            | 33663-50-2              | 1.7E+01                  | c       | 5.9E+01                    | c       |                                      |         |                                        |         | 2.3E+00            | c       |                                 |         |
| 7.0E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | X                                                              | 3.0E-05                                              | X                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Trichloroaniline, 2,4,6-                | 634-93-5                | 1.8E+00                  | n       | 1.8E+01                    | n       |                                      |         |                                        |         | 3.0E-01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 8.0E-04                                              | X                                                             |                                                      |                                                               | V       |       | 1     | 0.1                         | Trichlorobenzene, 1,2,3-                | 87-61-6                 | 4.9E+01                  | n       | 4.9E+02                    | n       |                                      |         |                                        |         | 5.2E+00            | n       |                                 |         |
| 2.9E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P                                                              | 1.0E-02                                              | I                                                             | 2.0E-03                                              | P V                                                           |         |       | 1     | 4.0E+02                     | Trichlorobenzene, 1,2,4-                | 120-82-1                | 2.2E+01                  | c**     | 9.9E+01                    | c**     | 2.1E+00                              | n       | 8.8E+00                                | n       | 9.9E-01            | c**     | 7.0E+01                         |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 2.0E+00                                              | I                                                             | 5.0E+00                                              | I V                                                           |         |       | 1     | 6.4E+02                     | Trichloroethane, 1,1,1-                 | 71-55-6                 | 8.7E+03                  | ns      | 3.8E+04                    | ns      | 5.2E+03                              | n       | 2.2E+04                                | n       | 7.5E+03            | n       | 2.0E+02                         |         |
| 5.7E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 1.6E-05                                              | I                                                             | 4.0E-03                                              | I                                                             | 2.0E-04 | X V   |       | 1                           | 2.2E+03                                 | Trichloroethane, 1,1,2- | 79-00-5                  | 1.1E+00 | c**                        | 5.3E+00 | c**                                  | 1.5E-01 | c**                                    | 7.7E-01 | c**                | 2.4E-01 | c**                             | 5.0E+00 |
| 4.6E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 4.1E-06                                              | I                                                             | 5.0E-04                                              | I                                                             | 2.0E-03 | I V M |       | 1                           | 6.9E+02                                 | Trichloroethylene       | 79-01-6                  | 9.1E-01 | c**                        | 6.4E+00 | c**                                  | 4.3E-01 | c**                                    | 3.0E+00 | c**                | 4.4E-01 | c**                             | 5.0E+00 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-01                                              | I                                                             | 7.0E-01                                              | H V                                                           |         |       | 1     | 1.2E+03                     | Trichlorofluoromethane                  | 75-69-4                 | 7.9E+02                  | n       | 3.4E+03                    | ns      | 7.3E+02                              | n       | 3.1E+03                                | n       | 1.1E+03            | n       |                                 |         |
| 1.1E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 3.1E-06                                              | I                                                             | 1.0E-01                                              | I                                                             |         |       | 1     | 0.1                         | Trichlorophenol, 2,4,5-                 | 95-95-4                 | 6.1E+03                  | n       | 6.2E+04                    | n       |                                      |         |                                        |         | 8.9E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 1.0E-03                                              | P                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Trichlorophenol, 2,4,6-                 | 88-06-2                 | 4.4E+01                  | c**     | 1.6E+02                    | c**     | 7.8E-01                              | c       | 4.0E+00                                | c       | 3.5E+00            | c**     |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 1.0E-02                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Trichlorophenoxyacetic Acid, 2,4,5-     | 93-76-5                 | 6.1E+02                  | n       | 6.2E+03                    | n       |                                      |         |                                        |         | 1.2E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 8.0E-03                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Trichlorophenoxypropionic acid, -2,4,5  | 93-72-1                 | 4.9E+02                  | n       | 4.9E+03                    | n       |                                      |         |                                        |         | 8.4E+01            | n       | 5.0E+01                         |         |
| 3.0E+01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 5.0E-03                                              | I                                                             |                                                      |                                                               | V       |       | 1     | 1.3E+03                     | Trichloropropane, 1,1,2-                | 598-77-6                | 3.9E+02                  | n       | 5.1E+03                    | ns      |                                      |         |                                        |         | 6.8E+01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 4.0E-03                                              | I                                                             | 3.0E-04                                              | I V M                                                         |         |       | 1     | 1.4E+03                     | Trichloropropane, 1,2,3-                | 96-18-4                 | 5.0E-03                  | c       | 9.5E-02                    | c       | 3.1E-01                              | n       | 1.3E+00                                | n       | 6.5E-04            | c       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-03                                              | X                                                             | 3.0E-04                                              | P V                                                           |         |       | 1     | 4.5E+02                     | Trichloropropene, 1,2,3-                | 96-19-5                 | 7.8E-01                  | n       | 3.3E+00                    | n       | 3.1E-01                              | n       | 1.3E+00                                | n       | 6.2E-01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-03                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Tridiphenylamine                        | 58138-08-2              | 1.8E+02                  | n       | 1.8E+03                    | n       |                                      |         |                                        |         | 1.3E+01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 7.0E-03                                              | I V                                                           |                                                      |                                                               |         |       | 1     | 2.8E+04                     | Triethylamine                           | 121-44-8                | 1.2E+02                  | n       | 5.2E+02                    | n       | 7.3E+00                              | n       | 3.1E+01                                | n       | 1.5E+01            | n       |                                 |         |
| 7.7E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 7.5E-03                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Trifluralin                             | 1582-09-8               | 6.3E+01                  | c**     | 2.2E+02                    | c*      |                                      |         |                                        |         | 2.2E+00            | c*      |                                 |         |
| 2.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P                                                              | 1.0E-02                                              | P                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Trimethyl Phosphate                     | 512-56-1                | 2.4E+01                  | c*      | 8.6E+01                    | c*      |                                      |         |                                        |         | 3.4E+00            | c*      |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 5.0E-03                                              | P V                                                           |                                                      |                                                               |         |       | 1     | 2.9E+02                     | Trimethylbenzene, 1,2,3-                | 526-73-8                | 5.3E+01                  | n       | 2.2E+02                    | n       | 5.2E+00                              | n       | 2.2E+01                                | n       | 1.0E+01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 7.0E-03                                              | P V                                                           |                                                      |                                                               |         |       | 1     | 2.2E+02                     | Trimethylbenzene, 1,2,4-                | 95-63-6                 | 6.2E+01                  | n       | 2.6E+02                    | ns      | 7.3E+00                              | n       | 3.1E+01                                | n       | 1.5E+01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 1.0E-02                                              | X                                                             |                                                      |                                                               | V       |       | 1     | 1.8E+02                     | Trimethylbenzene, 1,3,5-                | 108-67-8                | 7.8E+02                  | ns      | 1.0E+04                    | ns      |                                      |         |                                        |         | 8.7E+01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-02                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.019                       | Trinitrobenzene, 1,3,5-                 | 99-35-4                 | 2.2E+03                  | n       | 2.7E+04                    | n       |                                      |         |                                        |         | 4.6E+02            | n       |                                 |         |
| 3.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 5.0E-04                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.032                       | Trinitrotoluene, 2,4,6-                 | 118-96-7                | 1.9E+01                  | c**     | 7.9E+01                    | c**     |                                      |         |                                        |         | 2.2E+00            | c**     |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 2.0E-02                                              | P                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Triphenylphosphine Oxide                | 791-28-6                | 1.2E+03                  | n       | 1.2E+04                    | n       |                                      |         |                                        |         | 2.8E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 1.0E-02                                              | X                                                             |                                                      |                                                               | M       |       | 1     | 0.1                         | Tris(1-chloro-2-propyl)phosphate        | 13674-84-5              | 6.1E+02                  | n       | 6.2E+03                    | n       |                                      |         |                                        |         | 1.5E+02            | n       |                                 |         |
| 2.0E-02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P                                                              | 7.0E-03                                              | P                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Tris(2-chloroethyl)phosphate            | 115-96-8                | 2.4E+01                  | c*      | 8.6E+01                    | c*      |                                      |         |                                        |         | 3.3E+00            | c*      |                                 |         |
| 3.2E-03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P                                                              | 1.0E-01                                              | P                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Tris(2-ethylhexyl)phosphate             | 78-42-2                 | 1.5E+02                  | c*      | 5.4E+02                    | c       |                                      |         |                                        |         | 2.1E+01            | c*      |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-03                                              | I                                                             |                                                      |                                                               |         |       | 1     |                             | Uranium (Soluble Salts)                 | NA                      | 2.3E+02                  | n       | 3.1E+03                    | n       |                                      |         |                                        |         | 4.7E+01            | n       | 3.0E+01                         |         |
| 1.0E+00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | C                                                              | 2.9E-04                                              | C                                                             |                                                      |                                                               | M       |       | 1     | 0.1                         | Urethane                                | 51-79-6                 | 1.2E-01                  | c       | 1.7E+00                    | c       | 3.3E-03                              | c       | 4.2E-02                                | c       | 2.1E-02            | c       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8.3E-03                                                        | P                                                    | 9.0E-03                                                       | I                                                    | 7.0E-06                                                       | P       |       | 0.026 |                             | Vanadium Pentoxide                      | 1314-62-1               | 4.0E+02                  | c**     | 2.0E+03                    | c**     | 2.9E-04                              | c*      | 1.5E-03                                | c*      | 1.1E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 5.0E-03                                              | S                                                             |                                                      |                                                               |         |       | 1     |                             | Vanadium and Compounds                  | NA                      | 3.9E+02                  | n       | 5.2E+03                    | n       |                                      |         |                                        |         | 7.8E+01            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 1.0E-03                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Vernolate                               | 1929-77-7               | 6.1E+01                  | n       | 6.2E+02                    | n       |                                      |         |                                        |         | 8.3E+00            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 2.5E-02                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Vinclozolin                             | 50471-44-8              | 1.5E+03                  | n       | 1.5E+04                    | n       |                                      |         |                                        |         | 3.4E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 1.0E+00                                              | H                                                             | 2.0E-01                                              | I V                                                           |         |       | 1     | 2.8E+03                     | Vinyl Acetate                           | 108-05-4                | 9.7E+02                  | n       | 4.1E+03                    | ns      | 2.1E+02                              | n       | 8.8E+02                                | n       | 4.1E+02            | n       |                                 |         |
| 3.2E-05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | H                                                              |                                                      |                                                               | 3.0E-03                                              | I V                                                           |         |       | 1     | 3.4E+03                     | Vinyl Bromide                           | 593-60-2                | 1.1E-01                  | c*      | 5.6E-01                    | c*      | 7.6E-02                              | c*      | 3.8E-01                                | c*      | 1.5E-01            | c*      |                                 |         |
| 7.2E-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I                                                              | 4.4E-06                                              | I                                                             | 3.0E-03                                              | I                                                             | 1.0E-01 | I V M |       | 3.9E+03                     | Vinyl Chloride                          | 75-01-4                 | 6.0E-02                  | c       | 1.7E+00                    | c       | 1.6E-01                              | c       | 2.8E+00                                | c       | 1.5E-02            | c       | 2.0E+00                         |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-04                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Warfarin                                | 81-81-2                 | 1.8E+01                  | n       | 1.8E+02                    | n       |                                      |         |                                        |         | 4.4E+00            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 2.0E-01                                              | S                                                             | 1.0E-01                                              | S V                                                           |         |       | 1     | 3.9E+02                     | Xylene, p-                              | 106-42-3                | 6.0E+02                  | ns      | 2.6E+03                    | ns      | 1.0E+02                              | n       | 4.4E+02                                | n       | 1.9E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 2.0E-01                                              | S                                                             | 1.0E-01                                              | S V                                                           |         |       | 1     | 3.9E+02                     | Xylene, m-                              | 108-38-3                | 5.9E+02                  | ns      | 2.5E+03                    | ns      | 1.0E+02                              | n       | 4.4E+02                                | n       | 1.9E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 2.0E-01                                              | S                                                             | 1.0E-01                                              | S V                                                           |         |       | 1     | 4.3E+02                     | Xylene, o-                              | 95-47-6                 | 6.9E+02                  | ns      | 3.0E+03                    | ns      | 1.0E+02                              | n       | 4.4E+02                                | n       | 1.9E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 2.0E-01                                              | I                                                             | 1.0E-01                                              | I V                                                           |         |       | 1     | 2.6E+02                     | Xylenes                                 | 1330-20-7               | 6.3E+02                  | ns      | 2.7E+03                    | ns      | 1.0E+02                              | n       | 4.4E+02                                | n       | 1.9E+02            | n       | 1.0E+04                         |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-04                                              | I                                                             |                                                      |                                                               |         |       | 1     |                             | Zinc Phosphide                          | 1314-84-7               | 2.3E+01                  | n       | 3.1E+02                    | n       |                                      |         |                                        |         | 4.7E+00            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 3.0E-01                                              | I                                                             |                                                      |                                                               |         |       | 1     |                             | Zinc and Compounds                      | 7440-66-6               | 2.3E+04                  | n       | 3.1E+05                    | nm      |                                      |         |                                        |         | 4.7E+03            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 5.0E-02                                              | I                                                             |                                                      |                                                               |         |       | 1     | 0.1                         | Zineb                                   | 12122-67-7              | 3.1E+03                  | n       | 3.1E+04                    | n       |                                      |         |                                        |         | 7.7E+02            | n       |                                 |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                | 8.0E-05                                              | P                                                             |                                                      |                                                               |         |       | 1     |                             | Zirconium                               | 7440-67-7               | 6.3E+00                  | n       | 8.2E+01                    | n       |                                      |         |                                        |         | 1.2E+00            | n       |                                 |         |

## **APPENDIX C**

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### **Well and Field Logs**

**WESTERN REFINING - GALLUP REFINERY**  
**1st QTR 2012**

| OW-1              |           | TEST PARAMETERS    |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|--------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                    | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/22/2012 | (1)                |               |      |                      |                      |              |                |                         |          |
| GAUGE TIME        | 1130      | (2)                |               |      |                      |                      |              |                |                         |          |
| DTB (feet)        |           | (3)                |               |      |                      |                      |              |                |                         |          |
| Depth to Bottom   | 94.55     | (3)                |               |      |                      |                      |              |                |                         |          |
| DEDICATED PUMP    | Y(inop)   | (4)                | 1530          | 8.74 | 10.12                | 0.983                | 0.892        | 0.690          | 144                     | 73.8     |
| DTW (feet)        |           | WEATHER CONDITIONS |               |      |                      |                      |              |                |                         |          |
| Depth to Water    | 3.40      |                    |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | 91.15     |                    |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | 0.650     |                    |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | 177.70    |                    |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/22/2012 | WATER APPEARANCE   |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 1530      |                    |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/22/2012 |                    |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 1535      |                    |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | NA        |                    |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           | Clear              |               |      |                      |                      |              |                |                         |          |
| at end of Purging | NA        |                    |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Portable pump malfunctioned. Bailed 10 gallons, collected water samples, labeled and placed on ice in cooler. Purge water collected in labeled 55 gal drum to be disposed of at the bundle pad upstream of the NAPIS .

| OW-10             |           | TEST PARAMATERS         |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|-------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                         | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/22/2012 | (1)                     | 1600          | 7.88 | 12.07                | 1.427                | 1.221        | 0.96           | 148                     | 113.6    |
| GAUGE TIME        | 1539      | (2)                     |               |      |                      |                      |              |                |                         |          |
| DTB (feet)        |           | (3)                     |               |      |                      |                      |              |                |                         |          |
| Depth to Bottom   | --        | (4)                     |               |      |                      |                      |              |                |                         |          |
| DEDICATED PUMP    | no        |                         |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           | WEATHER CONDITIONS      |               |      |                      |                      |              |                |                         |          |
| Depth to Water    | 0.50      |                         |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | --        |                         |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | --        |                         |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | --        | Warm, clear, and breezy |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/22/2012 | WATER APPEARANCE        |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 1540      |                         |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/22/2012 |                         |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 1602      |                         |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | NA        | Clear, no odor.         |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           |                         |               |      |                      |                      |              |                |                         |          |
| at end of Purging | NA        |                         |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Portable pump malfunctioned. Bailed 20 gallons, collected water samples, labeled and placed on ice in cooler. Purge water collected in labeled 55 gal drums to be disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 bailer.

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| OW-13             |           | TEST PARAMATERS    |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|--------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                    | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/21/2012 | (1)                | 1230          | 8.22 | 12.56                | 0.949                | 0.810        | 0.63           | 110.6                   | 1.6      |
| GAUGE TIME        | 1227      | (2)                | 1245          | 8.16 | 12.85                | 0.984                | 0.810        | 0.68           | 24.2                    | -35.3    |
| DTB (feet)        | 99.15     | (3)                | 1301          | 8.15 | 12.85                | 0.948                | 0.803        | 0.62           | 140.4                   | -27.1    |
| Depth to Bottom   |           | (4)                | 1320          | 8.09 | 13.02                | 0.951                | 0.803        | 0.62           | 24.3                    | 3.7      |
| DEDICATED PUMP    | Y         | WEATHER CONDITIONS |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        | 22.50     |                    |               |      |                      |                      |              |                |                         |          |
| Depth to Water    |           |                    |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | 76.65     |                    |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | 0.740     |                    |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | 170.00    |                    |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/21/2012 | WATER APPEARANCE   |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 1230      |                    |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/21/2012 |                    |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 1320      |                    |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | 80 ft     |                    |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        | NA        | Clear              |               |      |                      |                      |              |                |                         |          |
| at end of Purging |           |                    |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 170 gals. Collected water samples, labeled and placed on ice in cooler. Purge water collected in labeled 55 gal drum to be disposed of at the bundle pad upstream of the NAPIS .

| OW-14             |           | TEST PARAMATERS                               |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|-----------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                                               | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/21/2012 | (1)                                           | 1426          | 7.16 | 13.79                | 1.994                | 1.647        | 1.32           | 12.2                    | -124.6   |
| GAUGE TIME        | 1420      | (2)                                           | 1430          | 7.14 | 13.60                | 1.984                | 1.645        | 1.31           | 40.1                    | -111.6   |
| DTB (feet)        | 46.52     | (3)                                           | 1433          | 7.11 | 13.34                | 1.978                | 1.645        | 1.31           | 23.0                    | -107.7   |
| Depth to Bottom   |           | (4)                                           | 1437          | 7.10 | 13.26                | 1.986                | 1.656        | 1.32           | 16.4                    | -110.0   |
| DEDICATED PUMP    | Y         | WEATHER CONDITIONS<br><br>Cool, sunny, breezy |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        | 24.92     |                                               |               |      |                      |                      |              |                |                         |          |
| Depth to Water    |           |                                               |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         |           |                                               |               |      |                      |                      |              |                |                         |          |
| Capacity per foot |           |                                               |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    |           |                                               |               |      |                      |                      |              |                |                         |          |
|                   | 48.00     |                                               |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/21/2012 | WATER APPEARANCE                              |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 1423      |                                               |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/21/2012 |                                               |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 1438      |                                               |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | 30 ft     |                                               |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        | NA        |                                               |               |      |                      |                      |              |                |                         |          |
| at end of Purging |           |                                               |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 50 gals. Collected water samples, labeled and placed on ice in cooler. Purge water collected in labeled 55 gal drum to be disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated pumps

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.



**WESTERN REFINING - GALLUP REFINERY**  
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| OW-29             |           | TEST PARAMATERS    |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|--------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                    | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/21/2012 | (1)                | 1337          | 7.45 | 12.73                | 1.327                | 1.125        | 0.88           | 100.0                   | -59.1    |
| GAUGE TIME        | 1333      | (2)                | 1342          | 7.44 | 12.53                | 1.298                | 1.407        | 0.87           | 30.2                    | -67.6    |
| DTB (feet)        |           |                    |               |      |                      |                      |              |                |                         |          |
| Depth to Bottom   | 51.08     | (3)                | 1351          | 7.40 | 12.99                | 1.331                | 1.123        | 0.88           | 31.3                    | -37.2    |
| DEDICATED PUMP    | Y         | (4)                | 1468          | 7.38 | 13.15                | 1.342                | 1.127        | 0.88           | 36.9                    | -58.1    |
| DTW (feet)        |           | WEATHER CONDITIONS |               |      |                      |                      |              |                |                         |          |
| Depth to Water    | 19.80     |                    |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | 31.28     |                    |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | 0.650     |                    |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | 61.00     |                    |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/21/2012 | Windy, clear, cool |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 1334      |                    |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/21/2012 |                    |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 1410      |                    |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | NA        | WATER APPEARANCE   |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           |                    |               |      |                      |                      |              |                |                         |          |
| at end of Purging | NA        |                    |               |      |                      |                      |              |                |                         |          |
|                   |           | Clear              |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 61 gals. Collected water samples, labeled and placed on ice in cooler. Purge water collected in labeled 55 gal drum to be disposed of at the bundle pad upstream of the NAPIS .

| OW-30             |           | TEST PARAMATERS                              |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|----------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                                              | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/21/2012 | (1)                                          | 1010          | 7.33 | 12.04                | 1.760                | 1.144        | 0.90           | 36.1                    | 7.8      |
| GAUGE TIME        | 1000      | (2)                                          | 1013          | 7.27 | 12.16                | 1.760                | 1.147        | 0.90           | 30.7                    | 3.5      |
| DTB (feet)        |           |                                              |               |      |                      |                      |              |                |                         |          |
| Depth to Bottom   | 49.90     | (3)                                          | 1017          | 7.27 | 12.10                | 1.760                | 1.510        | 0.91           | 30.8                    | 4.3      |
| DEDICATED PUMP    | Y         | (4)                                          | 1020          | 7.27 | 12.20                | 1.770                | 1.500        | 0.90           | 30.7                    | 4.0      |
| DTW (feet)        |           | WEATHER CONDITIONS<br><br>Clear, cool, calm. |               |      |                      |                      |              |                |                         |          |
| Depth to Water    | 24.23     |                                              |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | 25.67     |                                              |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | 0.650     |                                              |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | 50.00     |                                              |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/21/2012 | WATER APPEARANCE<br><br>Clear                |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 1008      |                                              |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/21/2012 |                                              |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 1025      |                                              |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | 38 ft     |                                              |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           |                                              |               |      |                      |                      |              |                |                         |          |
| at end of Purging | NA        |                                              |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 50 gals. Collected water samples, labeled and placed on ice in cooler. Purge water collected labeled 55 gal drum to be disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Dedicated pumps

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| OW-50             |           | TEST PARAMETERS                                       |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|-------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                                                       | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/22/2012 | (1)                                                   | 1348          | 8.24 | 13.13                | 0.853                | 0.717        | 0.55           | 92.5                    | 55.7     |
| GAUGE TIME        | 1310      | (2)                                                   |               |      |                      |                      |              |                |                         |          |
| DTB (feet)        |           | (3)                                                   |               |      |                      |                      |              |                |                         |          |
| Depth to Bottom   | 64.00     | (4)                                                   |               |      |                      |                      |              |                |                         |          |
| DEDICATED PUMP    | N         | WEATHER CONDITIONS<br><br>Warm, sunny, calm           |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           |                                                       |               |      |                      |                      |              |                |                         |          |
| Depth to Water    | 16.88     |                                                       |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | 47.12     |                                                       |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | 0.163     |                                                       |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | 23.00     |                                                       |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/22/2012 | WATER APPEARANCE<br><br>Clear at first, turned cloudy |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 1311      |                                                       |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/22/2012 |                                                       |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 1350      |                                                       |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | NA        |                                                       |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           |                                                       |               |      |                      |                      |              |                |                         |          |
| at end of Purging | NA        |                                                       |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Portable pump malfunctioned. Bailed 23 gallons, collected water samples, labeled and placed on ice in cooler. Purge water collected in labeled 55 gal drums to be disposed of at the bundle pad upstream of the NAPIS .

| OW-52             |           | TEST PARAMATERS                             |               |      |                      |                            |              |                |                         |          |
|-------------------|-----------|---------------------------------------------|---------------|------|----------------------|----------------------------|--------------|----------------|-------------------------|----------|
|                   |           |                                             | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/22/2012 | (1)                                         | 1451          | 8.26 | 13.69                | 0.801                      | 0.662        | 0.51           | 100.7                   | -81.4    |
| GAUGE TIME        | 1408      | (2)                                         |               |      |                      |                            |              |                |                         |          |
| DTB (feet)        | 77.74     | (3)                                         |               |      |                      |                            |              |                |                         |          |
| Depth to Bottom   |           | (4)                                         |               |      |                      |                            |              |                |                         |          |
| DEDICATED PUMP    | N         | WEATHER CONDITIONS<br><br>Warm, sunny, calm |               |      |                      |                            |              |                |                         |          |
| DTW (feet)        | 15.65     |                                             |               |      |                      |                            |              |                |                         |          |
| Depth to Water    |           |                                             |               |      |                      |                            |              |                |                         |          |
| DTB - DTW         |           |                                             |               |      |                      |                            |              |                |                         |          |
| Capacity per foot |           |                                             |               |      |                      |                            |              |                |                         |          |
| 3 Well Volumes    | 30.00     | WATER APPEARANCE<br><br>Clear to murky      |               |      |                      |                            |              |                |                         |          |
| PURGE DATE        | 3/22/2012 |                                             |               |      |                      |                            |              |                |                         |          |
| PURGE TIME        | 1412      |                                             |               |      |                      |                            |              |                |                         |          |
| SAMPLE DAY        | 3/22/2012 |                                             |               |      |                      |                            |              |                |                         |          |
| SAMPLE TIME       | 1455      |                                             |               |      |                      |                            |              |                |                         |          |
| PUMP DEPTH        | NA        |                                             |               |      |                      |                            |              |                |                         |          |
| DTW (feet)        | NA        |                                             |               |      |                      |                            |              |                |                         |          |
| at end of Purging |           |                                             |               |      |                      |                            |              |                |                         |          |

**SAMPLE LOG**

Portable pump malfunctioned. Bailed approximately 20 gallons, collected water samples, labeled and placed on ice in cooler. Purge water collected in labeled 55 gal drums to be disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
bailer

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| <b>NAPIS-1</b>    |           | <b>TEST PARAMETERS</b>                         |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                                                | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/20/2012 | (1)                                            | 0929          | 7.31 | 9.94                 | 1.290                | 1.199        | 0.94           | 78.8                    | 36.7     |
| GAUGE TIME        | 0924      | (2)                                            | 0932          | 7.26 | 10.28                | 1.303                | 1.178        | 0.92           | 36.7                    | 37.6     |
| DTB (feet)        |           |                                                |               |      |                      |                      |              |                |                         |          |
| Depth to Bottom   | 13.53     | (3)                                            | 0936          | 7.26 | 10.53                | 1.297                | 1.163        | 0.91           | 34.8                    | 40.7     |
| DEDICATED PUMP    | N         | (4)                                            | 0940          | 7.29 | 10.65                | 1.311                | 1.172        | 0.92           | 49.7                    | 40.9     |
| DTW (feet)        |           | <b>WEATHER CONDITIONS</b><br><br>Cool, sunny   |               |      |                      |                      |              |                |                         |          |
| Depth to Water    | 7.24      |                                                |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | 6.29      |                                                |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | 0.163     |                                                |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | 3.02      |                                                |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/20/2012 | <b>WATER APPEARANCE</b><br><br>Clear to cloudy |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 0927      |                                                |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/20/2012 |                                                |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 0945      |                                                |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | NA        |                                                |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           |                                                |               |      |                      |                      |              |                |                         |          |
| at end of Purging | NA        |                                                |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Began with purge. Bailed approximately 3 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of in EP-1.

| <b>NAPIS-2</b>    |           | <b>TEST PARAMETERS</b>                                        |               |      |                      |                      |              |                |                         |          |
|-------------------|-----------|---------------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|
|                   |           |                                                               | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/20/2012 | (1)                                                           | 0859          | 6.90 | 17.27                | 2.68                 | 1.744        | 1.40           | 29.5                    | -135.0   |
| GAUGE TIME        | 0850      | (2)                                                           | 0901          | 6.93 | 19.70                | 2.57                 | 1.480        | 1.35           | 29.6                    | -132.1   |
| DTB (feet)        |           |                                                               |               |      |                      |                      |              |                |                         |          |
| Depth to Bottom   | 13.61     | (3)                                                           | 0903          | 6.97 | 20.05                | 2.38                 | 1.544        | 1.23           | 29.4                    | -125.3   |
| DEDICATED PUMP    | N         | (4)                                                           | 0905          | 7.03 | 20.62                | 2.31                 | 1.507        | 1.20           | 32.0                    | -125.2   |
| DTW (feet)        |           | <b>WEATHER CONDITIONS</b><br><br>Cool, sunny w/ slight breeze |               |      |                      |                      |              |                |                         |          |
| Depth to Water    | 7.97      |                                                               |               |      |                      |                      |              |                |                         |          |
| DTB - DTW         | 5.64      |                                                               |               |      |                      |                      |              |                |                         |          |
| Capacity per foot | 0.163     |                                                               |               |      |                      |                      |              |                |                         |          |
| 3 Well Volumes    | 2.70      |                                                               |               |      |                      |                      |              |                |                         |          |
| PURGE DATE        | 3/20/2012 | <b>WATER APPEARANCE</b><br><br>Clear                          |               |      |                      |                      |              |                |                         |          |
| PURGE TIME        | 0859      |                                                               |               |      |                      |                      |              |                |                         |          |
| SAMPLE DAY        | 3/20/2012 |                                                               |               |      |                      |                      |              |                |                         |          |
| SAMPLE TIME       | 0915      |                                                               |               |      |                      |                      |              |                |                         |          |
| PUMP DEPTH        | NA        |                                                               |               |      |                      |                      |              |                |                         |          |
| DTW (feet)        |           |                                                               |               |      |                      |                      |              |                |                         |          |
| at end of Purging | NA        |                                                               |               |      |                      |                      |              |                |                         |          |

**SAMPLE LOG**

Began with purge. Bailed approximately 3 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of in EP-1.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| NAPIS-3           |           | TEST PARAMETERS                            |               |      |                      |                            |              |                |                         |          |
|-------------------|-----------|--------------------------------------------|---------------|------|----------------------|----------------------------|--------------|----------------|-------------------------|----------|
|                   |           |                                            | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/20/2012 | (1)                                        | 1130          | 8.04 | 20.48                | 3.929                      | 2.817        | 2.32           | 78.3                    | 42.2     |
| GAUGE TIME        | 1126      | (2)                                        | 1137          | 7.77 | 19.15                | 3.968                      | 2.912        | 2.41           | 43.4                    | 55.6     |
| DTB (feet)        | 30.42     | (3)                                        |               |      |                      |                            |              |                |                         |          |
| Depth to Bottom   |           | (4)                                        |               |      |                      |                            |              |                |                         |          |
| DEDICATED PUMP    |           | N                                          |               |      |                      |                            |              |                |                         |          |
| DTW (feet)        |           | 7.51                                       |               |      |                      |                            |              |                |                         |          |
| Depth to Water    | 7.51      | WEATHER CONDITIONS                         |               |      |                      |                            |              |                |                         |          |
| DTB - DTW         | 22.91     |                                            |               |      |                      |                            |              |                |                         |          |
| Capacity per foot | 0.163     |                                            |               |      |                      |                            |              |                |                         |          |
| 3 Well Volumes    | 11.20     |                                            |               |      |                      |                            |              |                |                         |          |
| PURGE DATE        | 3/20/2012 | WATER APPEARANCE                           |               |      |                      |                            |              |                |                         |          |
| PURGE TIME        | 1130      |                                            |               |      |                      |                            |              |                |                         |          |
| SAMPLE DAY        | 3/20/2012 |                                            |               |      |                      |                            |              |                |                         |          |
| SAMPLE TIME       | 1150      |                                            |               |      |                      |                            |              |                |                         |          |
| PUMP DEPTH        | NA        | Started clear and purged dry (~5 gallons). |               |      |                      |                            |              |                |                         |          |
| DTW (feet)        |           |                                            |               |      |                      |                            |              |                |                         |          |
| at end of Purging | Dry       |                                            |               |      |                      |                            |              |                |                         |          |

**SAMPLE LOG**

Began with purge. Bailed approximately 5 gals, well purged dry. Allowed for recharge, collected water samples, labeled and placed on ice in cooler. Purge water disposed of in EP-1.

| KA-3              |           | TEST PARAMATERS                                     |                    |      |                      |                      |              |                |                         |          |  |
|-------------------|-----------|-----------------------------------------------------|--------------------|------|----------------------|----------------------|--------------|----------------|-------------------------|----------|--|
|                   |           |                                                     | Time<br>(hrs)      | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP (mV) |  |
| GAUGE DATE        | 3/20/2012 | (1)                                                 | 1050               | 7.69 | 21.64                | 4.082                | 2.843        | 2.34           | 38.8                    | 23.5     |  |
| GAUGE TIME        | 1046      | (2)                                                 | 1053               | 7.30 | 23.34                | 3.531                | 2.372        | 1.92           | 15.2                    | 43.0     |  |
| DTB (feet)        | 23.20     | (3)                                                 | 1058               | 7.47 | 22.05                | 3.795                | 2.620        | 2.14           | 21.3                    | 65.6     |  |
| Depth to Bottom   |           | (4)                                                 | 1106               | 7.48 | 22.31                | 3.540                | 2.437        | 1.98           | 21.2                    | 60.0     |  |
| DEDICATED PUMP    |           | N                                                   | WEATHER CONDITIONS |      |                      |                      |              |                |                         |          |  |
| DTW (feet)        |           | 7.93                                                |                    |      |                      |                      |              |                |                         |          |  |
| Depth to Water    | 7.93      |                                                     |                    |      |                      |                      |              |                |                         |          |  |
| DTB - DTW         | 15.27     |                                                     |                    |      |                      |                      |              |                |                         |          |  |
| Capacity per foot | 0.163     | Cool and breezy                                     |                    |      |                      |                      |              |                |                         |          |  |
| 3 Well Volumes    | 7.50      |                                                     |                    |      |                      |                      |              |                |                         |          |  |
| PURGE DATE        | 3/20/2012 |                                                     |                    |      |                      |                      |              |                |                         |          |  |
| PURGE TIME        | 1648      |                                                     |                    |      |                      |                      |              |                |                         |          |  |
|                   |           | WATER APPEARANCE                                    |                    |      |                      |                      |              |                |                         |          |  |
| SAMPLE DAY        | 3/20/2012 |                                                     |                    |      |                      |                      |              |                |                         |          |  |
| SAMPLE TIME       | 1125      |                                                     |                    |      |                      |                      |              |                |                         |          |  |
|                   |           |                                                     |                    |      |                      |                      |              |                |                         |          |  |
| PUMP DEPTH        | NA        | Started clear and turned cloudy brown during purge. |                    |      |                      |                      |              |                |                         |          |  |
| DTW (feet)        |           |                                                     |                    |      |                      |                      |              |                |                         |          |  |
| at end of Purging | NA        |                                                     |                    |      |                      |                      |              |                |                         |          |  |

**SAMPLE LOG**

Began with purge. Bailed approximately 8 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of in EP-1.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Bailer

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

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| <b>GWM-1</b>      |           | <b>TEST PARAMATERS</b>                              |               |      |                      |                      |              |                |                         |             |
|-------------------|-----------|-----------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                                                     | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 3/20/2012 | (1)                                                 | 1504          | 7.02 | 10.55                | 4.594                | 4.119        | 3.47           | 53.4                    | -71.2       |
| GAUGE TIME        | 1457      | (2)                                                 | 1507          | 6.81 | 10.85                | 4.580                | 4.076        | 3.44           | 29.7                    | -86.1       |
| DTB (feet)        | 26.20     | (3)                                                 | 1512          | 6.84 | 10.70                | 4.485                | 4.014        | 3.38           | 29.1                    | -77.9       |
| Depth to Bottom   |           | (4)                                                 | 1517          | 6.81 | 10.06                | 4.525                | 4.000        | 3.37           | 29.0                    | -82.7       |
| DEDICATED PUMP    | N         | <b>WEATHER CONDITIONS</b><br><br>Windy, cool, clear |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        | 14.49     |                                                     |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 11.71     |                                                     |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 0.16      |                                                     |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 5.60      |                                                     |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    |           | <b>WATER APPEARANCE</b><br><br>Cloudy, brown/yellow |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 3/20/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 1500      |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 3/20/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 1525      |                                                     |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | NA        |                                                     |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        | NA        |                                                     |               |      |                      |                      |              |                |                         |             |
| at end of Purging | NA        |                                                     |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Began with purge. Bailed ~ 6 gallons. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of in EP-1.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Bailer

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| GWM-2             |           | TEST PARAMETERS |                                               |    |                   |                         |           |                |                      |          |
|-------------------|-----------|-----------------|-----------------------------------------------|----|-------------------|-------------------------|-----------|----------------|----------------------|----------|
|                   |           |                 | Time (hrs)                                    | pH | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/20/2012 | (1)             |                                               |    |                   |                         |           |                |                      |          |
| GAUGE TIME        | 1555      | (2)             |                                               |    |                   |                         |           |                |                      |          |
| DTB (feet)        | 18.81     | (3)             |                                               |    |                   |                         |           |                |                      |          |
| Depth to Bottom   |           | (4)             |                                               |    |                   |                         |           |                |                      |          |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br><br>Cool, sunny, breezy |    |                   |                         |           |                |                      |          |
| DTW (feet)        | 13.58     |                 |                                               |    |                   |                         |           |                |                      |          |
| Depth to Water    |           |                 |                                               |    |                   |                         |           |                |                      |          |
| DTB - DTW         | 5.23      |                 |                                               |    |                   |                         |           |                |                      |          |
| Capacity per foot | 0.163     |                 |                                               |    |                   |                         |           |                |                      |          |
| 3 Well Volumes    | 2.50      |                 |                                               |    |                   |                         |           |                |                      |          |
| PURGE DATE        | 3/20/2012 |                 | WATER APPEARANCE<br><br>Clear                 |    |                   |                         |           |                |                      |          |
| PURGE TIME        | 1558      |                 |                                               |    |                   |                         |           |                |                      |          |
| SAMPLE DAY        | 3/20/2012 |                 |                                               |    |                   |                         |           |                |                      |          |
| SAMPLE TIME       | 1610      |                 |                                               |    |                   |                         |           |                |                      |          |
| PUMP DEPTH        | NA        |                 |                                               |    |                   |                         |           |                |                      |          |
| DTW (feet)        | NA        |                 |                                               |    |                   |                         |           |                |                      |          |
| at end of Purging |           |                 |                                               |    |                   |                         |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Bailed ~ 2.5 gallons. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of in EP-1.

| GWM-3             |           | TEST PARAMATERS                               |            |    |                   |                         |           |                |                      |          |
|-------------------|-----------|-----------------------------------------------|------------|----|-------------------|-------------------------|-----------|----------------|----------------------|----------|
|                   |           |                                               | Time (hrs) | pH | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 3/20/2012 | (1)                                           |            |    |                   |                         |           |                |                      |          |
| GAUGE TIME        | 1615      | (2)                                           |            |    |                   |                         |           |                |                      |          |
| DTB (feet)        | 17.80     | (3)                                           |            |    |                   |                         |           |                |                      |          |
| Depth to Bottom   |           | (4)                                           |            |    |                   |                         |           |                |                      |          |
| DEDICATED PUMP    | N         | WEATHER CONDITIONS<br><br>Cool, sunny, breezy |            |    |                   |                         |           |                |                      |          |
| DTW (feet)        | 12.95     |                                               |            |    |                   |                         |           |                |                      |          |
| Depth to Water    |           |                                               |            |    |                   |                         |           |                |                      |          |
| DTB - DTW         | 4.85      |                                               |            |    |                   |                         |           |                |                      |          |
| Capacity per foot | 0.163     |                                               |            |    |                   |                         |           |                |                      |          |
| 3 Well Volumes    | 2.40      |                                               |            |    |                   |                         |           |                |                      |          |
| PURGE DATE        | 3/20/2012 | WATER APPEARANCE<br><br>clear to cloudy brown |            |    |                   |                         |           |                |                      |          |
| PURGE TIME        | 1616      |                                               |            |    |                   |                         |           |                |                      |          |
| SAMPLE DAY        | 3/20/2012 |                                               |            |    |                   |                         |           |                |                      |          |
| SAMPLE TIME       | 1625      |                                               |            |    |                   |                         |           |                |                      |          |
| PUMP DEPTH        | NA        |                                               |            |    |                   |                         |           |                |                      |          |
| DTW (feet)        | NA        |                                               |            |    |                   |                         |           |                |                      |          |
| at end of Purging |           |                                               |            |    |                   |                         |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Bailed ~ 2.5 gallons. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of in EP-1.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

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| Oil Sump LDU      |           | TEST PARAMETERS                                                    |    |                      |                            |              |                |                         |             |
|-------------------|-----------|--------------------------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           | Time<br>(hrs)                                                      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)                                                                |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)                                                                |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)                                                                |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)                                                                |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         | <b>WEATHER CONDITIONS</b><br><br>Cool, breezy, and sunny           |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        | <b>WATER APPEARANCE</b><br><br>yellow w/ black solids, strong odor |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/20/2012 |                                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 1010      |                                                                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                                                                    |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                                                                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Grab sample collected with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

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| East LDU          |           | TEST PARAMATERS |                                                   |    |                      |                            |              |                |                         |
|-------------------|-----------|-----------------|---------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                   |           |                 | Time<br>(hrs)                                     | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE        | NA        | (1)             |                                                   |    |                      |                            |              |                |                         |
| GAUGE TIME        | NA        | (2)             |                                                   |    |                      |                            |              |                |                         |
| DTB (feet)        | NA        | (3)             |                                                   |    |                      |                            |              |                |                         |
| Depth to Bottom   |           | (4)             |                                                   |    |                      |                            |              |                |                         |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br><br>Cool, sunny, and breezy |    |                      |                            |              |                |                         |
| DTW (feet)        | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| Depth to Water    | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| DTB - DTW         | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| Capacity per foot | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| 3 Well Volumes    | NA        |                 | WATER APPEARANCE<br><br>Clear to brown with odor  |    |                      |                            |              |                |                         |
| PURGE DATE        | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| PURGE TIME        | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| SAMPLE DAY        | 3/20/2012 |                 |                                                   |    |                      |                            |              |                |                         |
| SAMPLE TIME       | 1030      |                 |                                                   |    |                      |                            |              |                |                         |
| PUMP DEPTH        | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| DTW (feet)        | NA        |                 |                                                   |    |                      |                            |              |                |                         |
| at end of Purging |           |                 |                                                   |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Collected grab samples with bailer, labeled and placed on ice in cooler.

| West LDU          |           | TEST PARAMATERS               |                                                   |    |                      |                            |              |                |                         |             |
|-------------------|-----------|-------------------------------|---------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                               | Time<br>(hrs)                                     | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)                           |                                                   |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)                           |                                                   |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)                           |                                                   |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)                           |                                                   |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                               | WEATHER CONDITIONS<br><br>Cool, sunny, and breezy |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                               |                                                   |    |                      |                            |              |                |                         |             |
| Depth to Water    |           |                               |                                                   |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                               |                                                   |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                               |                                                   |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                               |                                                   |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        | WATER APPEARANCE<br><br>Clear |                                                   |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                               |                                                   |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/20/2012 |                               |                                                   |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 1040      |                               |                                                   |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                               |                                                   |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                               |                                                   |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                               |                                                   |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Bailer

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.



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| Infl to AL-2      |           | TEST PARAMATERS |                                                    |    |                      |                            |              |                |                         |             |
|-------------------|-----------|-----------------|----------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                 | Time<br>(hrs)                                      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)             |                                                    |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)             |                                                    |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)             |                                                    |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)             |                                                    |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br><br>Windy, cool, clear skies |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                 | WATER APPEARANCE<br><br>Cloudy brown               |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/20/2012 |                 |                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 1340      |                 |                                                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                 |                                                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples from north discharge pipe using plastic dipper, labeled and placed on ice in cooler.

| Infl to EP-1      |           | TEST PARAMATERS |                                                    |    |                      |                            |              |                |                         |             |
|-------------------|-----------|-----------------|----------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                 | Time<br>(hrs)                                      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)             |                                                    |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)             |                                                    |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)             |                                                    |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)             |                                                    |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br><br>Windy, cool, clear skies |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| Depth to Water    |           |                 |                                                    |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                 | WATER APPEARANCE<br><br>Cloudy brown               |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/20/2012 |                 |                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 1400      |                 |                                                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                                                    |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                 |                                                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Discharge into EP-1 was under water. Grab sample collected from sluiceway between AL-2 and EP-1 using plastic dipper, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Plastic dipper

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

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| AL-2 to EP-1      |           | TEST PARAMATERS     |               |    |                      |                            |              |                |                         |             |
|-------------------|-----------|---------------------|---------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                     | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)                 |               |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)                 |               |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)                 |               |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)                 |               |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         | WEATHER CONDITIONS  |               |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                     |               |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                     |               |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                     |               |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                     |               |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        | Cool, breezy, sunny |               |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        | WATER APPEARANCE    |               |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                     |               |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/20/2012 |                     |               |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 1410      |                     |               |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                     |               |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        | Cloudy, green/black |               |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                     |               |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

| Infl to AL-1      |           | TEST PARAMATERS |                    |    |                      |                            |              |                |                         |             |
|-------------------|-----------|-----------------|--------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                 | Time<br>(hrs)      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)             |                    |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)             |                    |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)             |                    |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)             |                    |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                    |    |                      |                            |              |                |                         |             |
| Depth to Water    |           |                 |                    |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                 |                    |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                 |                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                 | Cold, sunny, calm  |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        |                 |                    |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                 |                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/21/2012 |                 |                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 0740      |                 |                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                 | Cloudy green/black |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                    |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                 |                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Plastic dipper.

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| Pilot Eff.        |           | TEST PARAMATERS                          |               |    |                      |                            |              |                |                         |             |
|-------------------|-----------|------------------------------------------|---------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                                          | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)                                      |               |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)                                      |               |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)                                      |               |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)                                      |               |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         | WEATHER CONDITIONS<br><br>Cool and windy |               |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        | WATER APPEARANCE<br><br>Cloudy brown     |               |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/20/2012 |                                          |               |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 1320      |                                          |               |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                                          |               |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                                          |               |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab sample with plastic dipper as effluent was flowing, labeled and placed samples on ice in cooler.

| NAPIS Eff.        |           | TEST PARAMATERS |                                                  |    |                      |                            |              |                |                         |             |
|-------------------|-----------|-----------------|--------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                 | Time<br>(hrs)                                    | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)             |                                                  |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)             |                                                  |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)             |                                                  |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)             |                                                  |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br><br>Cool, clear, calm      |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                 | WATER APPEARANCE<br><br>clear, slight brown tint |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 3/21/2012 |                 |                                                  |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 750       |                 |                                                  |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                                                  |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                 |                                                  |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Plastic dipper.

**Signature:** Tom Fleener/Sean Ukele - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY  
2012 QUARTERLY INSPECTION**

| <b>RW-1 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 3/15/2012  | Product Thickness (ft)             | 0.030    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) | 0.02     |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 9:07       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  | 43.04      | Volume of Water Purged (Gallons)   | 22       | <b>Notes</b>                                                                                                                                                                                                                                                      |
| Depth to Bottom             |            |                                    |          |                                                                                                                                                                                                                                                                   |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | N/A                                                                                                                                                                                                                                                               |
| DTP (feet)                  | 29.31      | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            |            |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  | 29.34      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              |            | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 13.70      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 3/15/2012                   | 9:08       | 3/15/2012                          | 9:15     |                                                                                                                                                                                                                                                                   |
| 3/15/2012                   | 10:25      | 3/15/2012                          | 10:40    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

| <b>RW-2 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 3/15/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 9:20       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  | 39.80      | Volume of Water Purged (Gallons)   | N/A      | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| Depth to Bottom             |            |                                    |          |                                                                                                                                                                                                                                                                   |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | No measurable product layer.                                                                                                                                                                                                                                      |
| DTP (feet)                  | 0.00       | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            |            |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  | 24.54      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              |            | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 15.26      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| N/A                         |            |                                    |          |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
5 gallon buckets to catch purge water.  
Dedicated pump used for RW-1 to purge water.

SIGNATURE: /s/ Cheryl Johnson / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY  
2012 QUARTERLY INSPECTION**

| <b>RW-5 (Recovery Well)</b>    |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|--------------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                     | 3/15/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                     | 9:50       | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| DTB (feet)<br>Depth to Bottom  | 39.59      | Volume of Water Purged (Gallons)   | 15       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DEDICATED PUMP                 | N          | PURGE DATE                         |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DTP (feet)<br>Depth to Product | 0.00       | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)<br>Depth to Water   | 29.32      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                      | 10.27      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>            |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                     | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 3/15/2012                      | 10:00      | 3/15/2012                          | 10:10    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 15 gallons was bailed from this well.

| <b>RW-6 (Recovery Well)</b>    |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|--------------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                     | 3/15/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                     | 9:55       | Volume of Product Purged (Gallons) |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)<br>Depth to Bottom  | 40.90      | Volume of Water Purged (Gallons)   | 17       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DEDICATED PUMP                 | N          | PURGE DATE                         |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DTP (feet)<br>Depth to Product | 0.00       | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)<br>Depth to Water   | 29.46      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                      | 11.44      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>            |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                     | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 3/15/2012                      | 10:12      | 3/15/2012                          | 10:20    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 17 gallons was bailed from this well.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
5 gallon buckets to catch purge water.  
3 foot disposable bailers.

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY**  
**2nd QTR 2012**

| <b>OW-1</b>                     |           | <b>TEST PARAMETERS</b>                         |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 6/13/2012 | (1)                                            | 8:50          | 9.19 | 14.14                | 1.172                | 0.953        | 0.740          | 77.8                    | 157.2       |
| GAUGE TIME                      | 8:35      | (2)                                            | 9:00          | 8.93 | 13.18                | 1.038                | 0.873        | 0.680          | 18.6                    | 124.7       |
| DTB (feet)<br>Depth to Bottom   | 94.55     | (3)                                            | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DEDICATED PUMP                  | N         | (4)                                            | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DTW (feet)<br>Depth to Water    | 3.38      | <b>WEATHER CONDITIONS</b><br>clear, warm, calm |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 91.17     |                                                |               |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.65      |                                                |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 59        |                                                |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 177       |                                                |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 6/13/2012 | <b>WATER APPEARANCE</b><br>clear               |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 8:50      |                                                |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 6/13/2012 |                                                |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 9:05      |                                                |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Portable pump set to 90', purged ~ 20 gallons, collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

| <b>OW-10</b>                    |           | <b>TEST PARAMETERS</b>                         |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 6/13/2012 | (1)                                            | 9:27          | 7.84 | 15.2                 | 6.225                | 4.960        | 4.24           | 25.2                    | 36          |
| GAUGE TIME                      | 9:20      | (2)                                            | 9:36          | 7.54 | 13.8                 | 3.553                | 2.954        | 2.42           | 18.0                    | 22          |
| DTB (feet)<br>Depth to Bottom   | 60.33     | (3)                                            | 9:48          | 7.54 | 13.7                 | 3.234                | 2.689        | 2.21           | 16.7                    | 29          |
| DEDICATED PUMP                  | N         | (4)                                            | 10:01         | 7.57 | 14.5                 | 3.172                | 2.605        | 2.14           | 44.0                    | 41          |
| DTW (feet)<br>Depth to Water    | 1.67      | <b>WEATHER CONDITIONS</b><br>clear, warm, calm |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 58.66     |                                                |               |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.65      |                                                |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 38.200    |                                                |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 114.00    |                                                |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 6/13/2012 | <b>WATER APPEARANCE</b><br>clear               |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 9:27      |                                                |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 6/13/2012 |                                                |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 10:05     |                                                |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Portable pump set to 50', purged ~110 gallons, collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**2nd QTR 2012**

| <b>OW-13</b>                 |           | <b>TEST PARAMETERS</b>                                  |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|---------------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                         | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 6/14/2012 | (1)                                                     | 8:19       | 8.48 | 13.50             | 0.988             | 0.817     | 0.630          | 82                   | -100.5   |
| GAUGE TIME                   | 8:15      | (2)                                                     | 8:35       | 8.27 | 13.20             | 0.968             | 0.814     | 0.630          | 38.2                 | -66.1    |
| DTB (feet)                   |           |                                                         |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom              | 99.15     | (3)                                                     | 9:08       | 8.48 | 15.15             | 1.037             | 0.826     | 0.650          | 42.6                 | -40.7    |
| DEDICATED PUMP               | Y         | (4)                                                     | 9:40       | 8.50 | 15.68             | 1.050             | 0.838     | 0.650          | 26.8                 | -28.6    |
| DTW (feet)                   |           | <b>WEATHER CONDITIONS</b><br>clear, warm, slight breeze |            |      |                   |                   |           |                |                      |          |
| Depth to Water               | 22.64     |                                                         |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 76.51     |                                                         |            |      |                   |                   |           |                |                      |          |
| Capacity per foot            | 0.65      |                                                         |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume                | 50.000    |                                                         |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes               | 150.00    |                                                         |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 6/14/2012 | <b>WATER APPEARANCE</b><br>clear                        |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 8:19      |                                                         |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 6/14/2012 |                                                         |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 9:40      |                                                         |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                                         |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                                         |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 150 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

| <b>OW-14</b>                 |           | <b>TEST PARAMETERS</b>                   |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                          | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 6/14/2012 | (1)                                      | 7:55       | 7.44 | 14.5              | 1.992             | 1.615     | 1.29           | 70.7                 | -157     |
| GAUGE TIME                   | 7:46      | (2)                                      | 7:58       | 7.24 | 14.2              | 1.967             | 1.606     | 1.28           | 31.4                 | -217     |
| DTB (feet)                   |           |                                          |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom              | 46.52     | (3)                                      | 8:02       | 7.18 | 14.2              | 1.98              | 1.617     | 1.29           | 33.0                 | -219     |
| DEDICATED PUMP               | Y         | (4)                                      | 8:05       | 7.20 | 14.3              | 1.971             | 1.618     | 1.30           | 21.9                 | -226     |
| DTW (feet)                   |           | <b>WEATHER CONDITIONS</b><br>clear, calm |            |      |                   |                   |           |                |                      |          |
| Depth to Water               | 24.93     |                                          |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 21.59     |                                          |            |      |                   |                   |           |                |                      |          |
| Capacity per foot            | 0.65      |                                          |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume                | 14.000    |                                          |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes               | 42.00     |                                          |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 6/14/2012 | <b>WATER APPEARANCE</b><br>clear         |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 7:55      |                                          |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 6/14/2012 |                                          |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 8:05      |                                          |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                          |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                          |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 45 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Dedicated pumps

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**2nd QTR 2012**

| <b>OW-29</b>      |           | <b>TEST PARAMETERS</b>                           |            |      |                   |                   |           |                |          |
|-------------------|-----------|--------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------|
|                   |           |                                                  | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | ORP (mV) |
| GAUGE DATE        | 6/13/2012 | (1)                                              | 13:20      | 7.91 | 14.08             | 1.382             | 1.121     | 0.880          | 77.4     |
| GAUGE TIME        | 13:16     | (2)                                              | 13:26      | 7.57 | 13.55             | 1.366             | 1.131     | 0.890          | 30       |
| DTB (feet)        |           |                                                  |            |      |                   |                   |           |                |          |
| Depth to Bottom   | 51.08     | (3)                                              | 13:38      | 7.68 | 14.30             | 1.396             | 1.144     | 0.900          | 23.1     |
| DEDICATED PUMP    | Y         | (4)                                              | 13:58      | 7.51 | 14.21             | 1.394             | 1.137     | 0.890          | 25.1     |
| DTW (feet)        |           | <b>WEATHER CONDITIONS</b><br>clear, warm, breezy |            |      |                   |                   |           |                |          |
| Depth to Water    | 19.88     |                                                  |            |      |                   |                   |           |                |          |
| DTB - DTW         | 21.20     |                                                  |            |      |                   |                   |           |                |          |
| Capacity per foot | 0.65      |                                                  |            |      |                   |                   |           |                |          |
| 1 Well Volume     | 20.300    |                                                  |            |      |                   |                   |           |                |          |
| 3 Well Volumes    | 61.00     |                                                  |            |      |                   |                   |           |                |          |
| PURGE DATE        | 6/13/2012 | <b>WATER APPEARANCE</b><br>clear                 |            |      |                   |                   |           |                |          |
| PURGE TIME        | 13:20     |                                                  |            |      |                   |                   |           |                |          |
| SAMPLE DAY        | 6/13/2012 |                                                  |            |      |                   |                   |           |                |          |
| SAMPLE TIME       | 14:00     |                                                  |            |      |                   |                   |           |                |          |
| PUMP DEPTH        | NA        |                                                  |            |      |                   |                   |           |                |          |
| DTW (feet)        |           |                                                  |            |      |                   |                   |           |                |          |
| at end of Purging | NA        |                                                  |            |      |                   |                   |           |                |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 63 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

| <b>OW-30</b>      |           | <b>TEST PARAMETERS</b>                           |            |      |                   |                   |           |                |          |
|-------------------|-----------|--------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------|
|                   |           |                                                  | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | ORP (mV) |
| GAUGE DATE        | 6/14/2012 | (1)                                              | 10:12      | 7.64 | 13.7              | 1.409             | 1.167     | 0.92           | 60.1     |
| GAUGE TIME        | 10:09     | (2)                                              | 10:15      | 7.37 | 13.3              | 1.382             | 1.156     | 0.97           | 34.2     |
| DTB (feet)        |           |                                                  |            |      |                   |                   |           |                |          |
| Depth to Bottom   | 49.90     | (3)                                              | 10:19      | 7.35 | 13.2              | 1.375             | 1.155     | 0.91           | 30.4     |
| DEDICATED PUMP    | Y         | (4)                                              | 10:25      | 7.32 | 13.2              | 1.386             | 1.162     | 0.91           | 11.2     |
| DTW (feet)        |           | <b>WEATHER CONDITIONS</b><br>clear, warm, breezy |            |      |                   |                   |           |                |          |
| Depth to Water    | 24.28     |                                                  |            |      |                   |                   |           |                |          |
| DTB - DTW         | 25.62     |                                                  |            |      |                   |                   |           |                |          |
| Capacity per foot | 0.65      |                                                  |            |      |                   |                   |           |                |          |
| 1 Well Volume     | 16.700    |                                                  |            |      |                   |                   |           |                |          |
| 3 Well Volumes    | 50.00     |                                                  |            |      |                   |                   |           |                |          |
| PURGE DATE        | 6/14/2012 | <b>WATER APPEARANCE</b><br>clear                 |            |      |                   |                   |           |                |          |
| PURGE TIME        | 10:10     |                                                  |            |      |                   |                   |           |                |          |
| SAMPLE DAY        | 6/14/2012 |                                                  |            |      |                   |                   |           |                |          |
| SAMPLE TIME       | 10:25     |                                                  |            |      |                   |                   |           |                |          |
| PUMP DEPTH        | NA        |                                                  |            |      |                   |                   |           |                |          |
| DTW (feet)        |           |                                                  |            |      |                   |                   |           |                |          |
| at end of Purging | NA        |                                                  |            |      |                   |                   |           |                |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 50 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated pumps

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.



**WESTERN REFINING - GALLUP REFINERY**  
**2nd QTR 2012**

| <b>OW-50</b>      |           | <b>TEST PARAMETERS</b>                          |            |      |                   |                         |           |                |                      |          |
|-------------------|-----------|-------------------------------------------------|------------|------|-------------------|-------------------------|-----------|----------------|----------------------|----------|
|                   |           |                                                 | Time (hrs) | pH   | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 6/13/2012 | (1)                                             | 11:12      | 8.57 | 22.07             | 1.044                   | 0.717     | 0.550          | 115.2                | 26.6     |
| GAUGE TIME        | 11:03     | (2)                                             | 11:15      | 8.41 | 14.61             | 0.862                   | 0.701     | 0.540          | 29.9                 | -3.7     |
| DTB (feet)        |           |                                                 |            |      |                   |                         |           |                |                      |          |
| Depth to Bottom   | 64.00     | (3)                                             | 11:18      | 8.32 | 13.73             | 0.852                   | 0.705     | 0.540          | 14.2                 | -36.8    |
| DEDICATED PUMP    | N         | (4)                                             | 11:24      | 8.32 | 13.70             | 0.849                   | 0.703     | 0.540          | 11.9                 | -4.8     |
| DTW (feet)        |           | <b>WEATHER CONDITIONS</b><br>clear, 76°, breezy |            |      |                   |                         |           |                |                      |          |
| Depth to Water    | 17.02     |                                                 |            |      |                   |                         |           |                |                      |          |
| DTB - DTW         | 46.98     |                                                 |            |      |                   |                         |           |                |                      |          |
| Capacity per foot | 0.16      |                                                 |            |      |                   |                         |           |                |                      |          |
| 1 Well Volume     | 7.500     |                                                 |            |      |                   |                         |           |                |                      |          |
| 3 Well Volumes    | 22.50     |                                                 |            |      |                   |                         |           |                |                      |          |
| PURGE DATE        | 6/13/2012 | <b>WATER APPEARANCE</b><br>clear                |            |      |                   |                         |           |                |                      |          |
| PURGE TIME        | 11:12     |                                                 |            |      |                   |                         |           |                |                      |          |
| SAMPLE DAY        | 6/13/2012 |                                                 |            |      |                   |                         |           |                |                      |          |
| SAMPLE TIME       | 11:30     |                                                 |            |      |                   |                         |           |                |                      |          |
| PUMP DEPTH        | NA        |                                                 |            |      |                   |                         |           |                |                      |          |
| DTW (feet)        |           |                                                 |            |      |                   |                         |           |                |                      |          |
| at end of Purging | NA        |                                                 |            |      |                   |                         |           |                |                      |          |

**SAMPLE LOG**

Portable pump set to 55', purged ~ 23 gallons, collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

| <b>OW-52</b>      |           | <b>TEST PARAMETERS</b>                          |            |      |                   |                         |           |                |                      |          |
|-------------------|-----------|-------------------------------------------------|------------|------|-------------------|-------------------------|-----------|----------------|----------------------|----------|
|                   |           |                                                 | Time (hrs) | pH   | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 6/13/2012 | (1)                                             | 10:32      | 8.55 | 17.8              | 1.463                   | 1.097     | 0.86           | 120.0                | 38       |
| GAUGE TIME        | 10:27     | (2)                                             | 10:37      | 8.44 | 13.7              | 0.806                   | 0.670     | 0.51           | 26.0                 | -41      |
| DTB (feet)        |           |                                                 |            |      |                   |                         |           |                |                      |          |
| Depth to Bottom   | 77.74     | (3)                                             | 10:41      | 8.38 | 13.4              | 0.781                   | 0.653     | 0.50           | 26.2                 | -100     |
| DEDICATED PUMP    | N         | (4)                                             | 10:44      | 8.40 | 13.5              | 0.786                   | 0.657     | 0.50           | 22.4                 | -110     |
| DTW (feet)        |           | <b>WEATHER CONDITIONS</b><br>clear, 76°, breezy |            |      |                   |                         |           |                |                      |          |
| Depth to Water    | 15.79     |                                                 |            |      |                   |                         |           |                |                      |          |
| DTB - DTW         | 61.95     |                                                 |            |      |                   |                         |           |                |                      |          |
| Capacity per foot | 0.16      |                                                 |            |      |                   |                         |           |                |                      |          |
| 1 Well Volume     | 9.910     |                                                 |            |      |                   |                         |           |                |                      |          |
| 3 Well Volumes    | 30.00     |                                                 |            |      |                   |                         |           |                |                      |          |
| PURGE DATE        | 6/13/2012 | <b>WATER APPEARANCE</b><br>clear                |            |      |                   |                         |           |                |                      |          |
| PURGE TIME        | 10:32     |                                                 |            |      |                   |                         |           |                |                      |          |
| SAMPLE DAY        | 6/13/2012 |                                                 |            |      |                   |                         |           |                |                      |          |
| SAMPLE TIME       | 10:50     |                                                 |            |      |                   |                         |           |                |                      |          |
| PUMP DEPTH        | NA        |                                                 |            |      |                   |                         |           |                |                      |          |
| DTW (feet)        |           |                                                 |            |      |                   |                         |           |                |                      |          |
| at end of Purging | NA        |                                                 |            |      |                   |                         |           |                |                      |          |

**SAMPLE LOG**

Portable pump set to 70', purged ~ 30 gallons, collected water samples, labeled and placed on ice in cooler. Purge water disposed of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| NAPIS-1           |           | TEST PARAMETERS                                                                                   |            |      |                   |                   |           |                |                      |          |
|-------------------|-----------|---------------------------------------------------------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |           |                                                                                                   | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 6/12/2012 | (1)                                                                                               | 11:37      | 7.74 | 20.87             | 1.690             | 1.187     | 0.930          | 56.7                 | 52.9     |
| GAUGE TIME        | 11:32     | (2)                                                                                               | 11:39      | 7.36 | 17.49             | 1.517             | 1.148     | 0.900          | 30                   | 62.6     |
| DTB (feet)        |           |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 13.53     | (3)                                                                                               | 11:40      | 7.34 | 17.50             | 1.555             | 1.186     | 0.940          | 40.1                 | 53.2     |
| DEDICATED PUMP    | N         | (4)                                                                                               | 11:42      | 7.26 | 16.16             | 1.577             | 1.233     | 0.970          | 28.1                 | 57.0     |
| DTW (feet)        |           | <b>WEATHER CONDITIONS</b><br>clear, warm, breezy<br>No surface water present in flush mount sump. |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 7.39      |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 6.14      |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.16      |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 0.980     |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 2.95      |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 6/12/2012 | <b>WATER APPEARANCE</b><br>clear<br>No surface water present in flush mount sump.                 |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 11:36     |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 6/12/2012 |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 11:45     |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NA        |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |           |                                                                                                   |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NA        |                                                                                                   |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Bailed approximately 3 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS.

| NAPIS-2           |           | TEST PARAMATERS                                                                      |               |      |                      |                      |              |                |                         |             |
|-------------------|-----------|--------------------------------------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                                                                                      | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 6/12/2012 | (1)                                                                                  | 9:44          | 7.10 | 25.2                 | 2.952                | 1.887        | 1.49           | 19.0                    | -177        |
| GAUGE TIME        | 9:40      | (2)                                                                                  | 9:45          | 7.02 | 24.2                 | 2.522                | 1.656        | 1.31           | 16.6                    | -147        |
| DTB (feet)        |           |                                                                                      |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom   | 13.61     | (3)                                                                                  | 9:47          | 7.00 | 24.1                 | 2.451                | 1.621        | 1.28           | 13.0                    | -130        |
| DEDICATED PUMP    | NA        | (4)                                                                                  | 9:49          | 7.02 | 24.0                 | 2.282                | 1.313        | 1.19           | 12.2                    | -127        |
| DTW (feet)        |           | WEATHER CONDITIONS<br>clear, warm                                                    |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 8.09      |                                                                                      |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 5.52      |                                                                                      |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 0.16      |                                                                                      |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume     | 0.16,0.88 | WATER APPEARANCE<br>No surface water present in flush mount sump.<br>slightly cloudy |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    | 2.70      |                                                                                      |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 6/12/2012 |                                                                                      |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 9:44      |                                                                                      |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 6/12/2012 |                                                                                      |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 9:52      |                                                                                      |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | NA        |                                                                                      |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |           |                                                                                      |               |      |                      |                      |              |                |                         |             |
| at end of Purging | NA        |                                                                                      |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Began with purge. Bailed approximately 3 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| <b>NAPIS-3</b>                  |           | <b>TEST PARAMETERS</b>                                                                          |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-------------------------------------------------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                                                                 | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 6/12/2012 | (1)                                                                                             | 10:57         | 8.25 | 25.37                | 4.585                | 2.961        | 2.430          | 83.5                    | 7.6         |
| GAUGE TIME                      | 10:36     | (2)                                                                                             | 11:04         | 7.91 | 21.04                | 4.217                | 2.968        | 2.440          | 58.6                    | 14.5        |
| DTB (feet)                      |           |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 30.42     | (3)                                                                                             | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DEDICATED PUMP                  | N         | (4)                                                                                             | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DTW (feet)                      |           | <b>WEATHER CONDITIONS</b><br>clear, warm, calm<br>No surface water present in flush mount sump. |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 7.70      |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 22.72     |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.16      |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 3.600     |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 10.90     |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 6/12/2012 | <b>WATER APPEARANCE</b><br>clear                                                                |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 10:57     |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 6/12/2012 |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 11:15     |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                                                                 |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                                                                 |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Bailed ~ 4 gallons, well not recharging, sampled well. Purge water disposed of at bundle pad upstream of the NAPIS.

| <b>KA-3</b>                     |           | <b>TEST PARAMETERS</b>                                                                      |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|---------------------------------------------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                                                             | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 6/12/2012 | (1)                                                                                         | 10:15         | 7.45 | 26.1                 | 2.442                | 1.557        | 1.23           | 48.2                    | 41          |
| GAUGE TIME                      | 10:13     | (2)                                                                                         | 10:21         | 7.42 | 24.4                 | 2.738                | 1.801        | 1.43           | 15.3                    | 5           |
| DTB (feet)                      |           |                                                                                             |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 23.20     | (3)                                                                                         | 10:29         | 7.51 | 23.3                 | 3.683                | 2.480        | 2.02           | 22.6                    | 10          |
| DEDICATED PUMP                  | N         | (4)                                                                                         | 10:37         | 7.60 | 22.7                 | 3.583                | 2.440        | 1.98           | 19.3                    | 1           |
| DTW (feet)                      |           | <b>WEATHER CONDITIONS</b><br>clear, warm                                                    |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 7.97      |                                                                                             |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 15.23     |                                                                                             |               |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.16      |                                                                                             |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 2.430     |                                                                                             |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 7.30      |                                                                                             |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 6/12/2012 | <b>WATER APPEARANCE</b><br>No surface water present in flush mount sump.<br>cloudy, no odor |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 10:15     |                                                                                             |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 6/12/2012 |                                                                                             |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 10:45     |                                                                                             |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                                                             |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                                                             |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Began with purge. Bailed approximately 7.5 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

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| GWM-1             |           | TEST PARAMATERS                          |               |      |                      |                      |              |                |                         |             |
|-------------------|-----------|------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                                          | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 6/12/2012 | (1)                                      | 14:03         | 7.04 | 15.8                 | 5.268                | 4.140        | 3.49           | 101.0                   | -116        |
| GAUGE TIME        | 13:55     | (2)                                      | 14:06         | 7.00 | 12.4                 | 4.702                | 4.013        | 3.38           | 37.6                    | -118        |
| DTB (feet)        |           |                                          |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom   | 26.20     | (3)                                      | 14:11         | 7.00 | 13.3                 | 4.806                | 4.027        | 3.39           | 36.2                    | -91         |
| DEDICATED PUMP    | N         | (4)                                      | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DTW (feet)        |           | WEATHER CONDITIONS<br>clear, 87°, breezy |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 15.56     |                                          |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 10.64     |                                          |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 0.16      |                                          |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume     | 1.700     |                                          |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    | 5.10      |                                          |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 6/12/2012 | WATER APPEARANCE<br>light brown/cloudy   |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 14:02     |                                          |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 6/12/2012 |                                          |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 14:20     |                                          |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | NA        |                                          |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |           |                                          |               |      |                      |                      |              |                |                         |             |
| at end of Purging | NA        |                                          |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged ~3.5 Gal, well not recharging. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Bailer

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

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| GWM-2             |           | TEST PARAMETERS |                                               |    |                   |                         |           |                |                      |
|-------------------|-----------|-----------------|-----------------------------------------------|----|-------------------|-------------------------|-----------|----------------|----------------------|
|                   |           |                 | Time (hrs)                                    | pH | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) |
| GAUGE DATE        | 6/12/2012 | (1)             | NA                                            |    |                   |                         |           |                |                      |
| GAUGE TIME        | 13:35     | (2)             |                                               |    |                   |                         |           |                |                      |
| DTB (feet)        |           | (3)             |                                               |    |                   |                         |           |                |                      |
| Depth to Bottom   | 18.81     | (4)             |                                               |    |                   |                         |           |                |                      |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br>clear, hot (86)°, windy |    |                   |                         |           |                |                      |
| DTW (feet)        |           |                 |                                               |    |                   |                         |           |                |                      |
| Depth to Water    | 14.96     |                 |                                               |    |                   |                         |           |                |                      |
| DTB - DTW         | 3.85      |                 |                                               |    |                   |                         |           |                |                      |
| Capacity per foot | 0.16      |                 |                                               |    |                   |                         |           |                |                      |
| 1 Well Volume     | 0.620     |                 |                                               |    |                   |                         |           |                |                      |
| 3 Well Volumes    | 1.80      |                 | WATER APPEARANCE<br>clear/partly cloudy       |    |                   |                         |           |                |                      |
| PURGE DATE        | 6/12/2012 |                 |                                               |    |                   |                         |           |                |                      |
| PURGE TIME        | 13:36     |                 |                                               |    |                   |                         |           |                |                      |
| SAMPLE DAY        | 6/12/2012 |                 |                                               |    |                   |                         |           |                |                      |
| SAMPLE TIME       | 13:45     |                 |                                               |    |                   |                         |           |                |                      |
| PUMP DEPTH        | NA        |                 |                                               |    |                   |                         |           |                |                      |
| DTW (feet)        |           |                 |                                               |    |                   |                         |           |                |                      |
| at end of Purging | NA        |                 |                                               |    |                   |                         |           |                |                      |

**SAMPLE LOG**

Bailed ~3/4 Gal, sampled well. 18.62 DTW after purge dry. Purge water disposed of at bundle pad upstream of the NAPIS.

| GWM-3             |           | TEST PARAMETERS |                                         |    |                   |                         |           |                |                      |          |
|-------------------|-----------|-----------------|-----------------------------------------|----|-------------------|-------------------------|-----------|----------------|----------------------|----------|
|                   |           |                 | Time (hrs)                              | pH | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 6/12/2012 | (1)             | NA                                      |    |                   |                         |           |                |                      |          |
| GAUGE TIME        | 14:31     | (2)             |                                         |    |                   |                         |           |                |                      |          |
| DTB (feet)        |           | (3)             |                                         |    |                   |                         |           |                |                      |          |
| Depth to Bottom   | 17.80     | (4)             |                                         |    |                   |                         |           |                |                      |          |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br>clear, 87°, windy |    |                   |                         |           |                |                      |          |
| DTW (feet)        |           |                 |                                         |    |                   |                         |           |                |                      |          |
| Depth to Water    | 14.70     |                 |                                         |    |                   |                         |           |                |                      |          |
| DTB - DTW         | 3.10      |                 |                                         |    |                   |                         |           |                |                      |          |
| Capacity per foot | 0.16      |                 |                                         |    |                   |                         |           |                |                      |          |
| 1 Well Volume     | 0.500     |                 |                                         |    |                   |                         |           |                |                      |          |
| 3 Well Volumes    | 1.50      |                 | WATER APPEARANCE<br>light brown         |    |                   |                         |           |                |                      |          |
| PURGE DATE        | 6/12/2012 |                 |                                         |    |                   |                         |           |                |                      |          |
| PURGE TIME        | 14:35     |                 |                                         |    |                   |                         |           |                |                      |          |
| SAMPLE DAY        | 6/12/2012 |                 |                                         |    |                   |                         |           |                |                      |          |
| SAMPLE TIME       | 14:45     |                 |                                         |    |                   |                         |           |                |                      |          |
| PUMP DEPTH        | NA        |                 |                                         |    |                   |                         |           |                |                      |          |
| DTW (feet)        |           |                 |                                         |    |                   |                         |           |                |                      |          |
| at end of Purging | NA        |                 |                                         |    |                   |                         |           |                |                      |          |

**SAMPLE LOG**

Bailed ~1/2 gal, well low, sampled well. 17.30 DTW after well was bailed dry. Purge water disposed of at bundle pad upstream of the NAPIS.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| Oil Sump LDU                    |           | TEST PARAMETERS                                   |               |    |                      |                            |              |                |                         |
|---------------------------------|-----------|---------------------------------------------------|---------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                                 |           |                                                   | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | 6/12/2012 | (1)                                               | NA            |    |                      |                            |              |                |                         |
| GAUGE TIME                      | NA        | (2)                                               |               |    |                      |                            |              |                |                         |
| DTB (feet)                      |           |                                                   |               |    |                      |                            |              |                |                         |
| Depth to Bottom                 | NA        | (3)                                               |               |    |                      |                            |              |                |                         |
| DEDICATED PUMP                  | N         | (4)                                               |               |    |                      |                            |              |                |                         |
| DTW (feet)<br>Depth to Water    | 2.85      | WEATHER CONDITIONS<br>clear, hot, breezy          |               |    |                      |                            |              |                |                         |
| DTB - DTW                       | NA        |                                                   |               |    |                      |                            |              |                |                         |
| Capacity per foot               | NA        |                                                   |               |    |                      |                            |              |                |                         |
| 1 Well Volume                   | NA        |                                                   |               |    |                      |                            |              |                |                         |
| 3 Well Volumes                  | NA        |                                                   |               |    |                      |                            |              |                |                         |
| PURGE DATE                      | NA        | WATER APPEARANCE<br>yellow, black floating solids |               |    |                      |                            |              |                |                         |
| PURGE TIME                      | NA        |                                                   |               |    |                      |                            |              |                |                         |
| SAMPLE DAY                      | 6/12/2012 |                                                   |               |    |                      |                            |              |                |                         |
| SAMPLE TIME                     | 12:10     |                                                   |               |    |                      |                            |              |                |                         |
| PUMP DEPTH                      | NA        |                                                   |               |    |                      |                            |              |                |                         |
| DTW (feet)<br>at end of Purging | NA        |                                                   |               |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Grab sample collected with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Bailer

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

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| East LDU          |           | TEST PARAMETERS |                                          |    |                   |                         |           |                |                      |          |
|-------------------|-----------|-----------------|------------------------------------------|----|-------------------|-------------------------|-----------|----------------|----------------------|----------|
|                   |           |                 | Time (hrs)                               | pH | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 6/12/2012 | (1)             | NA                                       |    |                   |                         |           |                |                      |          |
| GAUGE TIME        | NA        | (2)             |                                          |    |                   |                         |           |                |                      |          |
| DTB (feet)        |           | (3)             |                                          |    |                   |                         |           |                |                      |          |
| Depth to Bottom   | NA        | (4)             |                                          |    |                   |                         |           |                |                      |          |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br>clear, hot, breezy |    |                   |                         |           |                |                      |          |
| DTW (feet)        |           |                 |                                          |    |                   |                         |           |                |                      |          |
| Depth to Water    | 1.23      |                 |                                          |    |                   |                         |           |                |                      |          |
| DTB - DTW         | NA        |                 |                                          |    |                   |                         |           |                |                      |          |
| Capacity per foot | NA        |                 |                                          |    |                   |                         |           |                |                      |          |
| 1 Well Volume     | NA        |                 |                                          |    |                   |                         |           |                |                      |          |
| 3 Well Volumes    | NA        |                 | WATER APPEARANCE<br>yellow               |    |                   |                         |           |                |                      |          |
| PURGE DATE        | NA        |                 |                                          |    |                   |                         |           |                |                      |          |
| PURGE TIME        | NA        |                 |                                          |    |                   |                         |           |                |                      |          |
| SAMPLE DAY        | 6/12/2012 |                 |                                          |    |                   |                         |           |                |                      |          |
| SAMPLE TIME       | 12:35     |                 |                                          |    |                   |                         |           |                |                      |          |
| PUMP DEPTH        | NA        |                 |                                          |    |                   |                         |           |                |                      |          |
| DTW (feet)        |           |                 |                                          |    |                   |                         |           |                |                      |          |
| at end of Purging | NA        |                 |                                          |    |                   |                         |           |                |                      |          |

**SAMPLE LOG**

Collected grab samples with bailer, labeled and placed on ice in cooler.

| West LDU          |           | TEST PARAMATERS |                                         |    |                      |                            |              |                |                         |             |
|-------------------|-----------|-----------------|-----------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                 | Time<br>(hrs)                           | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 6/12/2012 | (1)             | NA                                      |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)             |                                         |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)             |                                         |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)             |                                         |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br>clear, hot, windy |    |                      |                            |              |                |                         |             |
| DTW (feet)        | 0.40      |                 |                                         |    |                      |                            |              |                |                         |             |
| Depth to Water    |           |                 |                                         |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                 | WATER APPEARANCE<br>clear               |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 6/12/2012 |                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 12:35     |                 |                                         |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                 |                                         |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Bailer

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

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| Infl to AL-2      |           | TEST PARAMETERS                 |                                         |    |                      |                            |              |                |                         |             |
|-------------------|-----------|---------------------------------|-----------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                                 | Time<br>(hrs)                           | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)                             | NA                                      |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)                             |                                         |    |                      |                            |              |                |                         |             |
| DTB (feet)        |           |                                 |                                         |    |                      |                            |              |                |                         |             |
| Depth to Bottom   | NA        | (3)                             |                                         |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         | (4)                             | WEATHER CONDITIONS<br>clear, 86°, windy |    |                      |                            |              |                |                         |             |
| DTW (feet)        |           |                                 |                                         |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        | WATER APPEARANCE<br>light brown |                                         |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 6/12/2012 |                                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 15:45     |                                 |                                         |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| DTW (feet)        |           |                                 |                                         |    |                      |                            |              |                |                         |             |
| at end of Purging | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples from north discharge pipe using plastic dipper, labeled and placed on ice in cooler.

| Infl to EP-1      |           | TEST PARAMATERS                 |                                         |    |                      |                            |              |                |                         |             |
|-------------------|-----------|---------------------------------|-----------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                                 | Time<br>(hrs)                           | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)                             | NA                                      |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)                             |                                         |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NA        | (3)                             |                                         |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |           | (4)                             |                                         |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                                 | WEATHER CONDITIONS<br>clear, 86°, windy |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        | WATER APPEARANCE<br>light brown |                                         |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 6/12/2012 |                                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 16:00     |                                 |                                         |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NA        |                                 |                                         |    |                      |                            |              |                |                         |             |
| at end of Purging |           |                                 |                                         |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Discharge into EP-1 was under water. Grab sample collected from sluiceway between AL-2 and EP-1 using plastic dipper, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Plastic dipper

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.



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| AL-2 to EP-1      |           | TEST PARAMETERS |                                         |    |                      |                            |              |                |                         |             |
|-------------------|-----------|-----------------|-----------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                 | Time<br>(hrs)                           | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | NA        | (1)             | NA                                      |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA        | (2)             |                                         |    |                      |                            |              |                |                         |             |
| DTB (feet)        |           | (3)             |                                         |    |                      |                            |              |                |                         |             |
| Depth to Bottom   | NA        | (4)             |                                         |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | N         |                 | WEATHER CONDITIONS<br>clear, 85°, windy |    |                      |                            |              |                |                         |             |
| DTW (feet)        |           |                 |                                         |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA        |                 | WATER APPEARANCE<br>light brown         |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 6/12/2012 |                 |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 16:40     |                 |                                         |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA        |                 |                                         |    |                      |                            |              |                |                         |             |
| DTW (feet)        |           |                 |                                         |    |                      |                            |              |                |                         |             |
| at end of Purging | NA        |                 |                                         |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

| Infl to AL-1                    |           | TEST PARAMATERS                 |                                           |    |                      |                            |              |                |                         |             |
|---------------------------------|-----------|---------------------------------|-------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                 | Time<br>(hrs)                             | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      |           | (1)                             | NA                                        |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      |           | (2)                             |                                           |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |           | (3)                             |                                           |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | NA        | (4)                             |                                           |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | N         |                                 | WEATHER CONDITIONS<br>clear, warm, breezy |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>Depth to Water    | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |
| Capacity per foot               | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |
| 1 Well Volume                   | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |
| 3 Well Volumes                  | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | NA        | WATER APPEARANCE<br>light green |                                           |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | 6/14/2012 |                                 |                                           |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | 10:50     |                                 |                                           |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                 |                                           |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Plastic dipper.

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| Pilot Eff.                      |           | TEST PARAMETERS            |                                         |    |                      |                            |              |                |                         |             |
|---------------------------------|-----------|----------------------------|-----------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                            | Time<br>(hrs)                           | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | NA        | (1)                        | NA                                      |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      | NA        | (2)                        |                                         |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |           | (3)                        |                                         |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | NA        | (4)                        |                                         |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | N         | (4)                        | WEATHER CONDITIONS<br>clear, 86°, windy |    |                      |                            |              |                |                         |             |
| DTW (feet)                      |           |                            |                                         |    |                      |                            |              |                |                         |             |
| Depth to Water                  | NA        |                            |                                         |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | NA        |                            |                                         |    |                      |                            |              |                |                         |             |
| Capacity per foot               | NA        |                            |                                         |    |                      |                            |              |                |                         |             |
| 1 Well Volume                   | NA        |                            |                                         |    |                      |                            |              |                |                         |             |
| 3 Well Volumes                  | NA        |                            |                                         |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | NA        | WATER APPEARANCE<br>yellow |                                         |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | NA        |                            |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | 6/12/2012 |                            |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | 16:50     |                            |                                         |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA        |                            |                                         |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                            |                                         |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab sample with plastic dipper as effluent was flowing, labeled and placed samples on ice in cooler.

| NAPIS Eff.                      |           | TEST PARAMATERS                         |                                         |    |                      |                            |              |                |                         |             |
|---------------------------------|-----------|-----------------------------------------|-----------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                         | Time<br>(hrs)                           | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | NA        | (1)                                     | NA                                      |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      | NA        | (2)                                     |                                         |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |           | (3)                                     |                                         |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | NA        | (4)                                     |                                         |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | N         |                                         | WEATHER CONDITIONS<br>clear, 86°, windy |    |                      |                            |              |                |                         |             |
| DTW (feet)                      |           |                                         |                                         |    |                      |                            |              |                |                         |             |
| Depth to Water                  | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |
| Capacity per foot               | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |
| 1 Well Volume                   | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |
| 3 Well Volumes                  | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | NA        | WATER APPEARANCE<br>light to dark brown |                                         |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | 6/12/2012 |                                         |                                         |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | 15:20     |                                         |                                         |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                         |                                         |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Plastic dipper.

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY  
2012 QUARTERLY INSPECTION**

| <b>RW-1 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 6/4/2012   | Product Thickness (ft)             | 0.020    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) | 0.050    |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 9:00       |                                    |          | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | 40       |                                                                                                                                                                                                                                                                   |
| Depth to Bottom             | 43.04      |                                    |          | N/A                                                                                                                                                                                                                                                               |
| DEDICATED PUMP              | N          | PURGE DATE                         |          |                                                                                                                                                                                                                                                                   |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 29.39      |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 29.41      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 13.63      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 6/4/2012                    | 9:00       | 6/4/2012                           | 9:15     |                                                                                                                                                                                                                                                                   |
| 6/4/2012                    | 10:00      | 6/4/2012                           | 10:35    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

| <b>RW-2 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 6/4/2012   | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) |          |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 9:50       |                                    |          | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | N/A      |                                                                                                                                                                                                                                                                   |
| Depth to Bottom             | 39.80      |                                    |          | N/A                                                                                                                                                                                                                                                               |
| DEDICATED PUMP              | N          | PURGE DATE                         |          |                                                                                                                                                                                                                                                                   |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 0.00       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 24.66      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 15.14      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| N/A                         |            |                                    |          |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

5 gallon buckets to catch purge water.

Dedicated portable pump used for RW-1.

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY**  
**2012 QUARTERLY INSPECTION**

| <b>RW-5 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 6/4/2012   | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                  | 9:20       | Volume of Product Purged (Gallons) |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | 10       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| Depth to Bottom             | 39.59      |                                    |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DEDICATED PUMP              | N          | PURGE DATE                         |          |                                                                                                                                                                                                                                                                   |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 0.00       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 29.37      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 10.22      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 6/4/2012                    | 9:38       | 6/4/2012                           | 9:44     |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 10 gallons was bailed from this well.

| <b>RW-6 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 6/4/2012   | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                  | 9:25       | Volume of Product Purged (Gallons) |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | 20       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| Depth to Bottom             | 40.90      |                                    |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DEDICATED PUMP              | N          | PURGE DATE                         |          |                                                                                                                                                                                                                                                                   |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 0.00       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 29.54      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 11.36      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 6/4/2012                    | 9:26       | 6/4/2012                           | 9:35     |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 20 gallons was bailed from this well.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 5 gallon buckets to catch purge water.  
 3 foot disposable bailer.

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY**  
**3rd QTR 2012**

| OW-10                    |           | TEST PARAMATERS                                     |            |      |                   |                   |           |                |                      |          |
|--------------------------|-----------|-----------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                          |           |                                                     | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE               | 8/21/2012 | (1)                                                 | 9:00       | 7.47 | 13.76             | 6.345             | 5.251     | 4.51           | 34                   | 27.2     |
| GAUGE TIME               | 8:50      | (2)                                                 | 9:25       | 7.61 | 13.54             | 4.379             | 3.641     | 3.04           | 43                   | 25.2     |
| DTB (feet)               | 60.33     | (3)                                                 | 9:40       | 7.65 | 13.45             | 4.273             | 3.562     | 2.98           | 33.5                 | 36.3     |
| Depth to Bottom          |           | (4)                                                 | 9:55       | 7.62 | 13.61             | 4.261             | 3.536     | 2.95           | 22.9                 | 24.5     |
| DEDICATED PUMP           | N         | <b>WEATHER CONDITIONS</b><br>Sunny, calm, 70°s      |            |      |                   |                   |           |                |                      |          |
| DTW (feet)               | 2.45      |                                                     |            |      |                   |                   |           |                |                      |          |
| Depth to Water           | 57.88     |                                                     |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                | 0.74      |                                                     |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.) | 42.830    |                                                     |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)     | 128.49    | <b>WATER APPEARANCE</b><br>clear, no odor, no sheen |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)    | 8/21/2012 |                                                     |            |      |                   |                   |           |                |                      |          |
| PURGE DATE               | 9:00      |                                                     |            |      |                   |                   |           |                |                      |          |
| PURGE TIME               | 8/22/2012 |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY               | 13:35     |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME              | 55        |                                                     |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH (feet)        | NA        |                                                     |            |      |                   |                   |           |                |                      |          |
| DTW (feet)               |           |                                                     |            |      |                   |                   |           |                |                      |          |
| at end of Purging        |           |                                                     |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Purged about three well volumes with portable pump, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples with bailer, labeled and placed on ice in cooler.

| OW-1                     |           | TEST PARAMATERS                              |            |      |                   |                   |           |                |                      |          |
|--------------------------|-----------|----------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                          |           |                                              | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE               | 8/21/2012 | (1)                                          | 10:35      | 9.08 | 13.33             | 1.044             | 0.874     | 0.68           | 41.8                 | -21.8    |
| GAUGE TIME               | 10:25     | (2)                                          | 11:00      | 9.07 | 13.94             | 1.06              | 0.869     | 0.67           | 17.7                 | -34.2    |
| DTB (feet)               | 94.55     | (3)                                          | NA         | NA   | NA                | NA                | NA        | NA             | NA                   | NA       |
| Depth to Bottom          |           | (4)                                          | NA         | NA   | NA                | NA                | NA        | NA             | NA                   | NA       |
| DEDICATED PUMP           | Y         | WEATHER CONDITIONS<br>Sunny, calm, 80°s      |            |      |                   |                   |           |                |                      |          |
| DTW (feet)               |           |                                              |            |      |                   |                   |           |                |                      |          |
| Depth to Water           | 0.00      |                                              |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                | 94.55     |                                              |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.) | 0.74      |                                              |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)     | 69.97     |                                              |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)    | 209.90    | WATER APPEARANCE<br>clear, no odor, no sheen |            |      |                   |                   |           |                |                      |          |
| PURGE DATE               | 8/21.12   |                                              |            |      |                   |                   |           |                |                      |          |
| PURGE TIME               | 13:35     |                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY               | 8/22/2012 |                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME              | 10:10     |                                              |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH               | NA        |                                              |            |      |                   |                   |           |                |                      |          |
| DTW (feet)               | NA        |                                              |            |      |                   |                   |           |                |                      |          |
| at end of Purging        |           |                                              |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Well went dry after purging about 70 gallons, stopped purge. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
 Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
 55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**3rd QTR 2012**

| OW-11                           |           | TEST PARAMATERS                                   |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|---------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                   | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/21/2012 | (1)                                               | 13:30         | 8.65 | 15.23                | 2.387                | 1.907        | 1.54           | 35                      | -19.9       |
| GAUGE TIME                      | 13:15     | (2)                                               | 13:40         | 8.61 | 14.37                | 2.317                | 1.891        | 1.52           | 33.9                    | -16.9       |
| DTB (feet)<br>to Bottom         | 65.79     | (3)                                               | 13:55         | 8.61 | 15.53                | 2.373                | 1.881        | 1.51           | 32.6                    | -14.3       |
| DEDICATED PUMP                  | N         | (4)                                               | 14:00         | 8.62 | 15.43                | 2.257                | 1.836        | 1.48           | 27.8                    | -11.2       |
| DTW (feet)<br>Depth to Water    | 21.05     | WEATHER CONDITIONS<br>Partly cloudy, breezy, 80°s |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 44.74     |                                                   |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.74      |                                                   |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 33.11     |                                                   |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 99.32     |                                                   |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/21/2012 | WATER APPEARANCE<br>clear, no odor, no sheen      |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 13:30     |                                                   |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/22/2012 |                                                   |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 9:25      |                                                   |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH (feet)               | 61        |                                                   |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                   |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes with portable pump, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples with bailer, labeled and placed on ice in cooler.

| OW-12                        |           | TEST PARAMETERS                              |            |       |                   |                   |           |                |                      |          |
|------------------------------|-----------|----------------------------------------------|------------|-------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                              | Time (hrs) | pH    | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/20/2012 | (1)                                          | 7:20       | 10.48 | 13.63             | 0.984             | 0.817     | 0.63           | 50.3                 | -143.3   |
| GAUGE TIME                   | 13:00     | (2)                                          | 8:25       | 9.78  | 15.66             | 0.9               | 0.712     | 0.55           | 50.7                 | -111.3   |
| DTB (feet) Depth to Bottom   | 128.85    | (3)                                          | NA         | NA    | NA                | NA                | NA        | NA             | NA                   | NA       |
| DEDICATED PUMP               | N         | (4)                                          | NA         | NA    | NA                | NA                | NA        | NA             | NA                   | NA       |
| DTW (feet) Depth to Water    | 48.13     | WEATHER CONDITIONS<br>Sunny, calm, 60°s      |            |       |                   |                   |           |                |                      |          |
| DTB - DTW                    | 80.72     |                                              |            |       |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     | 0.74      |                                              |            |       |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         | 59.733    |                                              |            |       |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | 179.20    |                                              |            |       |                   |                   |           |                |                      |          |
| PURGE DATE                   | 8/21/2012 | WATER APPEARANCE<br>clear, no odor, no sheen |            |       |                   |                   |           |                |                      |          |
| PURGE TIME                   | 7:20      |                                              |            |       |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/22/2012 |                                              |            |       |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 6:45      |                                              |            |       |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                              |            |       |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                              |            |       |                   |                   |           |                |                      |          |

**SAMPLE LOG**

One casing volume was purged, via portable pump, before well went dry, water disposed of at the bundle pad upstream of the

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.

55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:**

Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**3rd QTR 2012**

| <b>OW-13</b>                 |           | <b>TEST PARAMETERS</b>                                |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|-------------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                       | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/22/2012 | (1)                                                   | 13:40      | 8.30 | 13.43             | 0.967             | 0.806     | 0.620          | 17.7                 | -82.4    |
| GAUGE TIME                   | 13:35     | (2)                                                   | 13:52      | 8.35 | 13.09             | 0.960             | 0.807     | 0.620          | 17.9                 | -75.0    |
| DTB (feet)                   |           |                                                       |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom              | 99.15     | (3)                                                   | 14:10      | 8.33 | 13.11             | 0.959             | 0.806     | 0.620          | 18.2                 | -71.4    |
| DEDICATED PUMP               | Y         | (4)                                                   | 14:30      | 8.35 | 13.39             | 0.964             | 0.804     | 0.620          | 14.6                 | -71.2    |
| DTW (feet)                   |           | <b>WEATHER CONDITIONS</b><br>Partly Sunny, 80°F, Calm |            |      |                   |                   |           |                |                      |          |
| Depth to Water               | 23.10     |                                                       |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 76.05     |                                                       |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     | 0.74      |                                                       |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         | 56.277    |                                                       |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | 168.83    |                                                       |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 8/22/2012 | <b>WATER APPEARANCE</b><br>clear                      |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 13:35     |                                                       |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/23/2012 |                                                       |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 12:00     |                                                       |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                                       |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                                       |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler. Three (3) full drums at well.

| <b>OW-14</b>                 |           | <b>TEST PARAMETERS</b>                              |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|-----------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                     | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/22/2012 | (1)                                                 | 13:10      | 7.40 | 13.89             | 1.918             | 1.582     | 1.26           | 21.7                 | -133.7   |
| GAUGE TIME                   | 13:05     | (2)                                                 | 13:15      | 7.40 | 13.72             | 1.924             | 1.593     | 1.27           | 15.7                 | -134.1   |
| DTB (feet)                   |           |                                                     |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom              | 46.52     | (3)                                                 | 13:30      | 7.34 | 13.74             | 19.45             | 1.610     | 1.28           | 15.0                 | -130.6   |
| DEDICATED PUMP               | N         | (4)                                                 | 13:25      | 7.31 | 13.84             | 1.946             | 1.606     | 1.28           | 14.0                 | -127.0   |
| DTW (feet)                   |           | <b>WEATHER CONDITIONS</b><br>Cloudy, breezy, 70°s   |            |      |                   |                   |           |                |                      |          |
| Depth to Water               | 25.11     |                                                     |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 21.41     |                                                     |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     | 0.74      |                                                     |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         | 15.843    |                                                     |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | 47.53     |                                                     |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 8/22/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 13:10     |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/23/2012 |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 12:15     |                                                     |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                                     |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                                     |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Purged about three well volumes with portable pump, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples with bailer, labeled and placed on ice in cooler. One (1) drum half full.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
 Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
 55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| <b>OW-29</b>                    |           | <b>TEST PARAMETERS</b>                                   |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|----------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                          | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/22/2012 | (1)                                                      | 15:00         | 7.68 | 12.93                | 1.346                | 1.137        | 0.890          | 17.8                    | 14.1        |
| GAUGE TIME                      | 14:55     | (2)                                                      | 15:07         | 7.66 | 13.55                | 1.355                | 1.127        | 0.880          | 21.7                    | -47.9       |
| DTB (feet)                      |           |                                                          |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 51.08     | (3)                                                      | 15:20         | 7.57 | 13.42                | 1.361                | 1.134        | 0.890          | 9.6                     | -76.1       |
| DEDICATED PUMP                  | Y         | (4)                                                      | 15:38         | 7.62 | 13.50                | 1.359                | 1.132        | 0.890          | 11.12                   | -75.0       |
| DTW (feet)                      |           | <b>WEATHER CONDITIONS</b><br>Mostly cloudy, 80°s, breezy |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 20.04     |                                                          |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 31.04     |                                                          |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.74      |                                                          |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 22.970    |                                                          |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 68.91     |                                                          |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/22/2012 | <b>WATER APPEARANCE</b><br>Clear, No odor, No sheen      |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 15:00     |                                                          |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                                                          |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 12:30     |                                                          |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                          |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                          |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. After first casing decreased flow rate as water level was dropping. Collected water samples, labeled and placed on ice in cooler. One (1) half-full drum.

| <b>OW-30</b>                    |           | <b>TEST PARAMETERS</b>                                |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                       | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/22/2012 | (1)                                                   | 11:30         | 7.88 | 12.84                | 1.373                | 1.163        | 0.91           | 30.6                    | 44.9        |
| GAUGE TIME                      | 11:25     | (2)                                                   | 11:40         | 7.49 | 12.59                | 1.370                | 1.167        | 0.92           | 18.7                    | 3.6         |
| DTB (feet)                      |           |                                                       |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 49.90     | (3)                                                   | 11:50         | 7.44 | 12.64                | 1.371                | 1.167        | 0.92           | 20.3                    | -11.5       |
| DEDICATED PUMP                  | Y         | (4)                                                   | 12:00         | 7.42 | 12.63                | 1.371                | 1.166        | 0.92           | 20.6                    | -10.2       |
| DTW (feet)                      |           | <b>WEATHER CONDITIONS</b><br>Cloudy, sprinkles (rain) |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 24.48     |                                                       |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 25.42     |                                                       |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.74      |                                                       |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 18.810    |                                                       |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 56.43     |                                                       |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/22/2012 | <b>WATER APPEARANCE</b><br>Clear, no sheen, no odor   |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 11:30     |                                                       |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                                                       |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 11:20     |                                                       |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                       |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                       |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler. Two (2) full drums at well.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
55 gallon drum or 5-gallon bucket to catch purge water.

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| <b>OW-50</b>                    |           | <b>TEST PARAMETERS</b>                                            |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-------------------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                                   | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/22/2012 | (1)                                                               | 16:35         | 8.48 | 15.19                | 0.877                | 0.701        | 0.540          | 29.9                    | -32.8       |
| GAUGE TIME                      | 16:30     | (2)                                                               | 16:40         | 8.53 | 13.84                | 0.850                | 0.702        | 0.540          | 22.5                    | -52.9       |
| DTB (feet)                      |           |                                                                   |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 64.00     | (3)                                                               | 16:45         | 8.49 | 13.72                | 0.847                | 0.702        | 0.540          | 25.6                    | -63.5       |
| DEDICATED PUMP                  | N         | (4)                                                               | 16:50         | 8.49 | 13.73                | 0.848                | 0.702        | 0.540          | 19.1                    | -82.5       |
| DTW (feet)                      |           | <b>WEATHER CONDITIONS</b><br>Sunny, breezy, 70's                  |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 17.44     |                                                                   |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 46.56     |                                                                   |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.163     |                                                                   |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 7.589     |                                                                   |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 22.77     |                                                                   |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/22/2012 | <b>WATER APPEARANCE</b><br>Silty, cloudy brown, no odor, no sheen |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 16:35     |                                                                   |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                                                                   |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 13:10     |                                                                   |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH (ft)                 | 54.0      |                                                                   |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                                   |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes with portable pump, water disposed of at the bundle pad upstream of the NAPIS. Water clear by third casing volume. Collected water samples with bailer, labeled and placed on ice in cooler.

| <b>OW-52</b>                    |           | <b>TEST PARAMETERS</b>                              |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-----------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                     | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/22/2012 | (1)                                                 | 16:00         | 8.69 | 17.05                | 0.932                | 1.615        | 0.55           | 41.2                    | -79.7       |
| GAUGE TIME                      | 15:50     | (2)                                                 | 16:08         | 8.49 | 13.84                | 0.794                | 1.606        | 0.50           | 19.3                    | -127.0      |
| DTB (feet)                      |           |                                                     |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 77.74     | (3)                                                 | 16:15         | 8.41 | 13.76                | 0.791                | 1.617        | 0.50           | 15.3                    | -134.2      |
| DEDICATED PUMP                  | N         | (4)                                                 | 16:22         | 8.42 | 13.81                | 0.794                | 1.618        | 0.50           | 18.4                    | -140.6      |
| DTW (feet)                      |           | <b>WEATHER CONDITIONS</b><br>Cloudy, breezy, 70's   |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 16.16     |                                                     |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 61.58     |                                                     |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.163     |                                                     |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 10.038    |                                                     |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 30.11     |                                                     |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/22/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 16:00     |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 12:50     |                                                     |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | 70.0      |                                                     |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                     |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes with portable pump, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples with bailer, labeled and placed on ice in cooler. One (1) full drum at well.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
 Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
 55 gallon drum or 5-gallon bucket to catch purge water.

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| GWM-1                                              |           | TEST PARAMATERS                         |               |      |                      |                      |              |                |                         |             |
|----------------------------------------------------|-----------|-----------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                                    |           |                                         | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                                         | 8/21/2012 | (1)                                     | 18:40         | 7.13 | 14.00                | 4.655                | 3.835        | 3.22           | 34.1                    | -112.8      |
| GAUGE TIME                                         | --        | (2)                                     | 18:45         | 6.91 | 13.47                | 4.655                | 3.880        | 3.26           | 18.3                    | -90.6       |
| DTB (feet)            Depth<br>to Bottom           | 26.2      | (3)                                     | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DEDICATED PUMP                                     | N         | (4)                                     | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DTW (feet)<br>Depth to Water                       | 16.29     | WEATHER CONDITIONS<br>Sunny, 80°s       |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                                          | 9.91      |                                         |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)                           | 0.163     |                                         |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)                               | 1.62      |                                         |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)                              | 4.85      |                                         |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                                         | 8/21/2012 | WATER APPEARANCE<br>Light brown, cloudy |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                                         | --        |                                         |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                                         | 8/21/2012 |                                         |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                                        | 18:45     |                                         |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                                         | NA        |                                         |               |      |                      |                      |              |                |                         |             |
| DTW (feet)                    at<br>end of Purging | NA        |                                         |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Well started going dry after bailing about 3.0 gallons. Collected samples with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.  
Plastic dipper

**Signature:**                      Jacob Berreth - Trihydro Corp.

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| GWM-2                    |           | TEST PARAMETERS |                                              |    |                      |                      |              |                |                         |             |
|--------------------------|-----------|-----------------|----------------------------------------------|----|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                          |           |                 | Time<br>(hrs)                                | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE               | 8/21/2012 | (1)             | NA                                           |    |                      |                      |              |                |                         |             |
| GAUGE TIME               | --        | (2)             |                                              |    |                      |                      |              |                |                         |             |
| DTB (feet)               |           | (3)             |                                              |    |                      |                      |              |                |                         |             |
| Depth to Bottom          | 18.81     | (4)             |                                              |    |                      |                      |              |                |                         |             |
| DEDICATED PUMP           | N         | (4)             | WEATHER CONDITIONS<br>Sunny, 80's            |    |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                 |                                              |    |                      |                      |              |                |                         |             |
| Depth to Water           | 15.79     |                 |                                              |    |                      |                      |              |                |                         |             |
| DTB - DTW                | 3.02      |                 |                                              |    |                      |                      |              |                |                         |             |
| Capacity per foot (gal.) | 0.163     |                 |                                              |    |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)     | 0.49      |                 |                                              |    |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)    | 1.48      |                 |                                              |    |                      |                      |              |                |                         |             |
| PURGE DATE               | 8/21/2012 |                 | WATER APPEARANCE<br>Clear, no odor, no sheen |    |                      |                      |              |                |                         |             |
| PURGE TIME               | 18:20     |                 |                                              |    |                      |                      |              |                |                         |             |
| SAMPLE DAY               | 8/21/2012 |                 |                                              |    |                      |                      |              |                |                         |             |
| SAMPLE TIME              | 18:35     |                 |                                              |    |                      |                      |              |                |                         |             |
| PUMP DEPTH               | NA        |                 |                                              |    |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                 |                                              |    |                      |                      |              |                |                         |             |
| at end of Purging        | NA        |                 |                                              |    |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Bailed approximately 0.75 gallons. Purge water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

| GWM-3                           |           | TEST PARAMATERS |                                                      |    |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-----------------|------------------------------------------------------|----|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                 | Time<br>(hrs)                                        | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/21/2012 | (1)             | NA                                                   |    |                      |                      |              |                |                         |             |
| GAUGE TIME                      | --        | (2)             |                                                      |    |                      |                      |              |                |                         |             |
| DTB (feet)                      |           | (3)             |                                                      |    |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 17.80     | (4)             |                                                      |    |                      |                      |              |                |                         |             |
| DEDICATED PUMP                  | N         |                 | WEATHER CONDITIONS<br>Sunny, 80°s                    |    |                      |                      |              |                |                         |             |
| DTW (feet)                      |           |                 |                                                      |    |                      |                      |              |                |                         |             |
| Depth to Water                  | 15.45     |                 |                                                      |    |                      |                      |              |                |                         |             |
| DTB - DTW                       | 2.35      |                 |                                                      |    |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.163     |                 |                                                      |    |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 0.38      |                 |                                                      |    |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 1.15      |                 |                                                      |    |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/21/2012 |                 | WATER APPEARANCE<br>Cloudy, brown, no odor, no sheen |    |                      |                      |              |                |                         |             |
| PURGE TIME                      | 18:00     |                 |                                                      |    |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/21/2012 |                 |                                                      |    |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 18:15     |                 |                                                      |    |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                 |                                                      |    |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                 |                                                      |    |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Bailed approximately 0.50 gallons. Purge water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.

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| NAPIS-1                         |           | TEST PARAMATERS                              |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|----------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                              | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/20/2012 | (1)                                          | 19:30         | 7.79 | 20.8                 | 1.63                 | 1.152        | 0.9            | 23.6                    | -66         |
| GAUGE TIME                      | 19:30     | (2)                                          | 19:32         | 7.54 | 20.45                | 1.691                | 1.21         | 0.95           | 29.2                    | -47.1       |
| DTB (feet)                      |           | (3)                                          | 19:34         | 7.42 | 20.64                | 1.63                 | 1.157        | 0.9            | 29.5                    | -40.6       |
| Depth to Bottom                 | 13.53     |                                              |               |      |                      |                      |              |                |                         |             |
| DEDICATED PUMP                  | N         | (4)                                          | 19:36         | 7.43 | 20.18                | 1.646                | 1.178        | 0.92           | 29.2                    | -32         |
| DTW (feet)                      |           | WEATHER CONDITIONS<br>Cloudy, 70°s           |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 7.07      |                                              |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 6.46      |                                              |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.16      |                                              |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 1.05      |                                              |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 3.16      |                                              |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/20/2012 | WATER APPEARANCE<br>clear, no odor, no sheen |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 19:30     |                                              |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/21/2012 |                                              |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 14:55     |                                              |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                              |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                              |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Bailed about three well volumes. Purge water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.

55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

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| NAPIS-2                  |           | TEST PARAMETERS                              |            |      |                   |                   |           |                |                      |          |
|--------------------------|-----------|----------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                          |           |                                              | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE               | 8/20/2012 | (1)                                          | 19:10      | 7.42 | 26.23             | 2.357             | 1.497     | 1.18           | 22.5                 | -162.6   |
| GAUGE TIME               | 19:10     | (2)                                          | 19:12      | 7.16 | 25.99             | 2.386             | 1.523     | 1.2            | 20.2                 | -171.9   |
| DTB (feet)               |           |                                              |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom          | 13.61     | (3)                                          | 19:14      | 7.16 | 25.98             | 2.39              | 1.525     | 1.2            | 20.6                 | -189     |
| DEDICATED PUMP           | N         | (4)                                          | 19:16      | 7.17 | 25.96             | 2.395             | 1.529     | 1.18           | 20.3                 | -186.9   |
| DTW (feet)               |           | WEATHER CONDITIONS<br>Cloudy, 70°s           |            |      |                   |                   |           |                |                      |          |
| Depth to Water           | 7.95      |                                              |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                | 5.66      |                                              |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.) | 0.16      |                                              |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)     | 0.923     | WATER APPEARANCE<br>clear, no odor, no sheen |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)    | 2.77      |                                              |            |      |                   |                   |           |                |                      |          |
| PURGE DATE               | 8/20/2012 |                                              |            |      |                   |                   |           |                |                      |          |
| PURGE TIME               | 19:10     |                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY               | 8/21/2012 |                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME              | 16:20     |                                              |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH               | NA        |                                              |            |      |                   |                   |           |                |                      |          |
| DTW (feet)               |           |                                              |            |      |                   |                   |           |                |                      |          |
| at end of Purging        | NA        |                                              |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Bailed about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples with bailer, labeled and placed on ice in cooler.

| NAPIS-3                  |           | TEST PARAMETERS                               |            |      |                   |                   |           |                |                      |          |
|--------------------------|-----------|-----------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                          |           |                                               | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE               | 8/20/2012 | (1)                                           | 18:00      | 9.33 | 25.75             | 1.339             | 0.859     | 0.66           | 25.6                 | 16.8     |
| GAUGE TIME               | NA        | (2)                                           | 18:40      | 8.19 | 21.4              | 3.035             | 2.117     | 1.71           | 24.1                 | -15.4    |
| DTB (feet)               |           |                                               |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom          | 30.42     | (3)                                           | NA         | NA   | NA                | NA                | NA        | NA             | NA                   | NA       |
| DEDICATED PUMP           | N         | (4)                                           | NA         | NA   | NA                | NA                | NA        | NA             | NA                   | NA       |
| DTW (feet)               |           | WEATHER CONDITIONS<br>Cloudy, 70°s            |            |      |                   |                   |           |                |                      |          |
| Depth to Water           | 7.41      |                                               |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                | 23.01     |                                               |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.) | 0.16      |                                               |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)     | 3.75      | WATER APPEARANCE<br>cloudy, no odor, no sheen |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)    | 11.25     |                                               |            |      |                   |                   |           |                |                      |          |
| PURGE DATE               | 8/20/2012 |                                               |            |      |                   |                   |           |                |                      |          |
| PURGE TIME               | 18:00     |                                               |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY               | --        |                                               |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME              | --        |                                               |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH               | NA        |                                               |            |      |                   |                   |           |                |                      |          |
| DTW (feet)               |           |                                               |            |      |                   |                   |           |                |                      |          |
| at end of Purging        | NA        |                                               |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Well went dry after bailing 5 gallons. Purge water disposed of at the bundle pad upstream of the NAPIS. Well did not recharge enough for sample, no sample collected.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.

55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| <b>KA-3</b>                      |           | <b>TEST PARAMETERS</b>                                    |               |      |                      |                      |              |                |                         |             |
|----------------------------------|-----------|-----------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                  |           |                                                           | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                       | 8/20/2012 | (1)                                                       | 18:50         | 7.52 | 26.71                | 2.585                | 1.629        | 1.29           | 25.7                    | 28.2        |
| GAUGE TIME                       | --        | (2)                                                       | 18:55         | 7.5  | 24.55                | 3.531                | 2.317        | 1.87           | 23.1                    | 21.7        |
| DTB (feet)<br>Depth<br>to Bottom | 23.20     | (3)                                                       | 19:00         | 7.58 | 23.32                | 3.658                | 2.432        | 1.97           | 23.6                    | 19.4        |
| DEDICATED PUMP                   | N         | (4)                                                       | 19:05         | 7.65 | 23.06                | 3.826                | 2.59         | 2.11           | 29.6                    | 19.6        |
| DTW (feet)<br>Depth to Water     | 7.98      | <b>WEATHER CONDITIONS</b><br>Cloudy, 70°s                 |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                        | 15.22     |                                                           |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)         | 2.48      |                                                           |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)             | 2.480     |                                                           |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)            | 7.44      |                                                           |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                       | 8/20/2012 | <b>WATER APPEARANCE</b><br>clear, warm, no odor, no sheen |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                       | 18:50     |                                                           |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                       | 8/21/2012 |                                                           |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                      | 15:45     |                                                           |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                       | NA        |                                                           |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging  | NA        |                                                           |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Bailed about three well volumes, water disposed at the bundle pad upstream of NAPS, last bail was cloudy red. Collected water samples with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.

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| OILSUMP LDU                  |           | TEST PARAMATERS                          |            |    |                   |                   |           |                |                      |          |
|------------------------------|-----------|------------------------------------------|------------|----|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                          | Time (hrs) | pH | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/21/2012 | (1)                                      | NA         |    |                   |                   |           |                |                      |          |
| GAUGE TIME                   | 19:00     | (2)                                      |            |    |                   |                   |           |                |                      |          |
| DTB (feet) Depth to Bottom   | NM        | (3)                                      |            |    |                   |                   |           |                |                      |          |
| DEDICATED PUMP               | N         | (4)                                      |            |    |                   |                   |           |                |                      |          |
| DTW (feet) Depth to Water    | 2.21      | WEATHER CONDITIONS<br>Sunny, 80°s        |            |    |                   |                   |           |                |                      |          |
| DTB - DTW                    | NA        |                                          |            |    |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     | NA        |                                          |            |    |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         | NA        |                                          |            |    |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | NA        |                                          |            |    |                   |                   |           |                |                      |          |
| PURGE DATE                   | NA        | WATER APPEARANCE<br>Yellow, black flakes |            |    |                   |                   |           |                |                      |          |
| PURGE TIME                   | NA        |                                          |            |    |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/21/2012 |                                          |            |    |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 19:20     |                                          |            |    |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                          |            |    |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                          |            |    |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

| East LDU                        |           | TEST PARAMATERS                   |               |    |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-----------------------------------|---------------|----|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                   | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/21/2012 | (1)                               | NA            |    |                      |                      |              |                |                         |             |
| GAUGE TIME                      | 19:20     | (2)                               |               |    |                      |                      |              |                |                         |             |
| DTB (feet) Depth<br>to Bottom   | NM        | (3)                               |               |    |                      |                      |              |                |                         |             |
| DEDICATED PUMP                  | N         | (4)                               |               |    |                      |                      |              |                |                         |             |
| DTW (feet)<br>Depth to Water    | 0.85      | WEATHER CONDITIONS<br>Sunny, 80°s |               |    |                      |                      |              |                |                         |             |
| DTB - DTW                       | NA        |                                   |               |    |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | NA        |                                   |               |    |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | NA        |                                   |               |    |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | NA        |                                   |               |    |                      |                      |              |                |                         |             |
| PURGE DATE                      | NA        | WATER APPEARANCE<br>Yellow        |               |    |                      |                      |              |                |                         |             |
| PURGE TIME                      | NA        |                                   |               |    |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/21/2012 |                                   |               |    |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 19:30     |                                   |               |    |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                   |               |    |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                   |               |    |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.

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| West LDU                        |           | TEST PARAMATERS                                  |                                          |    |                      |                      |              |                |                         |             |
|---------------------------------|-----------|--------------------------------------------------|------------------------------------------|----|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                  | Time<br>(hrs)                            | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/21/2012 | (1)                                              | NA                                       |    |                      |                      |              |                |                         |             |
| GAUGE TIME                      | NA        | (2)                                              |                                          |    |                      |                      |              |                |                         |             |
| DTB (feet)                      | NA        | (3)                                              |                                          |    |                      |                      |              |                |                         |             |
| Depth to Bottom                 |           | (4)                                              |                                          |    |                      |                      |              |                |                         |             |
| DEDICATED PUMP                  | N         |                                                  | <b>WEATHER CONDITIONS</b><br>Sunny, 80°s |    |                      |                      |              |                |                         |             |
| DTW (feet)                      | 0.51      |                                                  |                                          |    |                      |                      |              |                |                         |             |
| Depth to Water                  |           |                                                  |                                          |    |                      |                      |              |                |                         |             |
| DTB - DTW                       | NA        |                                                  |                                          |    |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | NA        |                                                  |                                          |    |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | NA        |                                                  |                                          |    |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | NA        |                                                  |                                          |    |                      |                      |              |                |                         |             |
| PURGE DATE                      | NA        | <b>WATER APPEARANCE</b><br>clear, odor, no sheen |                                          |    |                      |                      |              |                |                         |             |
| PURGE TIME                      | NA        |                                                  |                                          |    |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/21/2012 |                                                  |                                          |    |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 19:40     |                                                  |                                          |    |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                  |                                          |    |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                  |                                          |    |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.



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| INFL to AL-2                    |           | TEST PARAMETERS                   |               |    |                      |                            |              |                |                         |
|---------------------------------|-----------|-----------------------------------|---------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                                 |           |                                   | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | NA        | (1)                               | NA            |    |                      |                            |              |                |                         |
| GAUGE TIME                      | NA        | (2)                               |               |    |                      |                            |              |                |                         |
| DTB (feet)                      | NA        | (3)                               |               |    |                      |                            |              |                |                         |
| Depth to Bottom                 |           |                                   |               |    |                      |                            |              |                |                         |
| DEDICATED PUMP                  | NA        | (4)                               |               |    |                      |                            |              |                |                         |
| DTW (feet)                      | NA        | WEATHER CONDITIONS<br>Sunny, 80°s |               |    |                      |                            |              |                |                         |
| Depth to Water                  |           |                                   |               |    |                      |                            |              |                | NA                      |
| DTB - DTW                       |           |                                   |               |    |                      |                            |              |                | NA                      |
| Capacity per foot (gal.)        |           |                                   |               |    |                      |                            |              |                | NA                      |
| 1 Well Volume (gal.)            |           |                                   |               |    |                      |                            |              |                | NA                      |
| 3 Well Volumes (gal.)           |           |                                   |               |    |                      |                            |              |                | NA                      |
| PURGE DATE                      |           |                                   |               |    |                      |                            |              |                | NA                      |
| PURGE TIME                      | NA        | WATER APPEARANCE<br>Light brown   |               |    |                      |                            |              |                |                         |
| SAMPLE DAY                      | 8/21/2012 |                                   |               |    |                      |                            |              |                |                         |
| SAMPLE TIME                     | 17:00     |                                   |               |    |                      |                            |              |                |                         |
| PUMP DEPTH                      | NA        |                                   |               |    |                      |                            |              |                |                         |
| DTW (feet)<br>at end of Purging | NA        |                                   |               |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

| INFL to EP-1             |           | TEST PARAMATERS                 |                                   |    |                      |                      |              |                |                         |             |
|--------------------------|-----------|---------------------------------|-----------------------------------|----|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                          |           |                                 | Time<br>(hrs)                     | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE               | NA        | (1)                             | NA                                |    |                      |                      |              |                |                         |             |
| GAUGE TIME               | NA        | (2)                             |                                   |    |                      |                      |              |                |                         |             |
| DTB (feet)               |           |                                 |                                   |    |                      |                      |              |                |                         |             |
| Depth to Bottom          | NA        | (3)                             |                                   |    |                      |                      |              |                |                         |             |
| DEDICATED PUMP           | NA        | (4)                             | WEATHER CONDITIONS<br>Sunny, 80°s |    |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                                 |                                   |    |                      |                      |              |                |                         |             |
| Depth to Water           | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |
| DTB - DTW                | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |
| Capacity per foot (gal.) | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)     | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)    | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |
| PURGE DATE               | NA        | WATER APPEARANCE<br>Light brown |                                   |    |                      |                      |              |                |                         |             |
| PURGE TIME               | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |
| SAMPLE DAY               | 8/21/2012 |                                 |                                   |    |                      |                      |              |                |                         |             |
| SAMPLE TIME              | 17:20     |                                 |                                   |    |                      |                      |              |                |                         |             |
| PUMP DEPTH               | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                                 |                                   |    |                      |                      |              |                |                         |             |
| at end of Purging        | NA        |                                 |                                   |    |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Plastic dipper

**Signature:** Jacob Berreth - Trihydro Corp.

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| AL-2 to EP-1                    |           | TEST PARAMETERS |                                   |    |                      |                            |              |                |                         |             |
|---------------------------------|-----------|-----------------|-----------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                 | Time<br>(hrs)                     | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | NA        | (1)             | NA                                |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      | NA        | (2)             |                                   |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |           |                 |                                   |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | NA        | (3)             |                                   |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | NA        | (4)             | WEATHER CONDITIONS<br>Sunny, 80°s |    |                      |                            |              |                |                         |             |
| DTW (feet)                      |           |                 |                                   |    |                      |                            |              |                |                         |             |
| Depth to Water                  | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| Capacity per foot (gal.)        | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| 1 Well Volume (gal.)            | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| 3 Well Volumes (gal.)           | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | NA        |                 | WATER APPEARANCE<br>Light brown   |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | 8/21/2012 |                 |                                   |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | 17:10     |                 |                                   |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                 |                                   |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

| INFL to AL-1                    |    | TEST PARAMATERS        |                          |    |                      |                            |              |                |                         |             |
|---------------------------------|----|------------------------|--------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |    |                        | Time<br>(hrs)            | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | NA | (1)                    | NA                       |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      | NA | (2)                    |                          |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |    |                        |                          |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | NA | (3)                    |                          |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | NA | (4)                    | WEATHER CONDITIONS<br>NA |    |                      |                            |              |                |                         |             |
| DTW (feet)                      |    |                        |                          |    |                      |                            |              |                |                         |             |
| Depth to Water                  | NA |                        |                          |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | NA |                        |                          |    |                      |                            |              |                |                         |             |
| Capacity per foot (gal.)        | NA |                        |                          |    |                      |                            |              |                |                         |             |
| 1 Well Volume (gal.)            | NA |                        |                          |    |                      |                            |              |                |                         |             |
| 3 Well Volumes (gal.)           | NA |                        |                          |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | NA |                        |                          |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | NA | WATER APPEARANCE<br>NA |                          |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | NA |                        |                          |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | NA |                        |                          |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA |                        |                          |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA |                        |                          |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

System offline for new system; no sample collected.

**INSTRUMENTS USED:**

Plastic dipper

**Signature:** Jacob Berreth - Trihydro Corp.

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| PILOT EFF                |           | TEST PARAMETERS                   |               |    |                      |                      |              |                |                         |
|--------------------------|-----------|-----------------------------------|---------------|----|----------------------|----------------------|--------------|----------------|-------------------------|
|                          |           |                                   | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE               | NA        | (1)                               | NA            |    |                      |                      |              |                |                         |
| GAUGE TIME               | NA        | (2)                               |               |    |                      |                      |              |                |                         |
| DTB (feet)               | NA        | (3)                               |               |    |                      |                      |              |                |                         |
| Depth to Bottom          |           |                                   |               |    |                      |                      |              |                |                         |
| DEDICATED PUMP           | NA        | (4)                               |               |    |                      |                      |              |                |                         |
| DTW (feet)               | NA        | WEATHER CONDITIONS<br>Sunny, 80°s |               |    |                      |                      |              |                |                         |
| Depth to Water           |           |                                   |               |    |                      |                      |              |                |                         |
| DTB - DTW                | NA        |                                   |               |    |                      |                      |              |                |                         |
| Capacity per foot (gal.) | NA        |                                   |               |    |                      |                      |              |                |                         |
| 1 Well Volume (gal.)     | NA        |                                   |               |    |                      |                      |              |                |                         |
| 3 Well Volumes (gal.)    | NA        |                                   |               |    |                      |                      |              |                |                         |
| PURGE DATE               | NA        | WATER APPEARANCE<br>Yellow        |               |    |                      |                      |              |                |                         |
| PURGE TIME               | NA        |                                   |               |    |                      |                      |              |                |                         |
| SAMPLE DAY               | 8/21/2012 |                                   |               |    |                      |                      |              |                |                         |
| SAMPLE TIME              | 16:40     |                                   |               |    |                      |                      |              |                |                         |
| PUMP DEPTH               | NA        |                                   |               |    |                      |                      |              |                |                         |
| DTW (feet)               | NA        |                                   |               |    |                      |                      |              |                |                         |
| at end of Purging        |           |                                   |               |    |                      |                      |              |                |                         |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

| NAPIS-EFF                       |    | TEST PARAMATERS          |               |    |                      |                      |              |                |                         |             |
|---------------------------------|----|--------------------------|---------------|----|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |    |                          | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | NA | (1)                      | NA            |    |                      |                      |              |                |                         |             |
| GAUGE TIME                      | NA | (2)                      |               |    |                      |                      |              |                |                         |             |
| DTB (feet)                      | NA | (3)                      |               |    |                      |                      |              |                |                         |             |
| Depth to Bottom                 |    |                          |               |    |                      |                      |              |                |                         |             |
| DEDICATED PUMP                  | NA | (4)                      |               |    |                      |                      |              |                |                         |             |
| DTW (feet)                      | NA | WEATHER CONDITIONS<br>NA |               |    |                      |                      |              |                |                         |             |
| Depth to Water                  |    |                          |               |    |                      |                      |              |                | NA                      |             |
| DTB - DTW                       |    |                          |               |    |                      |                      |              |                | NA                      |             |
| Capacity per foot (gal.)        |    |                          |               |    |                      |                      |              |                | NA                      |             |
| 1 Well Volume (gal.)            |    |                          |               |    |                      |                      |              |                | NA                      |             |
| 3 Well Volumes (gal.)           |    |                          |               |    |                      |                      |              |                | NA                      |             |
| PURGE DATE                      | NA | WATER APPEARANCE<br>NA   |               |    |                      |                      |              |                |                         |             |
| PURGE TIME                      | NA |                          |               |    |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | -- |                          |               |    |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | -- |                          |               |    |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA |                          |               |    |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA |                          |               |    |                      |                      |              |                |                         |             |

**SAMPLE LOG**

System offline; new system running; no sample collected.

**INSTRUMENTS USED:**

Plastic dipper

**Signature:** Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| EP-2 Inlet                                           |           | TEST PARAMETERS                   |               |    |                      |                            |              |                |                         |             |
|------------------------------------------------------|-----------|-----------------------------------|---------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                                      |           |                                   | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                                           | NA        | (1)                               | NA            |    |                      |                            |              |                |                         |             |
| GAUGE TIME                                           | NA        | (2)                               |               |    |                      |                            |              |                |                         |             |
| DTB (feet)                      Depth<br>to Bottom   | NA        | (3)                               |               |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                                       | NA        | (4)                               |               |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>Depth to Water                         | NA        | WEATHER CONDITIONS<br>Sunny, 80°s |               |    |                      |                            |              |                |                         |             |
| DTB - DTW                                            | NA        |                                   |               |    |                      |                            |              |                |                         |             |
| Capacity per foot (gal.)                             | NA        |                                   |               |    |                      |                            |              |                |                         |             |
| 1 Well Volume (gal.)                                 | NA        |                                   |               |    |                      |                            |              |                |                         |             |
| 3 Well Volumes (gal.)                                | NA        |                                   |               |    |                      |                            |              |                |                         |             |
| PURGE DATE                                           | NA        |                                   |               |    |                      |                            |              |                |                         |             |
| PURGE TIME                                           | NA        | WATER APPEARANCE<br>Light brown   |               |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                                           | 8/21/2012 |                                   |               |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                                          | 19:55     |                                   |               |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                                           | NA        |                                   |               |    |                      |                            |              |                |                         |             |
| DTW (feet)                      at<br>end of Purging | NA        |                                   |               |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Grab sample. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.  
Plastic dipper

**Signature:**                      Jacob Berreth

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| BW-1A                    |           | TEST PARAMATERS |                                   |    |                      |                            |              |                |                         |             |
|--------------------------|-----------|-----------------|-----------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                          |           |                 | Time<br>(hrs)                     | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE               | 8/23/2012 | (1)             | NA                                |    |                      |                            |              |                |                         |             |
| GAUGE TIME               | 16:00     | (2)             |                                   |    |                      |                            |              |                |                         |             |
| DTB (feet)               |           | (3)             |                                   |    |                      |                            |              |                |                         |             |
| Depth to Bottom          | 37.62     | (4)             |                                   |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP           | N         |                 | WEATHER CONDITIONS<br>Sunny, 70°s |    |                      |                            |              |                |                         |             |
| DTW (feet)               |           |                 |                                   |    |                      |                            |              |                |                         |             |
| Depth to Water           | ND        |                 |                                   |    |                      |                            |              |                |                         |             |
| DTB - DTW                | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| Capacity per foot (gal.) | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| 1 Well Volume (gal.)     | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| 3 Well Volumes (gal.)    | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| PURGE DATE               | NA        |                 | WATER APPEARANCE<br>NA            |    |                      |                            |              |                |                         |             |
| PURGE TIME               | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| SAMPLE DAY               | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| SAMPLE TIME              | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| PUMP DEPTH               | NA        |                 |                                   |    |                      |                            |              |                |                         |             |
| DTW (feet)               |           |                 |                                   |    |                      |                            |              |                |                         |             |
| at end of Purging        | NA        |                 |                                   |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Well dry. No sample collected.

| BW-1B                           |           | TEST PARAMATERS                   |               |    |                      |                            |              |                |                         |
|---------------------------------|-----------|-----------------------------------|---------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                                 |           |                                   | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | 8/23/2012 | (1)                               | NA            |    |                      |                            |              |                |                         |
| GAUGE TIME                      | 16:00     | (2)                               |               |    |                      |                            |              |                |                         |
| DTB (feet)                      |           | (3)                               |               |    |                      |                            |              |                |                         |
| Depth to Bottom                 | 67.45     | (4)                               |               |    |                      |                            |              |                |                         |
| DEDICATED PUMP                  | N         |                                   |               |    |                      |                            |              |                |                         |
| DTW (feet)                      |           | WEATHER CONDITIONS<br>Sunny, 70°s |               |    |                      |                            |              |                |                         |
| Depth to Water                  | ND        |                                   |               |    |                      |                            |              |                |                         |
| DTB - DTW                       | NA        |                                   |               |    |                      |                            |              |                |                         |
| Capacity per foot (gal.)        | NA        |                                   |               |    |                      |                            |              |                |                         |
| 1 Well Volume (gal.)            | NA        |                                   |               |    |                      |                            |              |                |                         |
| 3 Well Volumes (gal.)           | NA        |                                   |               |    |                      |                            |              |                |                         |
| PURGE DATE                      | NA        | WATER APPEARANCE<br>NA            |               |    |                      |                            |              |                |                         |
| PURGE TIME                      | NA        |                                   |               |    |                      |                            |              |                |                         |
| SAMPLE DAY                      | NA        |                                   |               |    |                      |                            |              |                |                         |
| SAMPLE TIME                     | NA        |                                   |               |    |                      |                            |              |                |                         |
| PUMP DEPTH                      | NA        |                                   |               |    |                      |                            |              |                |                         |
| DTW (feet)<br>at end of Purging | NA        |                                   |               |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Well dry. No sample collected.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

**Signature:** Jacob Berreth - Trihydro Corp.

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| BW-1C                           |           | TEST PARAMATERS                              |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|----------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                              | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/23/2012 | (1)                                          | 8:40          | 8.07 | 12.91                | 1.021                | 0.851        | 0.61           | 18.6                    | -88.5       |
| GAUGE TIME                      | 16:00     | (2)                                          | 8:53          | 8.03 | 12.90                | 1.023                | 0.855        | 0.61           | 17.2                    | -84.2       |
| DTB (feet)                      |           | (3)                                          | 9:07          | 8.01 | 12.86                | 1.023                | 0.857        | 0.61           | 15.9                    | -81.8       |
| Depth to Bottom                 | 136.39    |                                              | 9:20          | 7.99 | 12.85                | 1.024                | 0.859        | 0.61           | 16.4                    | -81.2       |
| DEDICATED PUMP                  | Y         | WEATHER CONDITIONS<br>Sunny, warm, 70°s      |               |      |                      |                      |              |                |                         |             |
| DTW (feet)                      |           |                                              |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 7.30      |                                              |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 129.06    |                                              |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.16      |                                              |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 21.037    | WATER APPEARANCE<br>Clear, no odor, no sheen |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 63.11     |                                              |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/24/2012 |                                              |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 8:40      |                                              |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/24/2012 |                                              |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 9:20      |                                              |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                              |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                              |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

| BW-2A                    |           | TEST PARAMATERS |                                              |      |                      |                      |              |                |                         |             |
|--------------------------|-----------|-----------------|----------------------------------------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                          |           |                 | Time<br>(hrs)                                | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE               | 8/23/2012 | (1)             | 19:05                                        | 8.44 | 12.86                | 1.036                | 0.876        | 0.68           | 19.2                    | -75.6       |
| GAUGE TIME               | --        | (2)             | 19:15                                        | 8.06 | 13.42                | 10.57                | 0.882        | 0.68           | 13.5                    | -136.3      |
| DTB (feet)               | 67.57     | (3)             | 19:25                                        | 8.06 | 13.22                | 1.057                | 0.887        | 0.69           | 10.8                    | -149.5      |
| Depth to Bottom          |           |                 | 19:35                                        | 8.09 | 13.06                | 1.053                | 0.887        | 0.69           | 17.4                    | -138.6      |
| DEDICATED PUMP           | Y         |                 | WEATHER CONDITIONS<br>Sunny, 60°s, breezy    |      |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                 |                                              |      |                      |                      |              |                |                         |             |
| Depth to Water           |           |                 |                                              |      |                      |                      |              |                |                         |             |
| DTB - DTW                |           |                 |                                              |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.) |           |                 |                                              |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)     |           |                 |                                              |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)    |           |                 |                                              |      |                      |                      |              |                |                         |             |
| PURGE DATE               | 8/23/2012 |                 | WATER APPEARANCE<br>Clear, no odor, no sheen |      |                      |                      |              |                |                         |             |
| PURGE TIME               |           |                 |                                              |      |                      |                      |              |                |                         |             |
| SAMPLE DAY               |           |                 |                                              |      |                      |                      |              |                |                         |             |
| SAMPLE TIME              |           |                 |                                              |      |                      |                      |              |                |                         |             |
| PUMP DEPTH               |           |                 |                                              |      |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                 |                                              |      |                      |                      |              |                |                         |             |
| at end of Purging        |           |                 |                                              |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

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| BW-2B                        |           | TEST PARAMETERS                                                            |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|----------------------------------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                                            | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/23/2012 | (1)                                                                        | 19:20      | 7.88 | 12.69             | 1.727             | 1.472     | 1.17           | 9.5                  | -119.7   |
| GAUGE TIME                   | --        | (2)                                                                        | 19:35      | 8.00 | 12.73             | 1.747             | 1.483     | 1.18           | 12.3                 | -111.4   |
| DTB (feet)                   | 92.26     | (3)                                                                        | 19:45      | 8.00 | 12.87             | 1.744             | 1.476     | 1.17           | 13.9                 | -103.4   |
| Depth to Bottom              |           |                                                                            | 19:55      | 7.98 | 13.10             | 1.750             | 1.471     | 1.17           | 11.3                 | -100.1   |
| DEDICATED PUMP               | Y         | (4)                                                                        |            |      |                   |                   |           |                |                      |          |
| DTW (feet)                   | 27.83     | <b>WEATHER CONDITIONS</b><br>Cloudy, temperature approximately 65°, breezy |            |      |                   |                   |           |                |                      |          |
| Depth to Water               |           |                                                                            |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 64.43     |                                                                            |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     | 0.163     |                                                                            |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         | 10.502    |                                                                            |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | 31.51     | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen                        |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 8/23/2012 |                                                                            |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 19:20     |                                                                            |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/24/2012 |                                                                            |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 10:00     |                                                                            |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                                                            |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                                                            |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

| BW-2C                        |           | TEST PARAMETERS                                                                   |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|-----------------------------------------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                                                   | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/23/2012 | (1)                                                                               | 18:35      | 9.14 | 14.15             | 1.058             | 0.867     | 0.67           | 45.0                 | 19.3     |
| GAUGE TIME                   | --        | (2)                                                                               | 18:50      | 9.11 | 13.92             | 1.050             | 0.866     | 0.67           | 34.5                 | 1.8      |
| DTB (feet)                   | 152.84    | (3)                                                                               | NA         | NA   | NA                | NA                | NA        | NA             | NA                   | NA       |
| Depth to Bottom              |           |                                                                                   | NA         | NA   | NA                | NA                | NA        | NA             | NA                   | NA       |
| DEDICATED PUMP               | Y         | (4)                                                                               | NA         | NA   | NA                | NA                | NA        | NA             | NA                   | NA       |
| DTW (feet)                   | 20.35     | <b>WEATHER CONDITIONS</b><br>Cloudy (~50%), wind (SW ~5-10mph), temperature ~70°F |            |      |                   |                   |           |                |                      |          |
| Depth to Water               |           |                                                                                   |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    |           |                                                                                   |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     |           |                                                                                   |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         |           |                                                                                   |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | 64.79     | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen                               |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 8/23/2012 |                                                                                   |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 18:35     |                                                                                   |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/24/2012 |                                                                                   |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 9:45      |                                                                                   |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | 141       |                                                                                   |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                                                                   |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

19:00 -Well dry at 2 casing volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

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| BW-3A                           |           | TEST PARAMETERS                           |               |    |                      |                      |              |                   |                         |
|---------------------------------|-----------|-------------------------------------------|---------------|----|----------------------|----------------------|--------------|-------------------|-------------------------|
|                                 |           |                                           | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity<br>(ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | 8/23/2012 | (1)                                       | NA            |    |                      |                      |              |                   |                         |
| GAUGE TIME                      | --        | (2)                                       |               |    |                      |                      |              |                   |                         |
| DTB (feet) Depth<br>to Bottom   | 52.35     | (3)                                       |               |    |                      |                      |              |                   |                         |
| DEDICATED PUMP                  | --        | (4)                                       |               |    |                      |                      |              |                   |                         |
| DTW (feet)<br>Depth to Water    | ND        | WEATHER CONDITIONS<br>Clear, 60°s, breezy |               |    |                      |                      |              |                   |                         |
| DTB - DTW                       | NA        |                                           |               |    |                      |                      |              |                   |                         |
| Capacity per foot (gal.)        | NA        |                                           |               |    |                      |                      |              |                   |                         |
| 1 Well Volume (gal.)            | NA        |                                           |               |    |                      |                      |              |                   |                         |
| 3 Well Volumes (gal.)           | NA        |                                           |               |    |                      |                      |              |                   |                         |
| PURGE DATE                      | NA        | WATER APPEARANCE<br>NA                    |               |    |                      |                      |              |                   |                         |
| PURGE TIME                      | NA        |                                           |               |    |                      |                      |              |                   |                         |
| SAMPLE DAY                      | NA        |                                           |               |    |                      |                      |              |                   |                         |
| SAMPLE TIME                     | NA        |                                           |               |    |                      |                      |              |                   |                         |
| PUMP DEPTH                      | NA        |                                           |               |    |                      |                      |              |                   |                         |
| DTW (feet)<br>at end of Purging | NA        |                                           |               |    |                      |                      |              |                   |                         |

**SAMPLE LOG**

Well dry. No sample collected.

| BW-3B                            |           | TEST PARAMATERS                                      |               |      |                      |                      |              |                   |                         |             |
|----------------------------------|-----------|------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|-------------------|-------------------------|-------------|
|                                  |           |                                                      | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity<br>(ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                       | 8/20/2012 | (1)                                                  | 19:40         | 8.48 | 12.88                | 1.196                | 1.011        | 0.79              | 36.0                    | -137.2      |
| GAUGE TIME                       | 14:00     | (2)                                                  | 19:46         | 8.2  | 13.04                | 1.184                | 0.997        | 0.78              | 12.2                    | -159.2      |
| DTB (feet)<br>Depth<br>to Bottom | 69.40     | (3)                                                  | 19:52         | 8.22 | 13.15                | 1.181                | 0.994        | 0.77              | 10.7                    | -168.2      |
| DEDICATED PUMP                   | Y         | (4)                                                  | NA            | NA   | NA                   | NA                   | NA           | NA                | NA                      | NA          |
| DTW (feet)<br>Depth to Water     | 33.13     | WEATHER CONDITIONS<br>Clear, 60°s, breezy            |               |      |                      |                      |              |                   |                         |             |
| DTB - DTW                        | 36.27     |                                                      |               |      |                      |                      |              |                   |                         |             |
| Capacity per foot (gal.)         | 0.163     |                                                      |               |      |                      |                      |              |                   |                         |             |
| 1 Well Volume (gal.)             | 5.91      |                                                      |               |      |                      |                      |              |                   |                         |             |
| 3 Well Volumes (gal.)            | 17.74     | WATER APPEARANCE<br>Cloudy, brown, no odor, no sheen |               |      |                      |                      |              |                   |                         |             |
| PURGE DATE                       | 8/22/2012 |                                                      |               |      |                      |                      |              |                   |                         |             |
| PURGE TIME                       | 19:40     |                                                      |               |      |                      |                      |              |                   |                         |             |
| SAMPLE DAY                       | 8/23/2012 |                                                      |               |      |                      |                      |              |                   |                         |             |
| SAMPLE TIME                      | 17:45     |                                                      |               |      |                      |                      |              |                   |                         |             |
| PUMP DEPTH                       | NA        |                                                      |               |      |                      |                      |              |                   |                         |             |
| DTW (feet)<br>at end of Purging  | NA        |                                                      |               |      |                      |                      |              |                   |                         |             |

**SAMPLE LOG**

Well dry after ~13 gallons purged (2+ casings). Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Jacob Berreth - Trihydro Corp.



**WESTERN REFINING - GALLUP REFINERY**  
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| <b>BW-3C</b>                                                                                                                                                                 |           | <b>TEST PARAMATERS</b>                              |               |      |                      |                      |              |                   |                         |             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------|---------------|------|----------------------|----------------------|--------------|-------------------|-------------------------|-------------|
|                                                                                                                                                                              |           |                                                     | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity<br>(ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| 8/20/2012                                                                                                                                                                    | 8/23/2012 | (1)                                                 | 20:05         | 8.64 | 12.95                | 1.207                | 1.019        | 0.80              | 25.2                    | -163.30     |
| GAUGE TIME                                                                                                                                                                   | 14:00     | (2)                                                 | NA            | NA   | NA                   | NA                   | NA           | NA                | NA                      | NA          |
| DTB (feet)                                                                                                                                                                   |           |                                                     |               |      |                      |                      |              |                   |                         |             |
| Depth to Bottom                                                                                                                                                              | 154.55    | (3)                                                 | NA            | NA   | NA                   | NA                   | NA           | NA                | NA                      | NA          |
| DEDICATED PUMP                                                                                                                                                               | N         | (4)                                                 | NA            | NA   | NA                   | NA                   | NA           | NA                | NA                      | NA          |
| DTW (feet)                                                                                                                                                                   |           | <b>WEATHER CONDITIONS</b><br>Dusk, 60°s, breezy     |               |      |                      |                      |              |                   |                         |             |
| Depth to Water                                                                                                                                                               | 7.77      |                                                     |               |      |                      |                      |              |                   |                         |             |
| DTB - DTW                                                                                                                                                                    | 146.78    |                                                     |               |      |                      |                      |              |                   |                         |             |
| Capacity per foot (gal.)                                                                                                                                                     | 0.163     |                                                     |               |      |                      |                      |              |                   |                         |             |
| 1 Well Volume (gal.)                                                                                                                                                         | 23.93     |                                                     |               |      |                      |                      |              |                   |                         |             |
| 3 Well Volumes (gal.)                                                                                                                                                        | 71.78     |                                                     |               |      |                      |                      |              |                   |                         |             |
| PURGE DATE                                                                                                                                                                   | 8/22/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen |               |      |                      |                      |              |                   |                         |             |
| PURGE TIME                                                                                                                                                                   | 20:05     |                                                     |               |      |                      |                      |              |                   |                         |             |
| SAMPLE DAY                                                                                                                                                                   | 8/23/2012 |                                                     |               |      |                      |                      |              |                   |                         |             |
| SAMPLE TIME                                                                                                                                                                  | 17:40     |                                                     |               |      |                      |                      |              |                   |                         |             |
| PUMP DEPTH                                                                                                                                                                   | 140       |                                                     |               |      |                      |                      |              |                   |                         |             |
| DTW (feet)<br>at end of Purging                                                                                                                                              | NA        |                                                     |               |      |                      |                      |              |                   |                         |             |
| <b>SAMPLE LOG</b><br>Portable pump full extension. Well dry after one casing volume (~25 gallons). Collected water samples with bailer, labeled and placed on ice in cooler. |           |                                                     |               |      |                      |                      |              |                   |                         |             |

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:**                      Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| RW-1                            |           | TEST PARAMATERS |                                               |    |                      |                            |              |                   |                         |             |
|---------------------------------|-----------|-----------------|-----------------------------------------------|----|----------------------|----------------------------|--------------|-------------------|-------------------------|-------------|
|                                 |           |                 | Time<br>(hrs)                                 | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity<br>(ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/23/2012 | (1)             | NA                                            |    |                      |                            |              |                   |                         |             |
| GAUGE TIME                      | 10:40     | (2)             |                                               |    |                      |                            |              |                   |                         |             |
| DTB (feet)                      |           | (3)             |                                               |    |                      |                            |              |                   |                         |             |
| Depth to Bottom                 | 43.04     | (4)             |                                               |    |                      |                            |              |                   |                         |             |
| DEDICATED PUMP                  | N         |                 | WEATHER CONDITIONS<br>Sprinkles, 60°s, breezy |    |                      |                            |              |                   |                         |             |
| DTW (feet)                      |           |                 |                                               |    |                      |                            |              |                   |                         |             |
| Depth to Water                  | 32.51     |                 |                                               |    |                      |                            |              |                   |                         |             |
| DTB - DTW                       | 10.53     |                 |                                               |    |                      |                            |              |                   |                         |             |
| Capacity per foot (gal.)        | 0.74      |                 |                                               |    |                      |                            |              |                   |                         |             |
| 1 Well Volume (gal.)            | 7.79      |                 |                                               |    |                      |                            |              |                   |                         |             |
| 3 Well Volumes (gal.)           | 23.38     |                 |                                               |    |                      |                            |              |                   |                         |             |
| PURGE DATE                      | 8/23/2012 |                 |                                               |    |                      |                            |              |                   |                         |             |
| PURGE TIME                      | 10:40     |                 | WATER APPEARANCE<br>Clear, odor, product      |    |                      |                            |              |                   |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                 |                                               |    |                      |                            |              |                   |                         |             |
| SAMPLE TIME                     | 10:50     |                 |                                               |    |                      |                            |              |                   |                         |             |
| PUMP DEPTH                      | NA        |                 |                                               |    |                      |                            |              |                   |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                 |                                               |    |                      |                            |              |                   |                         |             |

**SAMPLE LOG**

Approximately 2 feet of product in well. Sample collected via bailer, below product, placed on ice in cooler.

| RW-2                            |           | TEST PARAMATERS |                                           |    |                      |                            |              |                   |                         |             |
|---------------------------------|-----------|-----------------|-------------------------------------------|----|----------------------|----------------------------|--------------|-------------------|-------------------------|-------------|
|                                 |           |                 | Time<br>(hrs)                             | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity<br>(ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| 8/20/2012                       | 8/24/2012 | (1)             | NA                                        |    |                      |                            |              |                   |                         |             |
| GAUGE TIME                      | 8:10      | (2)             |                                           |    |                      |                            |              |                   |                         |             |
| DTB (feet)                      | 39.80     | (3)             |                                           |    |                      |                            |              |                   |                         |             |
| Depth to Bottom                 |           | (4)             |                                           |    |                      |                            |              |                   |                         |             |
| DEDICATED PUMP                  | N         |                 | WEATHER CONDITIONS<br>Sunny, 70°s, breezy |    |                      |                            |              |                   |                         |             |
| DTW (feet)                      | 27.89     |                 |                                           |    |                      |                            |              |                   |                         |             |
| Depth to Water                  | 11.91     |                 |                                           |    |                      |                            |              |                   |                         |             |
| DTB - DTW                       |           |                 |                                           |    |                      |                            |              |                   |                         |             |
| Capacity per foot (gal.)        | 0.74      |                 |                                           |    |                      |                            |              |                   |                         |             |
| 1 Well Volume (gal.)            | 8.81      |                 |                                           |    |                      |                            |              |                   |                         |             |
| 3 Well Volumes (gal.)           | 26.44     |                 | WATER APPEARANCE<br>Clear, odor, no sheen |    |                      |                            |              |                   |                         |             |
| PURGE DATE                      | 8/24/2012 |                 |                                           |    |                      |                            |              |                   |                         |             |
| PURGE TIME                      | 8:10      |                 |                                           |    |                      |                            |              |                   |                         |             |
| SAMPLE DAY                      | 8/24/2012 |                 |                                           |    |                      |                            |              |                   |                         |             |
| SAMPLE TIME                     | 8:30      |                 |                                           |    |                      |                            |              |                   |                         |             |
| PUMP DEPTH                      | NA        |                 |                                           |    |                      |                            |              |                   |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                 |                                           |    |                      |                            |              |                   |                         |             |

**SAMPLE LOG**

Purged about three well volumes with bailer, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| RW-5                            |           | TEST PARAMATERS |                                               |    |                      |                            |              |                   |                         |             |
|---------------------------------|-----------|-----------------|-----------------------------------------------|----|----------------------|----------------------------|--------------|-------------------|-------------------------|-------------|
|                                 |           |                 | Time<br>(hrs)                                 | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity<br>(ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/22/2012 | (1)             | NA                                            |    |                      |                            |              |                   |                         |             |
| GAUGE TIME                      | 10:00     | (2)             |                                               |    |                      |                            |              |                   |                         |             |
| DTB (feet)                      |           | (3)             |                                               |    |                      |                            |              |                   |                         |             |
| Depth to Bottom                 | 39.59     | (4)             |                                               |    |                      |                            |              |                   |                         |             |
| DEDICATED PUMP                  | N         |                 | WEATHER CONDITIONS<br>Cloudy, 60°s, breezy    |    |                      |                            |              |                   |                         |             |
| DTW (feet)                      |           |                 |                                               |    |                      |                            |              |                   |                         |             |
| Depth to Water                  | 29.46     |                 |                                               |    |                      |                            |              |                   |                         |             |
| DTB - DTW                       | 10.13     |                 |                                               |    |                      |                            |              |                   |                         |             |
| Capacity per foot (gal.)        | 0.74      |                 |                                               |    |                      |                            |              |                   |                         |             |
| 1 Well Volume (gal.)            | 7.50      |                 |                                               |    |                      |                            |              |                   |                         |             |
| 3 Well Volumes (gal.)           | 22.49     |                 |                                               |    |                      |                            |              |                   |                         |             |
| PURGE DATE                      | 8/23/2012 |                 | WATER APPEARANCE<br>Cloudy, gray, odor, sheen |    |                      |                            |              |                   |                         |             |
| PURGE TIME                      | 9:30      |                 |                                               |    |                      |                            |              |                   |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                 |                                               |    |                      |                            |              |                   |                         |             |
| SAMPLE TIME                     | 10:00     |                 |                                               |    |                      |                            |              |                   |                         |             |
| PUMP DEPTH                      | NA        |                 |                                               |    |                      |                            |              |                   |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                 |                                               |    |                      |                            |              |                   |                         |             |

**SAMPLE LOG**

Purged about three well volumes with bailer, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

| RW-6                            |           | TEST PARAMETERS |                                                |    |                      |                            |              |                   |                         |             |
|---------------------------------|-----------|-----------------|------------------------------------------------|----|----------------------|----------------------------|--------------|-------------------|-------------------------|-------------|
|                                 |           |                 | Time<br>(hrs)                                  | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity<br>(ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| 8/20/2012                       | 8/22/2012 | (1)             | NA                                             |    |                      |                            |              |                   |                         |             |
| GAUGE TIME                      | 10:00     | (2)             |                                                |    |                      |                            |              |                   |                         |             |
| DTB (feet)                      |           | (3)             |                                                |    |                      |                            |              |                   |                         |             |
| Depth to Bottom                 | 40.90     | (4)             |                                                |    |                      |                            |              |                   |                         |             |
| DEDICATED PUMP                  | N         |                 | WEATHER CONDITIONS<br>Cloudy, 60°s, breezy     |    |                      |                            |              |                   |                         |             |
| DTW (feet)                      |           |                 |                                                |    |                      |                            |              |                   |                         |             |
| Depth to Water                  | 29.56     |                 |                                                |    |                      |                            |              |                   |                         |             |
| DTB - DTW                       | 11.34     |                 |                                                |    |                      |                            |              |                   |                         |             |
| Capacity per foot (gal.)        | 0.74      |                 |                                                |    |                      |                            |              |                   |                         |             |
| 1 Well Volume (gal.)            | 8.39      |                 |                                                |    |                      |                            |              |                   |                         |             |
| 3 Well Volumes (gal.)           | 25.17     |                 |                                                |    |                      |                            |              |                   |                         |             |
| PURGE DATE                      | 8/23/2012 |                 | WATER APPEARANCE<br>Cloudy, brown, odor, sheen |    |                      |                            |              |                   |                         |             |
| PURGE TIME                      | 9:30      |                 |                                                |    |                      |                            |              |                   |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                 |                                                |    |                      |                            |              |                   |                         |             |
| SAMPLE TIME                     | 10:15     |                 |                                                |    |                      |                            |              |                   |                         |             |
| PUMP DEPTH                      | NA        |                 |                                                |    |                      |                            |              |                   |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                 |                                                |    |                      |                            |              |                   |                         |             |

**SAMPLE LOG**

Purged about three well volumes with bailer, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
 55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY  
2012 QUARTERLY INSPECTION**

| <b>RW-1 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 8/13/2012  | Product Thickness (ft)             | 0.590    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) | 0.400    |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 10:30      |                                    |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | 40       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| Depth to Bottom             | 43.04      |                                    |          |                                                                                                                                                                                                                                                                   |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | N/A                                                                                                                                                                                                                                                               |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 29.54      |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 30.13      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 12.91      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 8/13/2012                   | 11:30      | 8/13/2012                          | 12:00    |                                                                                                                                                                                                                                                                   |
| 8/13/2012                   | 13:00      | 8/13/2012                          | 13:20    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

| <b>RW-2 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 8/13/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 11:25      |                                    |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | N/A      | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| Depth to Bottom             | 39.80      |                                    |          |                                                                                                                                                                                                                                                                   |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | No measurable product layer                                                                                                                                                                                                                                       |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 0.00       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 24.71      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 15.09      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| N/A                         |            |                                    |          |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated portable pump used for RW-1

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY  
2012 QUARTERLY INSPECTION**

| <b>RW-5 (Recovery Well)</b>    |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|--------------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                     | 8/13/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                     | 10:50      | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| DTB (feet)<br>Depth to Bottom  | 39.59      | Volume of Water Purged (Gallons)   | 10       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DEDICATED PUMP                 | N          | PURGE DATE                         |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DTP (feet)<br>Depth to Product | 0.00       | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)<br>Depth to Water   | 29.49      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                      | 10.10      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>            |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                     | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 8/13/2012                      | 11:10      | 8/13/2012                          | 11:15    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 10 gallons was bailed from this well.

| <b>RW-6 (Recovery Well)</b>    |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|--------------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                     | 8/13/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                     | 11:00      | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| DTB (feet)<br>Depth to Bottom  | 40.90      | Volume of Water Purged (Gallons)   | 15       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DEDICATED PUMP                 | N          | PURGE DATE                         |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DTP (feet)<br>Depth to Product | 0.00       | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)<br>Depth to Water   | 29.57      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                      | 11.33      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>            |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                     | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 8/13/2012                      | 11:00      | 8/13/2012                          | 11:08    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 15 gallons was bailed from this well.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

5 gallon buckets to catch purge water.

3 foot disposable bailer.

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY**  
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| <b>MW-1</b>              |           | <b>TEST PARAMETERS</b>                              |               |      |                      |                      |              |                |                         |             |
|--------------------------|-----------|-----------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                          |           |                                                     | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE               | 8/23/2012 | (1)                                                 | 20:00         | 9.20 | 12.79                | 0.857                | 0.726        | 0.560          | 44.0                    | -57.4       |
| GAUGE TIME               | 9:00      | (2)                                                 | 20:05         | 9.32 | 13.20                | 0.865                | 0.726        | 0.560          | 140.7                   | -29.8       |
| DTB (feet)               |           |                                                     |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom          | 130.83    | (3)                                                 | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DEDICATED PUMP           | Y         | (4)                                                 | NA            | NA   | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DTW (feet)               |           | <b>WEATHER CONDITIONS</b><br>Cloudy, breezy, 60°s   |               |      |                      |                      |              |                |                         |             |
| Depth to Water           | 7.70      |                                                     |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                | 123.80    |                                                     |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.) | 1.02      |                                                     |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)     | 126       |                                                     |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)    | 376.78    |                                                     |               |      |                      |                      |              |                |                         |             |
| PURGE DATE               | 8/23/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen |               |      |                      |                      |              |                |                         |             |
| PURGE TIME               | 20:00     |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY               | 8/24/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME              | 10:30     |                                                     |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH               | NA        |                                                     |               |      |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                                                     |               |      |                      |                      |              |                |                         |             |
| at end of Purging        | NA        |                                                     |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Well went dry after two casings. Collected water samples, labeled and placed on ice in cooler.

| <b>MW-2</b>              |           | <b>TEST PARAMETERS</b>                                   |               |      |                      |                      |              |                |                         |             |
|--------------------------|-----------|----------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                          |           |                                                          | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE               | 8/23/2012 | (1)                                                      | 14:20         | 9.28 | 13.56                | 0.884                | 0.734        | 0.56           | 17.9                    | -40.7       |
| GAUGE TIME               | 8:55      | (2)                                                      | 15:00         | 9.32 | 14.10                | 0.891                | 0.731        | 0.56           | 20.7                    | -51.6       |
| DTB (feet)               |           |                                                          |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom          | 137.48    | (3)                                                      | 16:00         | 9.27 | 14.24                | 0.899                | 0.732        | 0.56           | 20.3                    | -23.2       |
| DEDICATED PUMP           | Y         | (4)                                                      | 17:00         | 9.32 | 13.94                | 0.895                | 0.737        | 0.57           | 20.1                    | -23.3       |
| DTW (feet)               |           | <b>WEATHER CONDITIONS</b><br>Partly cloudy, breezy, 70°s |               |      |                      |                      |              |                |                         |             |
| Depth to Water           | 9.97      |                                                          |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                | 127.51    |                                                          |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.) | 1.02      |                                                          |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)     | 130.060   |                                                          |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)    | 390.18    |                                                          |               |      |                      |                      |              |                |                         |             |
| PURGE DATE               | 8/23/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen      |               |      |                      |                      |              |                |                         |             |
| PURGE TIME               | 14:20     |                                                          |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY               | 8/24/2012 |                                                          |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME              | 10:50     |                                                          |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH               | NA        |                                                          |               |      |                      |                      |              |                |                         |             |
| DTW (feet)               |           |                                                          |               |      |                      |                      |              |                |                         |             |
| at end of Purging        | NA        |                                                          |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| <b>MW-4</b>                  |           | <b>TEST PARAMETERS</b>                              |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|-----------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                     | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/20/2012 | (1)                                                 | 13:55      | 8.97 | 13.72             | 1.187             | 0.770     | 0.600          | 23.2                 | 82.3     |
| GAUGE TIME                   | 13:50     | (2)                                                 | 15:00      | 8.98 | 14.41             | 1.206             | 0.780     | 0.600          | 23.5                 | 44.7     |
| DTB (feet) Depth to Bottom   | 121.72    | (3)                                                 | 16:00      | 8.90 | 14.92             | 1.159             | 0.75      | 0.58           | 29.1                 | 46.4     |
| DEDICATED PUMP               | Y         | (4)                                                 | 16:45      | 8.91 | 13.90             | 1.178             | 0.76      | 0.59           | 28.6                 | 45.3     |
| DTW (feet) Depth to Water    | 7.76      | <b>WEATHER CONDITIONS</b><br>Sunny, winds NNW, 80°s |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 113.96    |                                                     |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     | 1.02      |                                                     |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         | 116.239   |                                                     |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | 348.72    |                                                     |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 8/20/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 13:50     |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/21/2012 |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 20:30     |                                                     |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                                     |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                                     |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Purged about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

| <b>MW-5</b>                  |           | <b>TEST PARAMETERS</b>                                       |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|--------------------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                              | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 8/22/2012 | (1)                                                          | 17:35      | 9.29 | 13.09             | 0.9350            | 0.785     | 0.61           | 31.3                 | -30      |
| GAUGE TIME                   | 17:30     | (2)                                                          | 18:35      | 8.99 | 13.59             | 1.1090            | 0.922     | 0.72           | 42.9                 | 5        |
| DTB (feet) Depth to Bottom   | 130.83    | (3)                                                          | 19:00      | 9.31 | 13.83             | 0.90              | 0.744     | 0.57           | 29.3                 | 28       |
| DEDICATED PUMP               | Y         | (4)                                                          | 19:25      | 9.31 | 13.38             | 0.8960            | 0.748     | 0.58           | 21.1                 | -0.3     |
| DTW (feet) Depth to Water    | 11.40     | <b>WEATHER CONDITIONS</b><br>Winds ESE @ 20mph; cloudy, 70°s |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 119.43    |                                                              |            |      |                   |                   |           |                |                      |          |
| Capacity per foot (gal.)     | 0.74      |                                                              |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume (gal.)         | 88.378    |                                                              |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes (gal.)        | 265.13    |                                                              |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 8/22/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen          |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 17:35     |                                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 8/23/2012 |                                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 8:05      |                                                              |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | NA        |                                                              |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NA        |                                                              |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Purged about three well volumes. Disposed of purge water at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| SMW-2                           |           | TEST PARAMATERS                                     |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-----------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                     | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 8/20/2012 | (1)                                                 | 17:10         | 7.67 | 12.64                | 7.702                | 6.555        | 5.72           | 62.4                    | 15.2        |
| GAUGE TIME                      | 13:00     | (2)                                                 | 17:15         | 7.47 | 12.57                | 7.925                | 6.752        | 5.86           | 33.9                    | 15.2        |
| DTB (feet) Depth<br>to Bottom   | 52.80     | (3)                                                 | 17:20         | 7.54 | 12.68                | 7.834                | 6.668        | 5.84           | 54.3                    | 21.8        |
| DEDICATED PUMP                  | N         | (4)                                                 | 17:25         | 7.51 | 13                   | 7.946                | 6.692        | 5.84           | 66.1                    | 27.9        |
| DTW (feet)<br>Depth to Water    | 25.20     | WEATHER CONDITIONS<br>Sunny, 10 mph SW wind, 70°s   |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 27.60     |                                                     |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)        | 0.16      |                                                     |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)            | 4.5       |                                                     |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)           | 13.50     |                                                     |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 8/22/2012 | WATER APPEARANCE<br>brown, no odor, no sheen, silty |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 17:10     |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 8/23/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 7:40      |                                                     |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                     |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                     |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Bailed about three well volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples with bailer, labeled and placed on ice in cooler.

| SMW-4                            |           | TEST PARAMETERS                                     |               |      |                      |                      |              |                |                         |             |
|----------------------------------|-----------|-----------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                  |           |                                                     | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                       | 8/23/2012 | (1)                                                 | 8:25          | 8.82 | 12.92                | 0.987                | 0.834        | 0.65           | 18.3                    | 15.9        |
| GAUGE TIME                       | 8:20      | (2)                                                 | 8:32          | 8.91 | 13.70                | 1.000                | 0.829        | 0.64           | 12.8                    | -11.6       |
| DTB (feet)<br>Depth<br>to Bottom | 69.68     | (3)                                                 | 8:39          | 8.79 | 13.29                | 1.012                | 0.847        | 0.66           | 16.3                    | -17.0       |
| DEDICATED PUMP                   | Y         | (4)                                                 | 8:46          | 8.77 | 13.36                | 1.014                | 0.852        | 0.67           | 15.4                    | -21.6       |
| DTW (feet)                       | 29.16     | WEATHER CONDITIONS<br>Cloudy, 60°s, calm            |               |      |                      |                      |              |                |                         |             |
| Depth to Water                   | 29.16     |                                                     |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                        | 40.52     |                                                     |               |      |                      |                      |              |                |                         |             |
| Capacity per foot (gal.)         | 0.163     |                                                     |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume (gal.)             | 6.6       |                                                     |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes (gal.)            | 19.80     | WATER APPEARANCE<br>Cloudy, gray, no odor, no sheen |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                       | 8/23/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                       | 8:25      |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                       | 8/24/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                      | 10:40     |                                                     |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                       | NA        |                                                     |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging  | NA        |                                                     |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Well dry after 3 casing volumes, water disposed of at the bundle pad upstream of the NAPIS. Collected water samples, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.  
Disposable bailer - polyethylene bailer (1.5" x 36" OAL), individually sealed.  
55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Conrad Morgan/Jacob Berreth - Trihydro Corp.



**WESTERN REFINING - GALLUP REFINERY**  
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| PW-3                            |           | TEST PARAMATERS                                  |               |    |                      |                      |              |                |                         |
|---------------------------------|-----------|--------------------------------------------------|---------------|----|----------------------|----------------------|--------------|----------------|-------------------------|
|                                 |           |                                                  | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | NA        | (1)                                              | NA            |    |                      |                      |              |                |                         |
| GAUGE TIME                      | NA        | (2)                                              |               |    |                      |                      |              |                |                         |
| DTB (feet)                      | NA        | (3)                                              |               |    |                      |                      |              |                |                         |
| Depth to Bottom                 |           |                                                  |               |    |                      |                      |              |                |                         |
| DEDICATED PUMP                  | Y         | (4)                                              |               |    |                      |                      |              |                |                         |
| DTW (feet)                      | NA        | WEATHER CONDITIONS<br>Mostly sunny, 80°s, breezy |               |    |                      |                      |              |                |                         |
| Depth to Water                  |           |                                                  |               |    |                      |                      |              |                |                         |
| DTB - DTW                       | NA        |                                                  |               |    |                      |                      |              |                |                         |
| Capacity per foot (gal.)        | NA        |                                                  |               |    |                      |                      |              |                |                         |
| 1 Well Volume (gal.)            | NA        |                                                  |               |    |                      |                      |              |                |                         |
| 3 Well Volumes (gal.)           | NA        |                                                  |               |    |                      |                      |              |                |                         |
| PURGE DATE                      | NA        |                                                  |               |    |                      |                      |              |                |                         |
| PURGE TIME                      | NA        | WATER APPEARANCE<br>Cloudy, gray, odor, no sheen |               |    |                      |                      |              |                |                         |
| SAMPLE DAY                      | 8/24/2012 |                                                  |               |    |                      |                      |              |                |                         |
| SAMPLE TIME                     | 14:30     |                                                  |               |    |                      |                      |              |                |                         |
| PUMP DEPTH                      | NA        |                                                  |               |    |                      |                      |              |                |                         |
| DTW (feet)<br>at end of Purging | NA        |                                                  |               |    |                      |                      |              |                |                         |

**SAMPLE LOG**

Collected grab sample; purged approximately 3 gallons, water disposed of at the bundle pad upstream of the NAPIS.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

55 gallon drum or 5-gallon bucket to catch purge water.

**Signature:** Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| <b>OW-1</b>       |            | <b>TEST PARAMETERS</b>                               |               |      |                      |                      |              |                |                         |             |
|-------------------|------------|------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                                                      | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/27/2012 | (1)                                                  | 7:15          | 8.53 | 9.52                 | 1.332                | 0.866        | 0.67           | 49.6                    | -18.9       |
| GAUGE TIME        | 6:30       | (2)                                                  | 7:25          | 8.86 | 9.83                 | 1.368                | 0.888        | 0.69           | 34.3                    | 4.3         |
| DTB (feet)        |            |                                                      |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom   | 94.55      | (3)                                                  |               |      |                      |                      |              |                |                         |             |
| DEDICATED PUMP    | No         | (4)                                                  |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Clear, 20's, calm.      |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 0.12       |                                                      |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 94.43      |                                                      |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 0.74       |                                                      |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume     | 69.88      |                                                      |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    | 210        |                                                      |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 11/27/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor, no sheen. |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 7:15       |                                                      |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 11/27/2012 |                                                      |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 7:25       |                                                      |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | 88         |                                                      |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |            |                                                      |               |      |                      |                      |              |                |                         |             |
| at end of Purging | NM         |                                                      |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Portable pump set to 88', purged ~ 20 gallons, collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

| <b>OW-10</b>      |            | <b>TEST PARAMETERS</b>                         |               |      |                      |                      |              |                |                         |             |
|-------------------|------------|------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                                                | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/27/2012 | (1)                                            | 8:30          | 6.88 | 11.65                | 13.100               | 8.505        | 7.56           | 51.6                    | 50.0        |
| GAUGE TIME        | 7:55       | (2)                                            | 8:44          | 7.22 | 12.44                | 5.596                | 4.789        | 4.08           | 31.4                    | 29.2        |
| DTB (feet)        |            |                                                |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom   | 60.33      | (3)                                            | 8:58          | 7.39 | 12.50                | 5.411                | 4.622        | 3.93           | 39.2                    | 26.8        |
| DEDICATED PUMP    | No         | (4)                                            | 9:12          | 7.36 | 11.80                | 6.317                | 5.492        | 4.72           | 32.1                    | 31.7        |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Clear, 20's, calm |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 3.25       |                                                |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 57.08      |                                                |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 0.74       |                                                |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume     | 42.24      |                                                |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    | 126.72     |                                                |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 11/27/2012 | <b>WATER APPEARANCE</b><br>clear               |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 8:30       |                                                |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 11/27/2012 |                                                |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 9:12       |                                                |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | 55'        |                                                |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |            |                                                |               |      |                      |                      |              |                |                         |             |
| at end of Purging | NM         |                                                |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Portable pump set to 55', purged ~130 gallons, collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal of at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
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| <b>OW-13</b>      |            | <b>TEST PARAMATERS</b>                          |            |      |                   |                   |           |                |                      |          |
|-------------------|------------|-------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |            |                                                 | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 11/27/2012 | (1)                                             | 11:30      | 8.34 | 12.53             | 0.941             | 0.803     | 0.62           | 20.6                 | -71.8    |
| GAUGE TIME        | 11:25      | (2)                                             | 11:46      | 8.27 | 12.66             | 0.943             | 0.803     | 0.62           | 16.6                 | -67.4    |
| DTB (feet)        |            |                                                 |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 99.15      | (3)                                             | 12:02      | 8.24 | 12.69             | 0.945             | 0.803     | 0.62           | 10.6                 | -58.0    |
| DEDICATED PUMP    | Yes        | (4)                                             | 12:18      | 8.21 | 12.61             | 0.945             | 0.805     | 0.62           | 17.6                 | -47.3    |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Sunny, calm, 40's. |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 22.90      |                                                 |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 76.25      |                                                 |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.74       |                                                 |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 56.43      |                                                 |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 169.28     |                                                 |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 11/27/2012 | <b>WATER APPEARANCE</b><br>clear                |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 11:30      |                                                 |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 11/27/2012 |                                                 |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 12:18      |                                                 |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NM         |                                                 |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |            |                                                 |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NM         |                                                 |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 170 gals. Collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

| <b>OW-14</b>      |            | <b>TEST PARAMATERS</b>                          |            |      |                   |                   |           |                |                      |          |
|-------------------|------------|-------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |            |                                                 | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 11/27/2012 | (1)                                             | 12:30      | 7.30 | 13.49             | 1.870             | 1.558     | 1.24           | 13.1                 | -146.9   |
| GAUGE TIME        | 12:25      | (2)                                             | 12:40      | 7.24 | 13.44             | 1.901             | 1.586     | 1.27           | 17.7                 | -135.7   |
| DTB (feet)        |            |                                                 |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 46.52      | (3)                                             | 12:50      | 7.20 | 13.46             | 1.913             | 1.595     | 1.27           | 10.9                 | -133.7   |
| DEDICATED PUMP    | Yes        | (4)                                             | 13:00      | 7.23 | 13.41             | 1.908             | 1.593     | 1.27           | 10.7                 | -130.1   |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Sunny, 50's, calm. |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 25.05      |                                                 |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 21.47      |                                                 |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.74       |                                                 |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 15.89      |                                                 |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 47.66      |                                                 |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 11/27/2012 | <b>WATER APPEARANCE</b><br>clear                |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 12:30      |                                                 |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 11/27/2012 |                                                 |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 13:00      |                                                 |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NM         |                                                 |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |            |                                                 |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NM         |                                                 |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 50 gals. Collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Dedicated pumps

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| <b>OW-29</b>      |            | <b>TEST PARAMETERS</b>                           |            |      |                   |                   |           |                |                      |          |
|-------------------|------------|--------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |            |                                                  | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 11/27/2012 | (1)                                              | 13:05      | 7.56 | 12.35             | 1.333             | 1.143     | 0.90           | 22.3                 | -106.1   |
| GAUGE TIME        | 13:05      | (2)                                              | 13:11      | 7.63 | 13.01             | 1.336             | 1.126     | 0.88           | 24.8                 | -79.8    |
| DTB (feet)        |            |                                                  |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 51.08      | (3)                                              |            |      |                   |                   |           |                |                      |          |
| DEDICATED PUMP    | Yes        | (4)                                              |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Sunny, calm, 50's.  |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 19.85      |                                                  |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 31.23      |                                                  |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.74       |                                                  |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 23.11      |                                                  |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 69.33      |                                                  |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 11/27/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor/sheen. |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 13:05      |                                                  |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 11/27/2012 |                                                  |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 13:11      |                                                  |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NM         |                                                  |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |            |                                                  |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NM         |                                                  |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Began to purge dry ~40 gallons. Collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

| <b>OW-30</b>      |            | <b>TEST PARAMETERS</b>                           |            |      |                   |                   |           |                |                      |          |
|-------------------|------------|--------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |            |                                                  | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 11/27/2012 | (1)                                              | 10:00      | 7.90 | 12.11             | 1.372             | 1.184     | 0.93           | 21.0                 | -46.9    |
| GAUGE TIME        | 9:55       | (2)                                              | 10:04      | 7.62 | 12.32             | 1.361             | 1.167     | 0.92           | 14.4                 | -42.0    |
| DTB (feet)        |            |                                                  |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 49.90      | (3)                                              | 10:08      | 7.46 | 12.42             | 1.369             | 1.172     | 0.92           | 12.7                 | -34.7    |
| DEDICATED PUMP    | Yes        | (4)                                              | 10:12      | 7.42 | 12.58             | 1.367             | 1.165     | 0.92           | 12.9                 | -32.8    |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Sunny, 20's, calm.  |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 24.39      |                                                  |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 25.51      |                                                  |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.74       |                                                  |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 18.88      |                                                  |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 56.63      |                                                  |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 11/27/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor/sheen. |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 10:00      |                                                  |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 11/27/2012 |                                                  |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 10:12      |                                                  |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NM         |                                                  |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |            |                                                  |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NM         |                                                  |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Pumped approximately 60 gals. Collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Dedicated pumps

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| <b>OW-50</b>                    |            | <b>TEST PARAMETERS</b>                                                            |            |      |                      |                      |              |                |                         |             |
|---------------------------------|------------|-----------------------------------------------------------------------------------|------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |            |                                                                                   | Time (hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 11/27/2012 | (1)                                                                               | 14:15      | 8.34 | 13.14                | 0.833                | 0.699        | 0.54           | 30.3                    | -85.7       |
| GAUGE TIME                      | 2:10:00 PM | (2)                                                                               | 14:20      | 8.31 | 12.91                | 0.829                | 0.700        | 0.54           | 16.6                    | -89.0       |
| DTB (feet)                      |            |                                                                                   |            |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 64.00      | (3)                                                                               | 14:25      | 8.32 | 12.89                | 0.825                | 0.698        | 0.54           | 20.3                    | -87.8       |
| DEDICATED PUMP                  | No         | (4)                                                                               | 14:30      | 8.37 | 12.98                | 0.832                | 0.702        | 0.54           | 20.6                    | -89.8       |
| DTW (feet)<br>Depth to Water    | 17.28      | <b>WEATHER CONDITIONS</b><br>Sunny, 50's, calm.                                   |            |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 46.72      |                                                                                   |            |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.163      |                                                                                   |            |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 7.62       |                                                                                   |            |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 22.85      |                                                                                   |            |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 11/27/2012 | <b>WATER APPEARANCE</b><br>Cloudy brown, becomes clear with purge, no odor/sheen. |            |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 14:15      |                                                                                   |            |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 11/27/2012 |                                                                                   |            |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 14:30      |                                                                                   |            |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | 60         |                                                                                   |            |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NM         |                                                                                   |            |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged ~25 gallons using portable pump. Collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

| <b>OW-52</b>                    |            | <b>TEST PARAMETERS</b>                                                                   |            |      |                      |                      |              |                |                         |             |
|---------------------------------|------------|------------------------------------------------------------------------------------------|------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |            |                                                                                          | Time (hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 11/27/2012 | (1)                                                                                      | 13:28      | 8.13 | 14.58                | 1.486                | 1.206        | 0.95           | 44.0                    | -133.8      |
| GAUGE TIME                      | 13:25      | (2)                                                                                      | 13:38      | 8.38 | 13.16                | 0.770                | 0.646        | 0.49           | 15.9                    | -138.6      |
| DTB (feet)                      |            |                                                                                          |            |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 77.74      | (3)                                                                                      | 13:48      | 8.38 | 12.87                | 0.772                | 0.653        | 0.50           | 21.8                    | -123.4      |
| DEDICATED PUMP                  | No         | (4)                                                                                      | 13:58      | 8.38 | 13.05                | 0.775                | 0.653        | 0.50           | 15.8                    | -94.3       |
| DTW (feet)<br>Depth to Water    | 16.13      | <b>WEATHER CONDITIONS</b><br>Sunny, 50's, calm.                                          |            |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 61.61      |                                                                                          |            |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.163      |                                                                                          |            |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 10.04      |                                                                                          |            |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 30.13      |                                                                                          |            |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 11/27/2012 | <b>WATER APPEARANCE</b><br>Clear to cloudy brown/black and back to clear. No odor/sheen. |            |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 13:28      |                                                                                          |            |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 11/27/2012 |                                                                                          |            |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 13:58      |                                                                                          |            |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | 71'        |                                                                                          |            |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NM         |                                                                                          |            |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Portable pump set to 71', purged ~ 30 gallons, collected water samples, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

**Signature:** Jacob Berreth, Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012 - RESAMPLE (SVOCS)**

| <b>OW-50</b>                 |            | <b>TEST PARAMETERS</b>                                                            |            |      |                   |                   |           |                |                      |          |
|------------------------------|------------|-----------------------------------------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |            |                                                                                   | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 12/5/2012  | (1)                                                                               | 9:58       | 8.26 | 12.94             | 0.829             | 0.688     | 0.52           | 38.6                 | -26.8    |
| GAUGE TIME                   | 9:50:00 AM | (2)                                                                               | 10:13      | 8.27 | 12.91             | 0.828             | 0.685     | 0.52           | 22.4                 | -27.5    |
| DTB (feet)                   |            |                                                                                   |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom              | 64.00      | (3)                                                                               | 10:28      | 8.28 | 12.88             | 0.830             | 0.683     | 0.52           | 20.8                 | -28.1    |
| DEDICATED PUMP               | No         | (4)                                                                               | 10:43      | 8.29 | 12.85             | 0.831             | 0.684     | 0.52           | 20.5                 | -28.7    |
| DTW (feet)                   |            | <b>WEATHER CONDITIONS</b><br>Sunny, 40's, calm.                                   |            |      |                   |                   |           |                |                      |          |
| Depth to Water               | 17.28      |                                                                                   |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 46.72      |                                                                                   |            |      |                   |                   |           |                |                      |          |
| Capacity per foot            | 0.163      |                                                                                   |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume                | 7.62       |                                                                                   |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes               | 22.85      |                                                                                   |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 12/5/2012  | <b>WATER APPEARANCE</b><br>Cloudy brown, becomes clear with purge, no odor/sheen. |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 9:50       |                                                                                   |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 12/5/2012  |                                                                                   |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 10:43      |                                                                                   |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | 60         |                                                                                   |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NM         |                                                                                   |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

The SVOC container was not filled during the original sampling event on 11/27/2012. The well was resampled for SVOCs only on 12/5/2012. Purged ~23 gallons using portable pump. Collected water sample, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

| <b>OW-52</b>                 |           | <b>TEST PARAMETERS</b>                              |            |      |                   |                   |           |                |                      |          |
|------------------------------|-----------|-----------------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                              |           |                                                     | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE                   | 12/5/2012 | (1)                                                 | 10:52      | 8.26 | 13.68             | 0.726             | 0.711     | 0.56           | 29.6                 | -168.4   |
| GAUGE TIME                   | 10:50     | (2)                                                 | 11:02      | 8.28 | 13.67             | 0.741             | 0.632     | 0.53           | 18.4                 | -155.3   |
| DTB (feet)                   |           |                                                     |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom              | 77.74     | (3)                                                 | 11:12      | 8.31 | 13.51             | 0.735             | 0.641     | 0.53           | 16.3                 | -151.2   |
| DEDICATED PUMP               | No        | (4)                                                 | 11:22      | 8.33 | 13.47             | 0.731             | 0.644     | 0.53           | 19.2                 | -144.3   |
| DTW (feet)                   |           | <b>WEATHER CONDITIONS</b><br>Sunny, 40's, calm.     |            |      |                   |                   |           |                |                      |          |
| Depth to Water               | 16.26     |                                                     |            |      |                   |                   |           |                |                      |          |
| DTB - DTW                    | 61.48     |                                                     |            |      |                   |                   |           |                |                      |          |
| Capacity per foot            | 0.163     |                                                     |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume                | 10.02     |                                                     |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes               | 30.06     |                                                     |            |      |                   |                   |           |                |                      |          |
| PURGE DATE                   | 12/5/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor or sheen. |            |      |                   |                   |           |                |                      |          |
| PURGE TIME                   | 10:50     |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY                   | 12/5/2012 |                                                     |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME                  | 11:22     |                                                     |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH                   | 70'       |                                                     |            |      |                   |                   |           |                |                      |          |
| DTW (feet) at end of Purging | NM        |                                                     |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

The SVOC container was not filled during the original sampling event on 11/27/2012. The well was resampled for SVOCs only on 12/5/2012. Portable pump set to 70', purged ~ 30 gallons, collected water sample, labeled and placed on ice in cooler. Purge water drummed for disposal at the bundle pad upstream of the NAPIS .

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Submersible pump, Grundfos Redi-flo 2, 2" and an adjustable rate controller.

**Signature:** Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| <b>GWM-1</b>                    |            | <b>TEST PARAMATERS</b>                                          |               |      |                      |                      |              |                |                         |             |
|---------------------------------|------------|-----------------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |            |                                                                 | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 11/28/2012 | (1)                                                             | 7:18          | 7.23 | 13.13                | 4.586                | 3.858        | 3.24           | 33.2                    | -106.1      |
| GAUGE TIME                      | 7:10       | (2)                                                             | 7:22          | 6.95 | 12.82                | 4.687                | 3.973        | 3.35           | 25.7                    | -97.5       |
| DTB (feet)                      |            | (3)                                                             | 7:25          | 6.85 | 12.76                | 4.710                | 3.949        | 3.33           | 22.8                    | -96.7       |
| Depth to Bottom                 | 26.20      |                                                                 |               |      |                      |                      |              |                |                         |             |
| DEDICATED PUMP                  | No         | (4)                                                             |               |      |                      |                      |              |                |                         |             |
| DTW (feet)                      |            | <b>WEATHER CONDITIONS</b><br>Clear, 20's, calm.                 |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 14.50      |                                                                 |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 11.70      |                                                                 |               |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.163      |                                                                 |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 1.91       |                                                                 |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 5.72       |                                                                 |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 11/28/2012 | <b>WATER APPEARANCE</b><br>Light yellow, cloudy, no odor/sheen. |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 7:18       |                                                                 |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 11/28/2012 |                                                                 |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 7:25       |                                                                 |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA         |                                                                 |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | 25.48      |                                                                 |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Purged ~6 gallons w/ bailer. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.

Bailer

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| GWM-2             |            | TEST PARAMETERS |                                                     |    |                      |                            |              |                |                         |             |
|-------------------|------------|-----------------|-----------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                 | Time<br>(hrs)                                       | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/28/2012 | (1)             | Not Recorded                                        |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | 7:10       | (2)             |                                                     |    |                      |                            |              |                |                         |             |
| DTB (feet)        |            | (3)             |                                                     |    |                      |                            |              |                |                         |             |
| Depth to Bottom   | 18.81      | (4)             |                                                     |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | No         |                 | WEATHER CONDITIONS<br>Clear, 20's, calm.            |    |                      |                            |              |                |                         |             |
| DTW (feet)        |            |                 |                                                     |    |                      |                            |              |                |                         |             |
| Depth to Water    | 13.83      |                 |                                                     |    |                      |                            |              |                |                         |             |
| DTB - DTW         | 4.98       |                 |                                                     |    |                      |                            |              |                |                         |             |
| Capacity per foot | 0.163      |                 |                                                     |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | 0.812      |                 |                                                     |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | 2.44       |                 | WATER APPEARANCE<br>light yellow, no odor or sheen. |    |                      |                            |              |                |                         |             |
| PURGE DATE        | 11/28/2012 |                 |                                                     |    |                      |                            |              |                |                         |             |
| PURGE TIME        | 7:20       |                 |                                                     |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 11/28/2012 |                 |                                                     |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 7:23       |                 |                                                     |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA         |                 |                                                     |    |                      |                            |              |                |                         |             |
| DTW (feet)        |            |                 |                                                     |    |                      |                            |              |                |                         |             |
| at end of Purging | 18.52      |                 |                                                     |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Bailed ~1 gallon, sampled well. 18.52 DTW after purge dry. Purge water disposed of at bundle pad upstream of the NAPIS.

| GWM-3                           |            | TEST PARAMATERS |                                                          |    |                      |                            |              |                |                         |             |
|---------------------------------|------------|-----------------|----------------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |            |                 | Time<br>(hrs)                                            | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 11/28/2012 | (1)             | Not Recorded                                             |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      | 6:30       | (2)             |                                                          |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |            | (3)             |                                                          |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | 17.80      | (4)             |                                                          |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | No         |                 | WEATHER CONDITIONS<br>Clear, 20's, clam.                 |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>Depth to Water    | 13.60      |                 |                                                          |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | 4.80       |                 |                                                          |    |                      |                            |              |                |                         |             |
| Capacity per foot               | 0.163      |                 |                                                          |    |                      |                            |              |                |                         |             |
| 1 Well Volume                   | 0.780      |                 |                                                          |    |                      |                            |              |                |                         |             |
| 3 Well Volumes                  | 2.35       |                 |                                                          |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | 11/28/2012 |                 | WATER APPEARANCE<br>Light yellow, no sheen, slight odor. |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | 6:40       |                 |                                                          |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | 11/28/2012 |                 |                                                          |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | 6:50       |                 |                                                          |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA         |                 |                                                          |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | 17.1       |                 |                                                          |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Bailed ~1 gallon, sampled well. 17.1 DTW after well was bailed dry. Purge water disposed of at bundle pad upstream of the NAPIS.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Bailer

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.



**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| NAPIS-1           |            | TEST PARAMETERS                           |            |      |                   |                   |           |                |                      |          |
|-------------------|------------|-------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |            |                                           | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 11/28/2012 | (1)                                       | 10:18      | 8.01 | 16.62             | 1.457             | 1.127     | 0.88           | 77.1                 | -30.3    |
| GAUGE TIME        | 10:15      | (2)                                       | 10:21      | 7.70 | 16.79             | 1.446             | 1.115     | 0.87           | 41.0                 | -15.7    |
| DTB (feet)        |            |                                           |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 13.53      | (3)                                       | 10:24      | 7.52 | 16.91             | 1.488             | 1.145     | 0.90           | 32.2                 | -17.7    |
| DEDICATED PUMP    | No         | (4)                                       | 10:27      | 7.42 | 16.80             | 1.533             | 1.181     | 0.93           | 29.3                 | -19.3    |
| DTW (feet)        |            | WEATHER CONDITIONS<br>Sunny, 40's, calm.  |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 8.04       |                                           |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 5.49       |                                           |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.163      |                                           |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 0.89       |                                           |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 2.68       |                                           |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 11/28/2012 | WATER APPEARANCE<br>Clear, no odor/sheen. |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 10:18      |                                           |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 11/28/2012 |                                           |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 10:27      |                                           |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NA         |                                           |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |            |                                           |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NM         |                                           |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

Began with purge. Bailed approximately 3 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS. No water present in flush mount sump.

| NAPIS-2                         |            | TEST PARAMATERS                            |               |      |                      |                      |              |                |                         |             |
|---------------------------------|------------|--------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |            |                                            | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 11/28/2012 | (1)                                        | 9:37          | 7.20 | 23.76                | 2.183                | 1.454        | 1.15           | 20.4                    | -126.4      |
| GAUGE TIME                      | 9:35       | (2)                                        | 9:40          | 7.17 | 24.26                | 2.199                | 1.451        | 1.14           | 21.5                    | -127.0      |
| DTB (feet)                      |            |                                            |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 13.61      | (3)                                        | 9:43          | 7.16 | 24.26                | 2.212                | 1.460        | 1.15           | 21.2                    | -125.4      |
| DEDICATED PUMP                  | No         | (4)                                        |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>Depth to Water    | 9.40       | WEATHER CONDITIONS<br>Sunny, 30's, calm.   |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 4.21       |                                            |               |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.163      |                                            |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 0.69       |                                            |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 2.06       |                                            |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 11/28/2012 | WATER APPEARANCE<br>Clear, odor, no sheen. |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 9:37       |                                            |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 11/28/2012 |                                            |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 9:43       |                                            |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA         |                                            |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NM         |                                            |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Began with purge. Bailed approximately 2.25 gals. Collected water samples, labeled and placed on ice in cooler. Well dry after sampling. Purge water disposed of at bundle pad upstream of the NAPIS. No water in flush mount sump.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012 - RESAMPLE (SVOCS)**

| NAPIS-1           |           | TEST PARAMETERS                           |            |      |                   |                   |           |                |                      |          |
|-------------------|-----------|-------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |           |                                           | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 12/5/2012 | (1)                                       | 9:36       | 7.86 | 16.51             | 1.464             | 1.144     | 0.91           | 46.1                 | -21.4    |
| GAUGE TIME        | 9:42      | (2)                                       | 9:39       | 7.71 | 16.47             | 1.468             | 1.468     | 0.93           | 51.4                 | -18.6    |
| DTB (feet)        |           |                                           |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 13.53     | (3)                                       | 9:40       | 7.66 | 16.44             | 1.480             | 1.480     | 0.94           | 48.3                 | -15.4    |
| DEDICATED PUMP    | No        | (4)                                       | 9:42       | 7.64 | 16.39             | 1.485             | 1.485     | 0.93           | 46.1                 | -14.3    |
| DTW (feet)        |           | WEATHER CONDITIONS<br>Sunny, 40's, calm.  |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 8.41      |                                           |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 5.12      |                                           |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.163     |                                           |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 0.83      |                                           |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 2.50      |                                           |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 12/5/2012 | WATER APPEARANCE<br>Clear, no odor/sheen. |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 9:36      |                                           |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 12/5/2012 |                                           |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 9:42      |                                           |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NA        |                                           |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |           |                                           |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NM        |                                           |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

The SVOCS container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCS only on 12/5/2012. Began with purge. Bailed approximately 3 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS. No water present in flush mount sump.

| NAPIS-2                         |           | TEST PARAMATERS                            |               |      |                      |                      |              |                |                         |             |
|---------------------------------|-----------|--------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                            | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 12/5/2012 | (1)                                        | 9:19          | 7.08 | 22.44                | 2.166                | 1.468        | 1.12           | 23.6                    | -123.8      |
| GAUGE TIME                      | 9:19      | (2)                                        | 9:21          | 7.11 | 22.38                | 2.154                | 1.423        | 1.08           | 23.1                    | -124.9      |
| DTB (feet)                      |           |                                            |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 13.61     | (3)                                        | 9:23          | 7.13 | 22.32                | 2.148                | 1.411        | 1.05           | 22.8                    | -126.2      |
| DEDICATED PUMP                  | No        | (4)                                        |               |      |                      |                      |              |                |                         |             |
| DTW (feet)                      |           | WEATHER CONDITIONS<br>Sunny, 40's, calm.   |               |      |                      |                      |              |                |                         |             |
| Depth to Water                  | 9.47      |                                            |               |      |                      |                      |              |                |                         |             |
| DTB - DTW                       | 4.14      |                                            |               |      |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.163     |                                            |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 0.67      |                                            |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 2.02      |                                            |               |      |                      |                      |              |                |                         |             |
| PURGE DATE                      | 12/5/2012 | WATER APPEARANCE<br>Clear, odor, no sheen. |               |      |                      |                      |              |                |                         |             |
| PURGE TIME                      | 9:19      |                                            |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 12/5/2012 |                                            |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 9:23      |                                            |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                            |               |      |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NM        |                                            |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

The SVOCS container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCS only on 12/5/2012. Began with purge. Bailed approximately 1.75 gallons. Well was purging dry. Collected water samples, labeled and placed on ice in cooler. Well dry after sampling. Purge water disposed of at bundle pad upstream of the NAPIS. No water in

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**3rd QTR 2012**

| <b>NAPIS-3</b>                  |           | <b>TEST PARAMETERS</b>                                                                                      |               |    |                      |                      |              |                |                         |             |
|---------------------------------|-----------|-------------------------------------------------------------------------------------------------------------|---------------|----|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                                                                                                             | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 10/2/2012 | (1)                                                                                                         | NA            | NA | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| GAUGE TIME                      | 8:50      | (2)                                                                                                         | NA            | NA | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DTB (feet)                      |           |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| Depth to Bottom                 | 30.42     | (3)                                                                                                         | NA            | NA | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DEDICATED PUMP                  | N         | (4)                                                                                                         | NA            | NA | NA                   | NA                   | NA           | NA             | NA                      | NA          |
| DTW (feet)                      |           | Test parameters not taken                                                                                   |               |    |                      |                      |              |                |                         |             |
| Depth to Water                  | 8.56      |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| DTB - DTW                       | 21.86     |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| Capacity per foot               | 0.16      | <b>WEATHER CONDITIONS</b><br>Clear day, 0-5 mph winds, 65-70 Deg F.                                         |               |    |                      |                      |              |                |                         |             |
| 1 Well Volume                   | 3.498     |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| 3 Well Volumes                  | 10.49     |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| PURGE DATE                      | 10/2/2012 |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| PURGE TIME                      | 8:55      | <b>WATER APPEARANCE</b><br>Clear to slightly cloudy - no odor detected. Turned brown towards end of purging |               |    |                      |                      |              |                |                         |             |
| SAMPLE DAY                      | 10/2/2012 |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| SAMPLE TIME                     | 9:15      |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| PUMP DEPTH                      | NA        |                                                                                                             |               |    |                      |                      |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                                                                                                             |               |    |                      |                      |              |                |                         |             |

**SAMPLE LOG**

During third quarter sampling in August, well was purged and allowed to recharge overnight to sample. Well had slow recharge rate and after 24 hours, there was not enough water to collect sample. NMED was notified and instructed to take samples during week of October 1, 2012. Opened cover - water present inside well casing. Removed water before removing plug to gauge. Bailed approximately 5 gallons before samples were collected. Samples labeled and placed in cooler on ice. Purged water was placed in 5 gallon buckets and disposed of upstream of the NAPIS.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Disposable bailer, latex gloves  
 5 gallon buckets to catch purge water

**Signature:** Cheryl Johnson / Environmental Specialist / Western Refining

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| <b>NAPIS-3</b>    |            | <b>TEST PARAMETERS</b>                              |               |      |                      |                      |              |                |                         |             |
|-------------------|------------|-----------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                                                     | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/28/2012 | (1)                                                 | 8:37          | 8.15 | 22.82                | 4.284                | 2.961        | 2.39           | 56.8                    | -44.6       |
| GAUGE TIME        | 8:35       | (2)                                                 | 8:42          | 7.96 | 20.12                | 4.089                | 2.968        | 2.42           | 36.4                    | -43.4       |
| DTB (feet)        |            |                                                     |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom   | 30.42      | (3)                                                 |               |      |                      |                      |              |                |                         |             |
| DEDICATED PUMP    | No         | (4)                                                 |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Sunny, 30's, calm.     |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 8.30       |                                                     |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 22.12      |                                                     |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 0.163      |                                                     |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume     | 3.61       |                                                     |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    | 10.82      |                                                     |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 11/28/2012 | <b>WATER APPEARANCE</b><br>Clear, no odor or sheen. |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 8:30       |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 11/28/2012 |                                                     |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 8:42       |                                                     |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | NA         |                                                     |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |            |                                                     |               |      |                      |                      |              |                |                         |             |
| at end of Purging | Dry        |                                                     |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Bailed ~ 7 gallons, well not recharging, sampled well. Purge water disposed of at bundle pad upstream of the NAPIS. Standing water in flush mount sump below top of PVC.

| <b>KA-3</b>       |            | <b>TEST PARAMETERS</b>                                           |               |      |                      |                      |              |                |                         |             |
|-------------------|------------|------------------------------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                                                                  | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/28/2012 | (1)                                                              | 9:05          | 7.53 | 24.43                | 2.490                | 1.639        | 1.30           | 58.0                    | -2.0        |
| GAUGE TIME        | 8:50       | (2)                                                              | 9:10          | 7.43 | 24.39                | 3.318                | 2.184        | 1.76           | 52.5                    | -8.9        |
| DTB (feet)        |            |                                                                  |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom   | 23.20      | (3)                                                              | 9:15          | 7.60 | 23.60                | 3.808                | 2.581        | 2.10           | 25.4                    | -22.3       |
| DEDICATED PUMP    | No         | (4)                                                              | 9:20          | 7.66 | 23.10                | 4.002                | 2.689        | 2.20           | 26.7                    | -18.6       |
| DTW (feet)        |            | <b>WEATHER CONDITIONS</b><br>Sunny, 30's, calm.                  |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 9.25       |                                                                  |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 13.95      |                                                                  |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 0.163      |                                                                  |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume     | 2.27       |                                                                  |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    | 6.82       |                                                                  |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 11/28/2012 | <b>WATER APPEARANCE</b><br>clear to cloudy brown, no odor/sheen. |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 9:05       |                                                                  |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 11/28/2012 |                                                                  |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 9:20       |                                                                  |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | NA         |                                                                  |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |            |                                                                  |               |      |                      |                      |              |                |                         |             |
| at end of Purging | NM         |                                                                  |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

Began with purge. Bailed approximately 7.5 gals. Collected water samples, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS. Standing water in flush mount sump below top of casing.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012 - RESAMPLE (SVOCS)**

| NAPIS-3           |           | TEST PARAMETERS                              |            |      |                   |                   |           |                |                      |          |
|-------------------|-----------|----------------------------------------------|------------|------|-------------------|-------------------|-----------|----------------|----------------------|----------|
|                   |           |                                              | Time (hrs) | pH   | Temperature Deg C | Conductivity (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) | ORP (mV) |
| GAUGE DATE        | 12/5/2012 | (1)                                          | 8:38       | 7.99 | 21.62             | 4.011             | 2.916     | 2.56           | 59.2                 | -44.3    |
| GAUGE TIME        | 8:38      | (2)                                          | 8:43       | 7.88 | 21.48             | 4.068             | 2.885     | 2.49           | 55.4                 | -42.1    |
| DTB (feet)        |           |                                              |            |      |                   |                   |           |                |                      |          |
| Depth to Bottom   | 30.42     | (3)                                          |            |      |                   |                   |           |                |                      |          |
| DEDICATED PUMP    | No        | (4)                                          |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |           | WEATHER CONDITIONS<br>Sunny, 30's, calm.     |            |      |                   |                   |           |                |                      |          |
| Depth to Water    | 8.42      |                                              |            |      |                   |                   |           |                |                      |          |
| DTB - DTW         | 22.00     |                                              |            |      |                   |                   |           |                |                      |          |
| Capacity per foot | 0.163     |                                              |            |      |                   |                   |           |                |                      |          |
| 1 Well Volume     | 3.59      |                                              |            |      |                   |                   |           |                |                      |          |
| 3 Well Volumes    | 10.76     |                                              |            |      |                   |                   |           |                |                      |          |
| PURGE DATE        | 12/5/2012 | WATER APPEARANCE<br>Clear, no odor or sheen. |            |      |                   |                   |           |                |                      |          |
| PURGE TIME        | 8:38      |                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE DAY        | 12/5/2012 |                                              |            |      |                   |                   |           |                |                      |          |
| SAMPLE TIME       | 8:43      |                                              |            |      |                   |                   |           |                |                      |          |
| PUMP DEPTH        | NA        |                                              |            |      |                   |                   |           |                |                      |          |
| DTW (feet)        |           |                                              |            |      |                   |                   |           |                |                      |          |
| at end of Purging | NM        |                                              |            |      |                   |                   |           |                |                      |          |

**SAMPLE LOG**

The SVOCS container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCS only on 12/5/2012. Bailed ~ 7 gallons, well not recharging, sampled well. Purge water disposed of at bundle pad upstream of the NAPIS. Standing water in flush mount sump below top of PVC.

| KA-3              |           | TEST PARAMETERS                              |               |      |                      |                      |              |                |                         |             |
|-------------------|-----------|----------------------------------------------|---------------|------|----------------------|----------------------|--------------|----------------|-------------------------|-------------|
|                   |           |                                              | Time<br>(hrs) | pH   | Temperature<br>Deg C | Conductivity<br>(mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 12/5/2012 | (1)                                          | 8:46          | 7.68 | 23.20                | 2.500                | 2.011        | 1.36           | 26.2                    | -16.6       |
| GAUGE TIME        | 8:46      | (2)                                          | 8:50          | 7.66 | 23.43                | 2.486                | 2.028        | 1.46           | 24.8                    | -16.9       |
| DTB (feet)        |           |                                              |               |      |                      |                      |              |                |                         |             |
| Depth to Bottom   | 23.20     | (3)                                          | 8:54          | 7.67 | 23.48                | 2.477                | 2.107        | 1.56           | 23.3                    | -17.2       |
| DEDICATED PUMP    | No        | (4)                                          | 8:58          | 7.68 | 23.49                | 2.462                | 2.149        | 1.68           | 22.4                    | -17.6       |
| DTW (feet)        |           | WEATHER CONDITIONS<br>Sunny, 30's, calm.     |               |      |                      |                      |              |                |                         |             |
| Depth to Water    | 9.38      |                                              |               |      |                      |                      |              |                |                         |             |
| DTB - DTW         | 13.82     |                                              |               |      |                      |                      |              |                |                         |             |
| Capacity per foot | 0.163     |                                              |               |      |                      |                      |              |                |                         |             |
| 1 Well Volume     | 2.25      |                                              |               |      |                      |                      |              |                |                         |             |
| 3 Well Volumes    | 6.76      | WATER APPEARANCE<br>Clear, no odor or sheen. |               |      |                      |                      |              |                |                         |             |
| PURGE DATE        | 12/5/2012 |                                              |               |      |                      |                      |              |                |                         |             |
| PURGE TIME        | 8:46      |                                              |               |      |                      |                      |              |                |                         |             |
| SAMPLE DAY        | 12/5/2012 |                                              |               |      |                      |                      |              |                |                         |             |
| SAMPLE TIME       | 8:58      |                                              |               |      |                      |                      |              |                |                         |             |
| PUMP DEPTH        | NA        |                                              |               |      |                      |                      |              |                |                         |             |
| DTW (feet)        |           |                                              |               |      |                      |                      |              |                |                         |             |
| at end of Purging | NM        |                                              |               |      |                      |                      |              |                |                         |             |

**SAMPLE LOG**

The SVOCS container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCS only on 12/5/2012. Began with purge. Bailed approximately 7 gals. Collected water sample, labeled and placed on ice in cooler. Purge water disposed of at bundle pad upstream of the NAPIS. Standing water in flush mount sump below top of casing.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
Bailer

**Signature:** Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| East LDU          |            | TEST PARAMETERS |                                          |    |                   |                         |           |                |                      |
|-------------------|------------|-----------------|------------------------------------------|----|-------------------|-------------------------|-----------|----------------|----------------------|
|                   |            |                 | Time (hrs)                               | pH | Temperature Deg C | Conductivity (uS), (mS) | TDS (g/L) | Salinity (ppt) | Dissolved Oxygen (%) |
| GAUGE DATE        | 11/28/2012 | (1)             | Not Recorded                             |    |                   |                         |           |                |                      |
| GAUGE TIME        | 11:00      | (2)             |                                          |    |                   |                         |           |                |                      |
| DTB (feet)        |            | (3)             |                                          |    |                   |                         |           |                |                      |
| Depth to Bottom   | NM         | (4)             |                                          |    |                   |                         |           |                |                      |
| DEDICATED PUMP    | No         |                 | WEATHER CONDITIONS<br>Sunny, 40's, calm. |    |                   |                         |           |                |                      |
| DTW (feet)        |            |                 |                                          |    |                   |                         |           |                |                      |
| Depth to Water    | 1.31       |                 |                                          |    |                   |                         |           |                |                      |
| DTB - DTW         | NA         |                 |                                          |    |                   |                         |           |                |                      |
| Capacity per foot | NA         |                 |                                          |    |                   |                         |           |                |                      |
| 1 Well Volume     | NA         |                 |                                          |    |                   |                         |           |                |                      |
| 3 Well Volumes    | NA         |                 | WATER APPEARANCE<br>yellow               |    |                   |                         |           |                |                      |
| PURGE DATE        | NA         |                 |                                          |    |                   |                         |           |                |                      |
| PURGE TIME        | NA         |                 |                                          |    |                   |                         |           |                |                      |
| SAMPLE DAY        | 11/28/2012 |                 |                                          |    |                   |                         |           |                |                      |
| SAMPLE TIME       | 11:05      |                 |                                          |    |                   |                         |           |                |                      |
| PUMP DEPTH        | NA         |                 |                                          |    |                   |                         |           |                |                      |
| DTW (feet)        |            |                 |                                          |    |                   |                         |           |                |                      |
| at end of Purging | NM         |                 |                                          |    |                   |                         |           |                |                      |

**SAMPLE LOG**

Collected grab sample with bailer, labeled and placed on ice in cooler.

| West LDU                        |            | TEST PARAMATERS |                                          |    |                      |                            |              |                |                         |
|---------------------------------|------------|-----------------|------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                                 |            |                 | Time<br>(hrs)                            | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | 11/28/2012 | (1)             | Not Recorded                             |    |                      |                            |              |                |                         |
| GAUGE TIME                      | 11:10      | (2)             |                                          |    |                      |                            |              |                |                         |
| DTB (feet)                      |            | (3)             |                                          |    |                      |                            |              |                |                         |
| Depth to Bottom                 | NM         | (4)             |                                          |    |                      |                            |              |                |                         |
| DEDICATED PUMP                  | No         |                 | WEATHER CONDITIONS<br>Sunny, 40's, calm. |    |                      |                            |              |                |                         |
| DTW (feet)<br>Depth to Water    | 0.32       |                 |                                          |    |                      |                            |              |                |                         |
| DTB - DTW                       | NA         |                 |                                          |    |                      |                            |              |                |                         |
| Capacity per foot               | NA         |                 |                                          |    |                      |                            |              |                |                         |
| 1 Well Volume                   | NA         |                 |                                          |    |                      |                            |              |                |                         |
| 3 Well Volumes                  | NA         |                 |                                          |    |                      |                            |              |                |                         |
| PURGE DATE                      | NA         |                 | WATER APPEARANCE<br>clear                |    |                      |                            |              |                |                         |
| PURGE TIME                      | NA         |                 |                                          |    |                      |                            |              |                |                         |
| SAMPLE DAY                      | 11/28/2012 |                 |                                          |    |                      |                            |              |                |                         |
| SAMPLE TIME                     | 11:15      |                 |                                          |    |                      |                            |              |                |                         |
| PUMP DEPTH                      | NA         |                 |                                          |    |                      |                            |              |                |                         |
| DTW (feet)<br>at end of Purging | NM         |                 |                                          |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Collected grab sample with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

Bailer

**Signature:** Tom Fleener/Jacob Berreth - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| Oil Sump LDU      |            | TEST PARAMATERS |                                                    |    |                      |                            |              |                |                         |             |
|-------------------|------------|-----------------|----------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                 | Time<br>(hrs)                                      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/28/2012 | (1)             | Not Recorded                                       |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | 10:40      | (2)             |                                                    |    |                      |                            |              |                |                         |             |
| DTB (feet)        | NM         | (3)             |                                                    |    |                      |                            |              |                |                         |             |
| Depth to Bottom   |            | (4)             |                                                    |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | No         |                 | WEATHER CONDITIONS<br>Sunny, 40's, calm.           |    |                      |                            |              |                |                         |             |
| DTW (feet)        | 2.50       |                 |                                                    |    |                      |                            |              |                |                         |             |
| Depth to Water    |            |                 |                                                    |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA         |                 |                                                    |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA         |                 |                                                    |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | NA         |                 |                                                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA         |                 |                                                    |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA         |                 | WATER APPEARANCE<br>yellow with black particulates |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA         |                 |                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 11/28/2012 |                 |                                                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 10:47      |                 |                                                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA         |                 |                                                    |    |                      |                            |              |                |                         |             |
| DTW (feet)        | NM         |                 |                                                    |    |                      |                            |              |                |                         |             |
| at end of Purging |            |                 |                                                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Grab sample collected with bailer, labeled and placed on ice in cooler.

**INSTRUMENTS USED:**

YSI 556 MPS instrument used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 Bailer

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| AL-2 to EP-1      |            | TEST PARAMETERS |                                                                                                            |    |                      |                            |              |                |                         |
|-------------------|------------|-----------------|------------------------------------------------------------------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                   |            |                 | Time<br>(hrs)                                                                                              | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE        | 11/28/2012 | (1)             | Not Recorded                                                                                               |    |                      |                            |              |                |                         |
| GAUGE TIME        | 13:40      | (2)             |                                                                                                            |    |                      |                            |              |                |                         |
| DTB (feet)        |            |                 |                                                                                                            |    |                      |                            |              |                |                         |
| Depth to Bottom   | NA         | (3)             |                                                                                                            |    |                      |                            |              |                |                         |
| DEDICATED PUMP    | No         | (4)             | <b>WEATHER CONDITIONS</b><br>11/28/2012:Sunny, 50's, 5-10 mph wind<br>12/5/2012: Sunny, 40's, calm         |    |                      |                            |              |                |                         |
| DTW (feet)        |            |                 |                                                                                                            |    |                      |                            |              |                |                         |
| Depth to Water    | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |
| DTB - DTW         | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |
| Capacity per foot | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |
| 1 Well Volume     | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |
| 3 Well Volumes    | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |
| PURGE DATE        | NA         |                 | <b>WATER APPEARANCE</b><br>11/28/2012: Cloudy green, odor, sheen.<br>12/5/2012: Cloudy green, odor, sheen. |    |                      |                            |              |                |                         |
| PURGE TIME        | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |
| SAMPLE DAY        | 11/28/2012 |                 |                                                                                                            |    |                      |                            |              |                |                         |
| SAMPLE TIME       | 14:00      |                 |                                                                                                            |    |                      |                            |              |                |                         |
| PUMP DEPTH        | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |
| DTW (feet)        |            |                 |                                                                                                            |    |                      |                            |              |                |                         |
| at end of Purging | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Collected grab samples with plastic dipper, labeled and placed on ice in cooler. The SVOC container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCs only on 12/5/2012 (10:11 AM).

| Infl to AL-1      |            | TEST PARAMATERS |                    |    |                      |                            |              |                |                         |             |
|-------------------|------------|-----------------|--------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                 | Time<br>(hrs)      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/28/2012 | (1)             |                    |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA         | (2)             |                    |    |                      |                            |              |                |                         |             |
| DTB (feet)        |            |                 |                    |    |                      |                            |              |                |                         |             |
| Depth to Bottom   | NA         | (3)             |                    |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | No         | (4)             | WEATHER CONDITIONS |    |                      |                            |              |                |                         |             |
| DTW (feet)        |            |                 |                    |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA         |                 | WATER APPEARANCE   |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA         |                 |                    |    |                      |                            |              |                |                         |             |
| DTW (feet)        |            |                 |                    |    |                      |                            |              |                |                         |             |
| at end of Purging | NA         |                 |                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Location not sampled. No flow due to new system. Location revisited on 12/5/2012, still no flow.

**INSTRUMENTS USED:**

Plastic dipper.

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.



**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| Infl to AL-2                    |            | TEST PARAMETERS |                                                                                              |    |                      |                            |              |                |                         |
|---------------------------------|------------|-----------------|----------------------------------------------------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                                 |            |                 | Time<br>(hrs)                                                                                | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | 11/28/2012 | (1)             | Not Recorded                                                                                 |    |                      |                            |              |                |                         |
| GAUGE TIME                      | 13:00      | (2)             |                                                                                              |    |                      |                            |              |                |                         |
| DTB (feet)                      |            | (3)             |                                                                                              |    |                      |                            |              |                |                         |
| Depth to Bottom                 | NA         | (4)             |                                                                                              |    |                      |                            |              |                |                         |
| DEDICATED PUMP                  | No         |                 | <b>WEATHER CONDITIONS</b><br>11/28/2012: Sunny, 50's, calm.<br>12/5/2012: Sunny, 40's, calm. |    |                      |                            |              |                |                         |
| DTW (feet)                      |            |                 |                                                                                              |    |                      |                            |              |                |                         |
| Depth to Water                  | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |
| DTB - DTW                       | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |
| Capacity per foot               | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |
| 1 Well Volume                   | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |
| 3 Well Volumes                  | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |
| PURGE DATE                      | NA         |                 | <b>WATER APPEARANCE</b><br>11/28/2012: light brown<br>12/5/2012: light brown                 |    |                      |                            |              |                |                         |
| PURGE TIME                      | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |
| SAMPLE DAY                      | 11/28/2012 |                 |                                                                                              |    |                      |                            |              |                |                         |
| SAMPLE TIME                     | 13:20      |                 |                                                                                              |    |                      |                            |              |                |                         |
| PUMP DEPTH                      | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |
| DTW (feet)<br>at end of Purging | NA         |                 |                                                                                              |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Collected grab sample using plastic dipper, labeled and placed on ice in cooler. The SVOC container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCs only on 12/5/2012 (9:55 AM).

| Infl to EP-1      |            | TEST PARAMATERS |                                                                                                            |    |                      |                            |              |                |                         |             |
|-------------------|------------|-----------------|------------------------------------------------------------------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                   |            |                 | Time<br>(hrs)                                                                                              | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE        | 11/28/2012 | (1)             | Not Recorded                                                                                               |    |                      |                            |              |                |                         |             |
| GAUGE TIME        | NA         | (2)             |                                                                                                            |    |                      |                            |              |                |                         |             |
| DTB (feet)        |            | (3)             |                                                                                                            |    |                      |                            |              |                |                         |             |
| Depth to Bottom   | NA         | (4)             |                                                                                                            |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP    | No         |                 | <b>WEATHER CONDITIONS</b><br>11/28/2012: Sunny, 50's, 5-10 mph wind.<br>12/5/2012: Sunny, 40's, calm.      |    |                      |                            |              |                |                         |             |
| DTW (feet)        |            |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| Depth to Water    | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| DTB - DTW         | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| Capacity per foot | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| 1 Well Volume     | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| 3 Well Volumes    | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| PURGE DATE        | NA         |                 | <b>WATER APPEARANCE</b><br>11/28/2012: Cloudy green, odor, sheen.<br>12/5/2012: Cloudy green, odor, sheen. |    |                      |                            |              |                |                         |             |
| PURGE TIME        | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| SAMPLE DAY        | 11/28/2012 |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| SAMPLE TIME       | 13:50      |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| PUMP DEPTH        | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| DTW (feet)        |            |                 |                                                                                                            |    |                      |                            |              |                |                         |             |
| at end of Purging | NA         |                 |                                                                                                            |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Collected grab sample using plastic dipper, labeled and placed on ice in cooler. The SVOC container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCs only on 12/5/2012 (10:11 AM).

**INSTRUMENTS USED:**

Plastic dipper

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012 - RESAMPLE (SVOCS)**

| Infl to AL-2      |           | TEST PARAMETERS                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
|-------------------|-----------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|--|--|--|--|--|
|                   |           |                                                                              | Time<br>(hrs)                                                                                | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |  |  |  |  |  |
| GAUGE DATE        | NA        | (1)                                                                          | Not Recorded                                                                                 |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| GAUGE TIME        | NA        | (2)                                                                          |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| DTB (feet)        | NA        | (3)                                                                          |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| Depth to Bottom   |           |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| DEDICATED PUMP    | No        | (4)                                                                          | <b>WEATHER CONDITIONS</b><br>11/28/2012: Sunny, 50's, calm.<br>12/5/2012: Sunny, 40's, calm. |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| DTW (feet)        | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| Depth to Water    |           |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| DTB - DTW         | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| Capacity per foot | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| 1 Well Volume     | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| 3 Well Volumes    | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| PURGE DATE        | NA        | <b>WATER APPEARANCE</b><br>11/28/2012: light brown<br>12/5/2012: light brown |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| PURGE TIME        | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| SAMPLE DAY        | 12/5/2012 |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| SAMPLE TIME       | 9:55      |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| PUMP DEPTH        | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| DTW (feet)        | NA        |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |
| at end of Purging |           |                                                                              |                                                                                              |    |                      |                            |              |                |                         |             |  |  |  |  |  |

**SAMPLE LOG**

Collected grab sample using plastic dipper, labeled and placed on ice in cooler. The SVOC container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCs only on 12/5/2012 (9:55 AM).

| Infl to EP-1                    |           | TEST PARAMATERS                                                                                            |               |    |                      |                            |              |                |                         |
|---------------------------------|-----------|------------------------------------------------------------------------------------------------------------|---------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                                 |           |                                                                                                            | Time<br>(hrs) | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | NA        | (1)                                                                                                        | Not Recorded  |    |                      |                            |              |                |                         |
| GAUGE TIME                      | NA        | (2)                                                                                                        |               |    |                      |                            |              |                |                         |
| DTB (feet)                      | NA        | (3)                                                                                                        |               |    |                      |                            |              |                |                         |
| Depth to Bottom                 |           |                                                                                                            |               |    |                      |                            |              |                |                         |
| DEDICATED PUMP                  | No        | (4)                                                                                                        |               |    |                      |                            |              |                |                         |
| DTW (feet)<br>Depth to Water    | NA        | <b>WEATHER CONDITIONS</b><br>11/28/2012: Sunny, 50's, 5-10 mph wind.<br>12/5/2012: Sunny, 40's, calm.      |               |    |                      |                            |              |                |                         |
| DTB - DTW                       | NA        |                                                                                                            |               |    |                      |                            |              |                |                         |
| Capacity per foot               | NA        |                                                                                                            |               |    |                      |                            |              |                |                         |
| 1 Well Volume                   | NA        |                                                                                                            |               |    |                      |                            |              |                |                         |
| 3 Well Volumes                  | NA        |                                                                                                            |               |    |                      |                            |              |                |                         |
| PURGE DATE                      | NA        | <b>WATER APPEARANCE</b><br>11/28/2012: Cloudy green, odor, sheen.<br>12/5/2012: Cloudy green, odor, sheen. |               |    |                      |                            |              |                |                         |
| PURGE TIME                      | NA        |                                                                                                            |               |    |                      |                            |              |                |                         |
| SAMPLE DAY                      | 12/5/2012 |                                                                                                            |               |    |                      |                            |              |                |                         |
| SAMPLE TIME                     | 10:11     |                                                                                                            |               |    |                      |                            |              |                |                         |
| PUMP DEPTH                      | NA        |                                                                                                            |               |    |                      |                            |              |                |                         |
| DTW (feet)<br>at end of Purging | NA        |                                                                                                            |               |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Collected grab sample using plastic dipper, labeled and placed on ice in cooler. The SVOC container was not filled during the original sampling event on 11/28/2012. The well was resampled for SVOCs only on 12/5/2012 (10:11 AM).

**INSTRUMENTS USED:**

Plastic dipper

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012**

| Pilot Eff.                      |           | TEST PARAMATERS |                                                  |    |                      |                            |              |                |                         |
|---------------------------------|-----------|-----------------|--------------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                                 |           |                 | Time<br>(hrs)                                    | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE                      | 12/5/2012 | (1)             | Not Recorded                                     |    |                      |                            |              |                |                         |
| GAUGE TIME                      | 11:41     | (2)             |                                                  |    |                      |                            |              |                |                         |
| DTB (feet)                      |           | (3)             |                                                  |    |                      |                            |              |                |                         |
| Depth to Bottom                 | NA        | (4)             |                                                  |    |                      |                            |              |                |                         |
| DEDICATED PUMP                  | No        |                 | WEATHER CONDITIONS<br>Sunny, 40's, calm.         |    |                      |                            |              |                |                         |
| DTW (feet)                      |           |                 |                                                  |    |                      |                            |              |                |                         |
| Depth to Water                  | NA        |                 |                                                  |    |                      |                            |              |                |                         |
| DTB - DTW                       | NA        |                 |                                                  |    |                      |                            |              |                |                         |
| Capacity per foot               | NA        |                 |                                                  |    |                      |                            |              |                |                         |
| 1 Well Volume                   | NA        |                 |                                                  |    |                      |                            |              |                |                         |
| 3 Well Volumes                  | NA        |                 |                                                  |    |                      |                            |              |                |                         |
| PURGE DATE                      | NA        |                 | WATER APPEARANCE<br>Cloudy gray, odor, no sheen. |    |                      |                            |              |                |                         |
| PURGE TIME                      | NA        |                 |                                                  |    |                      |                            |              |                |                         |
| SAMPLE DAY                      | 12/5/2012 |                 |                                                  |    |                      |                            |              |                |                         |
| SAMPLE TIME                     | 11:41     |                 |                                                  |    |                      |                            |              |                |                         |
| PUMP DEPTH                      | NA        |                 |                                                  |    |                      |                            |              |                |                         |
| DTW (feet)<br>at end of Purging | NA        |                 |                                                  |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Location was not sampled during the original sampling event on 11/28/2012. There was no flow from Pilot Effluent. Water was being diverted directly to Pond 9. During the 12/5/2012 SVOC resampling event, there was flow from the Pilot Effluent and a sample was collected. Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

| NAPIS Eff.                      |            | TEST PARAMATERS  |                    |    |                      |                            |              |                |                         |             |
|---------------------------------|------------|------------------|--------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |            |                  | Time<br>(hrs)      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | 11/28/2012 | (1)              |                    |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      | NA         | (2)              |                    |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |            | (3)              |                    |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | NA         | (4)              |                    |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | No         |                  | WEATHER CONDITIONS |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>Depth to Water    | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| Capacity per foot               | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| 1 Well Volume                   | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes                  | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | NA         | WATER APPEARANCE |                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA         |                  |                    |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA         |                  |                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Location not sampled. No flow due to new system. Location revisited on 12/5/2012, still no flow.

**INSTRUMENTS USED:**

None.

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY**  
**4th QTR 2012 - RESAMPLE (SVOCS)**

| Pilot Eff.        |           | TEST PARAMETERS                                  |                                          |    |                      |                            |              |                |                         |
|-------------------|-----------|--------------------------------------------------|------------------------------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|
|                   |           |                                                  | Time<br>(hrs)                            | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) |
| GAUGE DATE        | NA        | (1)                                              | Not Recorded                             |    |                      |                            |              |                |                         |
| GAUGE TIME        | NA        | (2)                                              |                                          |    |                      |                            |              |                |                         |
| DTB (feet)        |           |                                                  |                                          |    |                      |                            |              |                |                         |
| Depth to Bottom   | NA        | (3)                                              |                                          |    |                      |                            |              |                |                         |
| DEDICATED PUMP    | No        | (4)                                              | WEATHER CONDITIONS<br>Sunny, 40's, calm. |    |                      |                            |              |                |                         |
| DTW (feet)        |           |                                                  |                                          |    |                      |                            |              |                |                         |
| Depth to Water    | NA        |                                                  |                                          |    |                      |                            |              |                |                         |
| DTB - DTW         | NA        |                                                  |                                          |    |                      |                            |              |                |                         |
| Capacity per foot | NA        |                                                  |                                          |    |                      |                            |              |                |                         |
| 1 Well Volume     | NA        |                                                  |                                          |    |                      |                            |              |                |                         |
| 3 Well Volumes    | NA        |                                                  |                                          |    |                      |                            |              |                |                         |
| PURGE DATE        | NA        |                                                  |                                          |    |                      |                            |              |                |                         |
| PURGE TIME        | NA        | WATER APPEARANCE<br>Cloudy gray, odor, no sheen. |                                          |    |                      |                            |              |                |                         |
| SAMPLE DAY        | 12/5/2012 |                                                  |                                          |    |                      |                            |              |                |                         |
| SAMPLE TIME       | 11:41     |                                                  |                                          |    |                      |                            |              |                |                         |
| PUMP DEPTH        | NA        |                                                  |                                          |    |                      |                            |              |                |                         |
| DTW (feet)        |           |                                                  |                                          |    |                      |                            |              |                |                         |
| at end of Purging | NA        |                                                  |                                          |    |                      |                            |              |                |                         |

**SAMPLE LOG**

Location was not sampled during the original sampling event on 11/28/2012. There was no flow from Pilot Effluent. Water was being diverted directly to Pond 9. During the 12/5/2012 SVOC resampling event, there was flow from the Pilot Effluent and a sample was collected. Collected grab samples with plastic dipper, labeled and placed on ice in cooler.

| NAPIS Eff.                      |           | TEST PARAMATERS  |                    |    |                      |                            |              |                |                         |             |
|---------------------------------|-----------|------------------|--------------------|----|----------------------|----------------------------|--------------|----------------|-------------------------|-------------|
|                                 |           |                  | Time<br>(hrs)      | pH | Temperature<br>Deg C | Conductivity<br>(uS), (mS) | TDS<br>(g/L) | Salinity (ppt) | Dissolved<br>Oxygen (%) | ORP<br>(mV) |
| GAUGE DATE                      | NA        | (1)              |                    |    |                      |                            |              |                |                         |             |
| GAUGE TIME                      | NA        | (2)              |                    |    |                      |                            |              |                |                         |             |
| DTB (feet)                      |           |                  |                    |    |                      |                            |              |                |                         |             |
| Depth to Bottom                 | NA        | (3)              |                    |    |                      |                            |              |                |                         |             |
| DEDICATED PUMP                  | No        | (4)              | WEATHER CONDITIONS |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>Depth to Water    | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| DTB - DTW                       | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| Capacity per foot               | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| 1 Well Volume                   | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| 3 Well Volumes                  | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| PURGE DATE                      | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| PURGE TIME                      | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| SAMPLE DAY                      | 12/5/2012 | WATER APPEARANCE |                    |    |                      |                            |              |                |                         |             |
| SAMPLE TIME                     | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| PUMP DEPTH                      | NA        |                  |                    |    |                      |                            |              |                |                         |             |
| DTW (feet)<br>at end of Purging | NA        |                  |                    |    |                      |                            |              |                |                         |             |

**SAMPLE LOG**

Location not sampled. No flow due to new system. Location revisited on 12/5/2012, still no flow.

**INSTRUMENTS USED:**

None.

**Signature:** Jacob Berreth/Conrad Morgan - Trihydro Corp.

**WESTERN REFINING - GALLUP REFINERY  
2012 QUARTERLY INSPECTION**

| <b>RW-1 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 10/8/2012  | Product Thickness (ft)             | 0.900    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) | 0.500    |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 9:40       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | 35       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| Depth to Bottom             | 43.04      |                                    |          |                                                                                                                                                                                                                                                                   |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | N/A                                                                                                                                                                                                                                                               |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 29.28      |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 30.18      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 12.86      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 10/8/2012                   | 9:40       | 10/8/2012                          | 10:05    |                                                                                                                                                                                                                                                                   |
| 10/8/2012                   | 11:00      | 10/8/2012                          | 11:30    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

| <b>RW-2 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 10/8/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
|                             |            | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| GAUGE TIME                  | 10:40      |                                    |          |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  |            | Volume of Water Purged (Gallons)   | N/A      | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| Depth to Bottom             | 39.80      |                                    |          |                                                                                                                                                                                                                                                                   |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | N/A                                                                                                                                                                                                                                                               |
| DTP (feet)                  |            | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Product            | 0.00       |                                    |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  |            | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| Depth to Water              | 24.87      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 14.93      |                                    |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| N/A                         |            |                                    |          |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Purging for product recover only - no samples collected.

**INSTRUMENTS USED:**

Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
5 gallon buckets to catch purge water.  
Dedicated portable pump used for RW-1

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

**WESTERN REFINING - GALLUP REFINERY  
2012 QUARTERLY INSPECTION**

| <b>RW-5 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 10/8/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                  | 10:10      | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  | 39.59      | Volume of Water Purged (Gallons)   | 15       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DTP (feet)                  | 0.00       | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  | 29.58      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 10.01      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 10/8/2012                   | 10:25      | 10/8/2012                          | 10:35    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 15 gallons was bailed from this well.

| <b>RW-6 (Recovery Well)</b> |            |                                    |          | <b>WEATHER CONDITIONS</b>                                                                                                                                                                                                                                         |
|-----------------------------|------------|------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GAUGE DATE                  | 10/8/2012  | Product Thickness (ft)             | 0.000    | N/A                                                                                                                                                                                                                                                               |
| GAUGE TIME                  | 10:15      | Volume of Product Purged (Gallons) | N/A      |                                                                                                                                                                                                                                                                   |
| DTB (feet)                  | 40.90      | Volume of Water Purged (Gallons)   | 15       | <b>WATER APPEARANCE</b>                                                                                                                                                                                                                                           |
| DEDICATED PUMP              | N          | PURGE DATE                         |          | Water clear in color - has slight odor and has a slight sheen to water purged. No measurable layer.                                                                                                                                                               |
| DTP (feet)                  | 0.00       | PURGE TIME                         |          |                                                                                                                                                                                                                                                                   |
| DTW (feet)                  | 29.62      | SAMPLE DAY                         |          |                                                                                                                                                                                                                                                                   |
| DTB - DTW                   | 11.28      | SAMPLE TIME                        |          |                                                                                                                                                                                                                                                                   |
| <b>WELL PURGING</b>         |            |                                    |          | <b>Notes</b>                                                                                                                                                                                                                                                      |
| START DATE                  | START TIME | END DATE                           | END TIME | Recovery wells (1, 2, 5, 6) were included as part of the annual ground water sampling for the first time in 2011. These wells were only monitored for product level thickness and product recovery on a quarterly basis. Sampling of wells was not a requirement. |
| 10/8/2012                   | 10:15      | 10/8/2012                          | 10:25    |                                                                                                                                                                                                                                                                   |

**ADDITIONAL NOTES:**

Although no measurable product layer was observed - 15 gallons was bailed from this well.

**INSTRUMENTS USED:**

YSI 556 MPS Instrument with flow cell. Used to collect water quality parameters.  
 Water Level - Heron Instrument 100 feet DipperT electric water depth tape.  
 5 gallon buckets to catch purge water.  
 3 foot disposable bailer.

SIGNATURE: /s/ *Cheryl Johnson* / Environmental Specialist

## **APPENDIX D**

---

### **Summary of Waste Water Monthly Flow Rate**

## 2012 WASTE WATER AVERAGE MONTHLY FLOW RATE

| MONTH     | North Benzene      | South Benzene      | NAPIS INLET | TOTAL<br>(GPM) |
|-----------|--------------------|--------------------|-------------|----------------|
|           | 84FI109.PV         | 84FI108.PV         | 84FT043.PV  |                |
| JANUARY   | 102.53             | 93.72              | ND          | 196.25         |
| FEBRUARY  | 84.08              | 102.57             | ND          | 204.65         |
| MARCH     | 93.62              | 85.64              | ND          | 179.26         |
| APRIL     | 93.41              | 77.15              | ND          | 170.56         |
| MAY       | 64.2 <sup>1</sup>  | 67.38 <sup>1</sup> | 197.04      | 197.04         |
| JUNE      | 61.42 <sup>1</sup> | 64.48 <sup>1</sup> | 209.84      | 209.84         |
| JULY      | 25.6 <sup>2</sup>  | 26.6 <sup>2</sup>  | 174.82      | 174.82         |
| AUGUST    | 0 <sup>3</sup>     | 2.8 <sup>3</sup>   | 168.27      | 168.27         |
| SEPTEMBER | 60.7 <sup>4</sup>  | 91 <sup>4</sup>    | 161.52      | 161.52         |
| OCTOBER   | 20.2 <sup>5</sup>  | 41.3 <sup>5</sup>  | 175.33      | 175.33         |
| NOVEMBER  | 11.1 <sup>6</sup>  | 22.7 <sup>6</sup>  | 196.24      | 196.24         |
| DECEMBER  | 0                  | 0                  | 206.84      | 206.84         |

### NOTES:

1. Startup of new Waste Water Treatment Plant on 5/8/12. Total flow taken at inlet to NAPIS, as Benzene Strippers 1 and 2 are used intermittently at this time.
2. N & S benzene strippers are used only on an as needed basis due to start up of new WWTP.
3. N stripper not in service; S benzene stripper in service only on 8/6/12 for short duration.
4. N & S strippers used for a total of 312 hours for September.
5. Used for 2 days in October.
6. N & S benzene strippers taken off-line on 11/10/12 permanently.



## **APPENDIX E**

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**NMED “Approval with Modifications Requirement to Resurvey Ground water Monitoring Wells and Recovery Wells”, 9/24/12**



SUSANA MARTINEZ  
Governor

JOHN A. SANCHEZ  
Lieutenant Governor

NEW MEXICO  
ENVIRONMENT DEPARTMENT

*Hazardous Waste Bureau*

2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Phone (505) 476-6000 Fax (505) 476-6030  
[www.nmenv.state.nm.us](http://www.nmenv.state.nm.us)



DAVE MARTIN  
Secretary

BUTCH TONGATE  
Deputy Secretary

JAMES H. DAVIS, Ph.D.  
Director  
Resource Protection Division

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 24, 2012

Mr. Ed Riege  
Environmental Superintendent  
Western Refining, Southwest Inc., Gallup Refinery  
Route 3, Box 7  
Gallup, New Mexico 87301

**RE: APPROVAL WITH MODIFICATIONS  
REQUIREMENT TO RESURVEY GROUNDWATER MONITORING WELLS  
AND RECOVERY WELLS  
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY  
EPA ID # NMD000333211  
HWB-WRG-11-003**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has received Western Refining Company, Southwest Inc., Gallup Refinery's (Permittee) submittal titled, *Requirement to Resurvey Ground Water Monitoring Wells and Recovery Wells* (Report), dated June 12, 2012. NMED has reviewed the Report and hereby issues this Approval with the following modifications.

**Comment 1**

In Comment 3 of NMED's May 18, 2012 Third Notice of Disapproval (NOD), the Permittee was required to verify that all horizontal data from the June 2011 survey was correct and represented the actual locations of the monitoring wells surveyed. The Permittee cross referenced survey data from Sterling & Mataya Engineers collected on May 13, 1991 (May 1991) and data acquired

by Lynn Engineering and Surveying collected on June 21, 2007 (June 2007) to verify the monitoring well locations. Survey data from the May 1991 survey was converted from NAD27 to NAD83; however, the Permittee did not provide conversions for all of the May 1991 survey data. Provide revised coordinate verification worksheets that include all monitoring wells from the May 1991 survey. In addition, there is a typographical error in the reported elevation for the OW-11 monitoring well conversion. The Permittee reports an elevation of 6923.59 feet and the May 1991 reports it as 6923.89 feet. Correct the typographical errors in revised coordinate verification worksheets.

#### **Comment 2**

In the *2011 Corrected Well Elevation Summary Table – Revision 3 (June 12, 2012)*, the Permittee did not report a stick-up length measurement for BW-1B in the “2011 Survey Stick-up Length (feet)” column. In addition, the Permittee did not define the asterisk from the OW-1 “2011 Measuring Point Description” column. Define the symbol in the “Notes” section or remove it from the revised data table. The Permittee is reminded that all data tables must be reviewed and corrected for errors prior to submission. Correct the typographical errors and provide a revised data table.

#### **Comment 3**

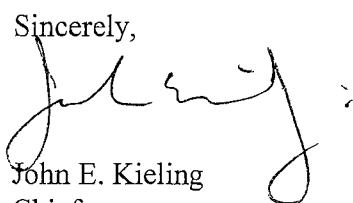
Comments 8 and 11 of NMED’s September 24, 2012 Disapproval letter for the *Facility-Wide Ground Water Monitoring Work Plan - 2011 Updates* requires the Permittee to resubmit the tables in Appendix C with the approved survey data in the revised Work Plan. The Permittee must review these tables and ensure the correct information from this Report is incorporated into the final version of the tables in the revised Work Plan.

Ed Riege  
September 24, 2012  
Page 3 of 3

The Permittee must submit the revised data tables, replacement pages, and response letter with the required information addressing all the comments from this Approval with modifications to NMED by **October 9, 2012**.

If you have questions regarding this letter please contact Leona Tsinnajinnie of my staff at (505) 476-6057.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
K. Van Horn, NMED HWB  
L. Tsinnajinnie, NMED HWB  
C. Chavez, OCD  
T. Larson, Western Refining Company, Gallup Refinery  
C. Johnson, Western Refining Company, Gallup Refinery  
A. Haines, Western Refining Company, El Paso, Texas

File: Reading File and WRG 2012 File  
HWB-WRG-11-003

## **APPENDIX F**

---

### **OAPIS-1 – Boring Logs, Analytical Data**



**DePauli Engineering  
& Surveying, LLC.**  
Civil Engineers and Land Surveyors

Phone: 505-863-5440 • Fax: 505-863-1919 • des@cnetco.com

307 South 4<sup>th</sup> Street • Gallup, NM 87301

PO BOX 876 • Gallup, NM 87301

April 6, 2013

Mr. Ed Riege, Environmental Manager  
Western Refining-Gallup Refinery  
Route 3 Box 7  
Gallup, NM 87301

Re: Survey Gallup Refinery Monitoring Well OAPIS-1

Dear Mr. Riege:

DePauli Engineering & Surveying, LLC completed the survey of the monitoring wells at Western Refining-Gallup Refinery on April 2, 2013. A total of 1 well was surveyed. As requested, the wells were surveyed for the following parameter: ground level elevation, ground level elevation inside steel sleeve, center top steel lid elevation, well casing rim elevation and corresponding measuring point description associated with each elevation. Survey conducted enlisted NM Surveyor in Training and a Technician from DePauli Engineering Surveying and one Gallup Refinery representative to assist with the location of the wells.

The instruments used to complete the survey consisted of a Leica VIVA GS10 GPS (Global Positioning System) Base and GS15 Rover GPS. The method used to survey the wells was Real-time Kinematic GPS Surveying (RTK). RTK Surveying requires that two or more receivers be operated simultaneously. The aspect of the procedure is a radio used to transmit a signal with corrections and observations to the roving receiver. The base (reference) station is a known position that produces the correction and the signal received by the Rover thence giving the Rover observation corrected values. The horizontal and vertical positions are determined by relative position to local bench marks.

The horizontal and vertical positions of the top of the PVC casing (unless otherwise noted) and the vertical positions for the lid, ground elevation inside the steel casing, and the surrounding ground elevation is shown on the attached sheet labeled "Western Refining Monitoring Well April, 2013." The horizontal position is NAD 83 datum and the vertical positions are NGVD 1929. Elevation were taken using the concrete pad surrounding each well and locations noted on the report. Ground elevation was taken using the concrete pad surrounding each well and locations shown on the report.

The requested survey was complete on April 2, 2013, in accordance with sections 500.1 through 500.12 of the Regulations and Rules of the Board of Registration for Professional Engineers and Surveyors Minimum Standards for Surveying in New Mexico; which horizontal positions were measured to the nearest 0.1-ft and vertical elevations were measured to an accuracy of 0.01-ft.

If you have any questions concerning this survey please do not hesitate to contact our office.

Sincerely,

A handwritten signature in cursive script that reads "Marc DePauli". The signature is written in dark ink and is positioned above the printed name.

Marc DePauli, PE/PS

## Western Refining Monitoring Well April, 2013

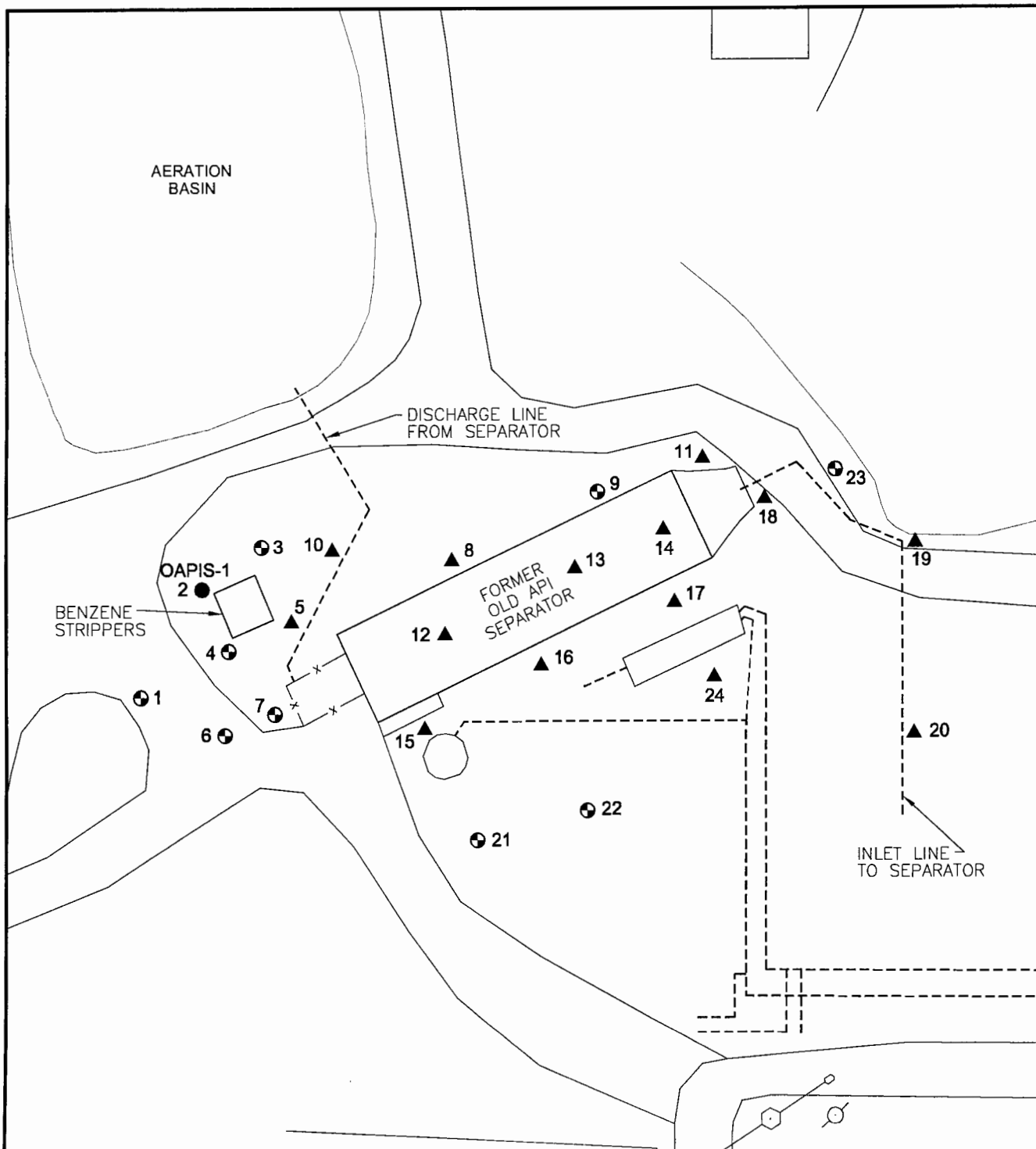
| W . #   | Northing     | Easting      | Elevation | Description                                    |
|---------|--------------|--------------|-----------|------------------------------------------------|
| OAPIS-1 | 1,634,463.25 | 2,545,564.26 | 6916.73   | North West edge PVC casing                     |
|         |              |              | 6917.14   | Center steel lid                               |
|         |              |              | 6916.50   | North side ground elev. inside steel sleeve    |
|         |              |              | 6914.37   | North East & South West corner of concrete pad |



Marc DePauli  
Marc DePauli PS13606

4-6-2013  
Date





Map Source: Compiled by Photogrammetric Methods from Photography Acquired on March 1, 1998.

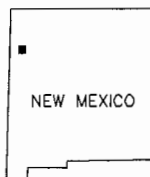
#### LEGEND

- MONITORING WELL LOCATION
- ⊕ SOIL BORING LOCATION
- ▲ HAND AUGER LOCATION

--- PIPELINE



0 40  
SCALE IN FEET



QUADRANGLE LOCATION

**Western Refining**  
GALLUP REFINERY

PROJ. NO.: Western Refining DATE: 11/15/12 FILE: WestRef-A149

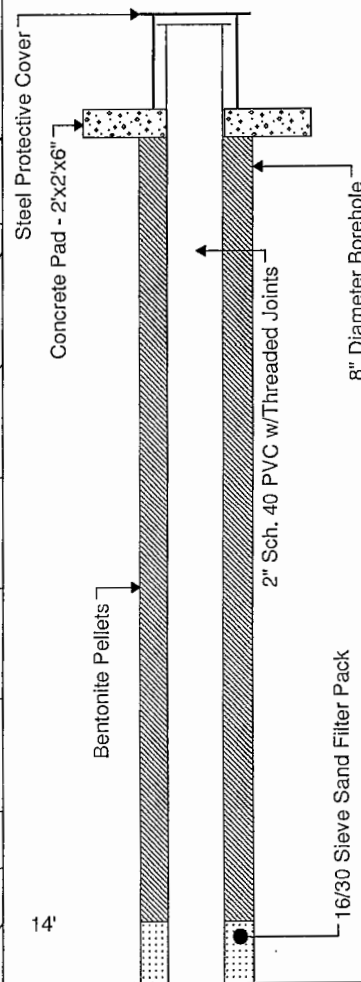
**SWMU No. 14 SAMPLE LOCATIONS**  
**GALLUP REFINERY**

**RPS**

Cielo Center  
1250 S. Capital of Texas Highway  
Building 3, Suite 200  
Austin, Texas 78746  
TBPE No. 1298

**RPS****WELL CONSTRUCTION****Client:** Western Refining Southwest, Inc.**Site:** SWMU No. 14 - Gallup Refinery**Job No.:** UEC01655**Geologist:** Tracy Payne**Driller:** Enviro-Drill, Inc.**Drilling Rig:** CME 75**Drilling Method:** Hollow-Stem Auger**Sampling Method:** Split Spoon**Comments:** N35°29.442' W108°25.781'; Samples collected 7/19/2012 (SWMU 14-2 GW 1000, FB071712 1800, EB071712 1815)**Total Depth:** 26' bgl**Ground Water:** Saturated @ 18' bgl**Elev., TOC (ft. msl):** --**Elev., PAD (ft. msl):** --**Elev., GL (ft. msl):** --**Site Coordinates:****N** 35°29.442'**W** 108°25.781'**Well No.:** OAPIS-1 (SWMU 14-2)**Start Date:** 7/17/2012 14:30**Finish Date:** 7/17/2012 17:30

| Depth (ft.) | Sampling     |      |                          |            |                     |            | Sample Description                                                                                 | Completion Results |
|-------------|--------------|------|--------------------------|------------|---------------------|------------|----------------------------------------------------------------------------------------------------|--------------------|
|             | Sample Depth | Time | Sample Type/Container/No | Saturation | Organic Vapor (ppm) | USCS Class |                                                                                                    |                    |
| -2          |              |      |                          |            |                     |            | Ground Surface                                                                                     |                    |
| 0           | 0-0.5'       | 1610 | G/2E/<br>2V/2J           |            | 2.9                 |            | <b>Fill (Clay/Gravel)</b><br>Brown, dry to damp, no odor                                           |                    |
| 2           | 1.5-2'       | 1624 | G/2E/<br>2V/2J           |            | 280                 |            | <b>Clay (CH)</b><br>Moderate plasticity, firm, damp, black and brown, odor                         |                    |
| 4           |              |      |                          |            | 56.8                |            | <b>Silty Clay (CL)</b><br>Low plasticity, firm, damp, brown grading to black at 4' bgl, faint odor |                    |
| 6           |              |      |                          |            | 69.4                |            | <b>Silty Clay (CL)</b><br>Similar to above, brown and black, trace sand, odor                      |                    |
| 8           |              |      |                          |            | 87.5                |            | <b>Silty Clay (CL)</b><br>Similar to above, odor                                                   |                    |
| 10          | 8-10' & Dup  | 1645 | G/4E/<br>4V/4J           |            | 330                 |            | <b>Silty Clay (CL)</b><br>Low plasticity, very soft, damp, dark brown and black, odor              |                    |
| 12          |              |      |                          |            | 294                 |            | <b>Silty Clay (CL)</b><br>Similar to above                                                         |                    |
| 14          |              |      |                          |            | 14.6                |            | <b>Silty Clay (CL)</b><br>Similar to above, faint odor                                             |                    |
|             |              |      |                          |            |                     |            | <b>Clay (CH)</b><br>Moderate plasticity, stiff, damp, reddish brown, no odor                       |                    |



**RPS****Client:** Western Refining Southwest, Inc.**Site:** SWMU No. 14 - Gallup Refinery**Job No.:** UEC01655**Geologist:** Tracy Payne**Driller:** Enviro-Drill, Inc.**Drilling Rig:** CME 75**Drilling Method:** Hollow-Stem Auger**Sampling Method:** Split Spoon**Comments:** N35°29.442' W108°25.781'; Samples collected 7/19/2012 (SWMU 14-2 GW 1000, FB071712 1800, EB071712 1815)**WELL CONSTRUCTION****Well No.:** OAPIS-1 (SWMU 14-2)**Start Date:** 7/17/2012 14:30**Finish Date:** 7/17/2012 17:30**Total Depth:** 26' bgl**Ground Water:** Saturated @ 18' bgl**Elev., TOC (ft. msl):** --**Elev., PAD (ft. msl):** --**Elev., GL (ft. msl):** --**Site Coordinates:****N** 35°29.442'**W** 108°25.781'

| Depth (ft.) | Sampling     |      |                          |            |                     |            | Sample Description                                             | Completion Results |
|-------------|--------------|------|--------------------------|------------|---------------------|------------|----------------------------------------------------------------|--------------------|
|             | Sample Depth | Time | Sample Type/Container/No | Saturation | Organic Vapor (ppm) | USCS Class |                                                                |                    |
| 16          | 16-18'       | 1710 | G/2E/<br>2V/2J           | 18'        | 5.7<br>86°F         |            | Clay (CH)<br>Similar to above, no odor                         |                    |
| 18          |              |      |                          |            | 10.7<br>86°F        |            | Clay (CH)<br>Similar to above, no odor                         |                    |
| 20          |              |      |                          |            | -                   |            | Clay (CH)<br>Similar to above, water in split spoon            |                    |
| 22          |              |      |                          |            | 17.9<br>83°F        |            | Clay (CH)<br>Similar to above                                  |                    |
| 24          | 24-25'       | 1730 | G/2E/<br>2V/2J           |            | 12.8<br>83°F        |            | Clay (CH)<br>Similar to above, gray and reddish brown, no odor |                    |
| 26          |              |      |                          |            | 13.2<br>83°F        |            | Clay (CH)<br>Similar to above                                  |                    |
| 28          |              |      |                          |            | -                   |            | Clay (CH)<br>Similar to above                                  |                    |
| 30          |              |      |                          |            |                     |            | Total Depth = 26' BGL                                          |                    |



*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

August 21, 2012

Scott Crouch

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL:

FAX

RE: SWMU NO.14

OrderNo.: 1207940

Dear Scott Crouch:

Hall Environmental Analysis Laboratory received 34 sample(s) on 7/20/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-10 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:00:00 AM

Lab ID: 1207940-001

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 350    | 10       |      | mg/Kg | 1   | 7/23/2012 10:46:54 AM |
| Motor Oil Range Organics (MRO)                 | 190    | 50       |      | mg/Kg | 1   | 7/23/2012 10:46:54 AM |
| Surr: DNOP                                     | 111    | 77.6-140 |      | %REC  | 1   | 7/23/2012 10:46:54 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)                  | ND     | 10       |      | mg/Kg | 2   | 7/27/2012 2:33:57 AM  |
| Surr: BFB                                      | 103    | 84-116   |      | %REC  | 2   | 7/27/2012 2:33:57 AM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | 0.32   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:11:33 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 2:33:40 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:32:50 PM   |
| Barium                                         | 430    | 5.0      |      | mg/Kg | 50  | 8/5/2012 12:52:36 PM  |
| Beryllium                                      | 0.89   | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:32:50 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 2:33:40 PM   |
| Chromium                                       | 23     | 1.5      |      | mg/Kg | 5   | 8/1/2012 2:33:40 PM   |
| Cobalt                                         | 5.4    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:32:50 PM   |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/5/2012 12:54:47 PM  |
| Lead                                           | 7.7    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:32:50 PM   |
| Manganese                                      | 510    | 5.0      |      | mg/Kg | 50  | 8/5/2012 12:52:36 PM  |
| Nickel                                         | 9.3    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:32:50 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:32:50 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 2:33:40 PM   |
| Vanadium                                       | 25     | 12       |      | mg/Kg | 5   | 8/1/2012 2:33:40 PM   |
| Zinc                                           | 49     | 12       |      | mg/Kg | 5   | 8/4/2012 3:32:50 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 4:18:42 PM  |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-10 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:00:00 AM

Lab ID: 1207940-001

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 4:18:42 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-10 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:00:00 AM

Lab ID: 1207940-001

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 4:18:42 PM |
| Surr: 2,4,6-Tribromophenol             | 104    | 20.1-121 |      | %REC      | 1  | 7/27/2012 4:18:42 PM |
| Surr: 2-Fluorobiphenyl                 | 93.2   | 19-133   |      | %REC      | 1  | 7/27/2012 4:18:42 PM |
| Surr: 2-Fluorophenol                   | 92.3   | 20.2-108 |      | %REC      | 1  | 7/27/2012 4:18:42 PM |
| Surr: 4-Terphenyl-d14                  | 97.6   | 18.9-115 |      | %REC      | 1  | 7/27/2012 4:18:42 PM |
| Surr: Nitrobenzene-d5                  | 91.6   | 20.8-123 |      | %REC      | 1  | 7/27/2012 4:18:42 PM |
| Surr: Phenol-d5                        | 83.0   | 19.8-115 |      | %REC      | 1  | 7/27/2012 4:18:42 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Toluene                                | 2.92   | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Ethylbenzene                           | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Xylenes, Total                         | ND     | 2.94     |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.96     |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Naphthalene                            | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1-Methylnaphthalene                    | ND     | 3.93     |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 2-Methylnaphthalene                    | ND     | 3.93     |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Acetone                                | ND     | 29.4     |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Bromobenzene                           | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Bromodichloromethane                   | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Bromoform                              | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 2-Butanone                             | ND     | 4.91     |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Carbon tetrachloride                   | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Chlorobenzene                          | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Chloroethane                           | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Chloroform                             | ND     | 0.981    |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-10 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:00:00 AM

Lab ID: 1207940-001

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|-------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: MMS         |
| Chloromethane                          | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 2-Chlorotoluene                        | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Carbon disulfide                       | ND     | 4.91  |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 4-Chlorotoluene                        | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| cis-1,2-DCE                            | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| cis-1,3-Dichloropropene                | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.96  |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Dibromochloromethane                   | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Dibromomethane                         | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Dichlorodifluoromethane                | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,1-Dichloroethane                     | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,1-Dichloroethene                     | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2-Dichloropropane                    | ND     | 1.96  |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,3-Dichloropropane                    | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 2,2-Dichloropropane                    | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,1-Dichloropropene                    | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Hexachlorobutadiene                    | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Isopropylbenzene                       | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 4-Isopropyltoluene                     | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Methylene chloride                     | ND     | 4.91  |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| n-Butylbenzene                         | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 2-Hexanone                             | ND     | 4.91  |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| n-Propylbenzene                        | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| sec-Butylbenzene                       | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Styrene                                | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 4-Methyl-2-pentanone                   | ND     | 4.91  |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| tert-Butylbenzene                      | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Tetrachloroethene (PCE)                | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| trans-1,2-DCE                          | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| trans-1,3-Dichloropropene              | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,1,1-Trichloroethane                  | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,1,2-Trichloroethane                  | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Trichloroethene (TCE)                  | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Trichlorofluoromethane                 | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| 1,2,3-Trichloropropane                 | ND     | 0.981 |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-10 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 11:00:00 AM

**Lab ID:** 1207940-001

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|--------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>  |
| Vinyl chloride                         | ND     | 0.981  |      | µg/Kg-dry | 1  | 7/26/2012 7:57:54 PM |
| Surr: 1,2-Dichloroethane-d4            | 99.2   | 70-130 |      | %REC      | 1  | 7/26/2012 7:57:54 PM |
| Surr: 4-Bromofluorobenzene             | 94.6   | 70-130 |      | %REC      | 1  | 7/26/2012 7:57:54 PM |
| Surr: Dibromofluoromethane             | 88.0   | 70-130 |      | %REC      | 1  | 7/26/2012 7:57:54 PM |
| Surr: Toluene-d8                       | 97.9   | 70-130 |      | %REC      | 1  | 7/26/2012 7:57:54 PM |

**Qualifiers:**

- \* /X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-10 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:05:00 AM

Lab ID: 1207940-002

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 240    | 10       |      | mg/Kg | 1   | 7/23/2012 11:12:14 AM |
| Motor Oil Range Organics (MRO)                 | 150    | 51       |      | mg/Kg | 1   | 7/23/2012 11:12:14 AM |
| Surr: DNOP                                     | 111    | 77.6-140 |      | %REC  | 1   | 7/23/2012 11:12:14 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)                  | ND     | 10       |      | mg/Kg | 2   | 7/27/2012 3:02:41 AM  |
| Surr: BFB                                      | 101    | 84-116   |      | %REC  | 2   | 7/27/2012 3:02:41 AM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | 0.21   | 0.16     |      | mg/Kg | 5   | 8/2/2012 9:29:23 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 2:38:44 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:35:11 PM   |
| Barium                                         | 430    | 5.0      |      | mg/Kg | 50  | 8/5/2012 12:57:26 PM  |
| Beryllium                                      | 0.83   | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:35:11 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 2:38:44 PM   |
| Chromium                                       | 23     | 1.5      |      | mg/Kg | 5   | 8/1/2012 2:38:44 PM   |
| Cobalt                                         | 5.1    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:35:11 PM   |
| Iron                                           | 14000  | 500      |      | mg/Kg | 500 | 8/5/2012 12:59:38 PM  |
| Lead                                           | 6.8    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:35:11 PM   |
| Manganese                                      | 530    | 5.0      |      | mg/Kg | 50  | 8/5/2012 12:57:26 PM  |
| Nickel                                         | 8.8    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:35:11 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:35:11 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 2:38:44 PM   |
| Vanadium                                       | 23     | 12       |      | mg/Kg | 5   | 8/1/2012 2:38:44 PM   |
| Zinc                                           | 43     | 12       |      | mg/Kg | 5   | 8/4/2012 3:35:11 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Acenaphthylene                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Aniline                                        | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Anthracene                                     | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Azobenzene                                     | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Benz(a)anthracene                              | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Benzo(a)pyrene                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Benzo(b)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Benzo(g,h,i)perylene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Benzo(k)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Benzyl alcohol                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.99     |      | mg/Kg | 1   | 7/27/2012 4:48:12 PM  |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-10 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 11:05:00 AM

**Lab ID:** 1207940-002

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Butyl benzyl phthalate                 | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Carbazole                              | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 4-Chloroaniline                        | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2-Chloronaphthalene                    | ND     | 1.2  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2-Chlorophenol                         | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Chrysene                               | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Di-n-butyl phthalate                   | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Di-n-octyl phthalate                   | ND     | 1.2  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Dibenzofuran                           | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Diethyl phthalate                      | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Dimethyl phthalate                     | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Fluoranthene                           | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Fluorene                               | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Hexachlorobenzene                      | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Hexachlorobutadiene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Hexachlorocyclopentadiene              | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Hexachloroethane                       | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Isophorone                             | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 1-Methylnaphthalene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2-Methylnaphthalene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2-Methylphenol                         | ND     | 2.5  |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 3+4-Methylphenol                       | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| Naphthalene                            | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |
| 2-Nitroaniline                         | ND     | 0.99 |      | mg/Kg | 1  | 7/27/2012 4:48:12 PM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-10 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:05:00 AM

Lab ID: 1207940-002

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| 2-Nitrophenol                          | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| Phenanthrene                           | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| Phenol                                 | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| Pyrene                                 | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| 2,4,5-Trichlorophenol                  | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| 2,4,6-Trichlorophenol                  | ND     | 0.99     |      | mg/Kg     | 1  | 7/27/2012 4:48:12 PM |
| Surr: 2,4,6-Tribromophenol             | 105    | 20.1-121 |      | %REC      | 1  | 7/27/2012 4:48:12 PM |
| Surr: 2-Fluorobiphenyl                 | 96.1   | 19-133   |      | %REC      | 1  | 7/27/2012 4:48:12 PM |
| Surr: 2-Fluorophenol                   | 89.6   | 20.2-108 |      | %REC      | 1  | 7/27/2012 4:48:12 PM |
| Surr: 4-Terphenyl-d14                  | 100    | 18.9-115 |      | %REC      | 1  | 7/27/2012 4:48:12 PM |
| Surr: Nitrobenzene-d5                  | 93.1   | 20.8-123 |      | %REC      | 1  | 7/27/2012 4:48:12 PM |
| Surr: Phenol-d5                        | 85.9   | 19.8-115 |      | %REC      | 1  | 7/27/2012 4:48:12 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Toluene                                | 0.892  | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Ethylbenzene                           | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Xylenes, Total                         | ND     | 2.64     |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.76     |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Naphthalene                            | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1-Methylnaphthalene                    | ND     | 3.52     |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 2-Methylnaphthalene                    | ND     | 3.52     |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Acetone                                | ND     | 26.4     |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Bromobenzene                           | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Bromodichloromethane                   | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Bromoform                              | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 2-Butanone                             | ND     | 4.39     |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Carbon tetrachloride                   | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Chlorobenzene                          | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Chloroethane                           | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Chloroform                             | ND     | 0.879    |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-10 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 11:05:00 AM

**Lab ID:** 1207940-002

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|-------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: <b>MMS</b>  |
| Chloromethane                          | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 2-Chlorotoluene                        | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Carbon disulfide                       | ND     | 4.39  |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 4-Chlorotoluene                        | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| cis-1,2-DCE                            | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| cis-1,3-Dichloropropene                | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.76  |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Dibromochloromethane                   | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Dibromomethane                         | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Dichlorodifluoromethane                | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,1-Dichloroethane                     | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,1-Dichloroethene                     | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2-Dichloropropane                    | ND     | 1.76  |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,3-Dichloropropane                    | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 2,2-Dichloropropane                    | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,1-Dichloropropene                    | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Hexachlorobutadiene                    | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Isopropylbenzene                       | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 4-Isopropyltoluene                     | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Methylene chloride                     | ND     | 4.39  |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| n-Butylbenzene                         | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 2-Hexanone                             | ND     | 4.39  |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| n-Propylbenzene                        | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| sec-Butylbenzene                       | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Styrene                                | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 4-Methyl-2-pentanone                   | ND     | 4.39  |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| tert-Butylbenzene                      | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Tetrachloroethene (PCE)                | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| trans-1,2-DCE                          | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| trans-1,3-Dichloropropene              | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,1,1-Trichloroethane                  | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,1,2-Trichloroethane                  | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Trichloroethene (TCE)                  | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Trichlorofluoromethane                 | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| 1,2,3-Trichloropropane                 | ND     | 0.879 |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
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B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-10 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:05:00 AM

Lab ID: 1207940-002

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|--------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: MMS         |
| Vinyl chloride                         | ND     | 0.879  |      | µg/Kg-dry | 1  | 7/26/2012 8:25:36 PM |
| Surr: 1,2-Dichloroethane-d4            | 188    | 70-130 | S    | %REC      | 1  | 7/26/2012 8:25:36 PM |
| Surr: 4-Bromofluorobenzene             | 100    | 70-130 |      | %REC      | 1  | 7/26/2012 8:25:36 PM |
| Surr: Dibromofluoromethane             | 92.1   | 70-130 |      | %REC      | 1  | 7/26/2012 8:25:36 PM |
| Surr: Toluene-d8                       | 94.8   | 70-130 |      | %REC      | 1  | 7/26/2012 8:25:36 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-8 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 11:27:00 AM

**Lab ID:** 1207940-003

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 550    | 200      |      | mg/Kg | 20  | 7/23/2012 9:29:46 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 1000     |      | mg/Kg | 20  | 7/23/2012 9:29:46 AM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/23/2012 9:29:46 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 25       |      | mg/Kg | 5   | 7/27/2012 3:31:25 AM |
| Surr: BFB                                      | 99.9   | 84-116   |      | %REC  | 5   | 7/27/2012 3:31:25 AM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.041  | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:20:31 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 2:43:53 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:37:35 PM  |
| Barium                                         | 610    | 5.0      |      | mg/Kg | 50  | 8/5/2012 1:02:12 PM  |
| Beryllium                                      | 0.77   | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:37:35 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 2:43:53 PM  |
| Chromium                                       | 16     | 1.5      |      | mg/Kg | 5   | 8/1/2012 2:43:53 PM  |
| Cobalt                                         | 5.0    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:37:35 PM  |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:14:21 PM  |
| Lead                                           | 6.2    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:37:35 PM  |
| Manganese                                      | 470    | 5.0      |      | mg/Kg | 50  | 8/5/2012 1:02:12 PM  |
| Nickel                                         | 7.4    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:37:35 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:37:35 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 2:43:53 PM  |
| Vanadium                                       | 25     | 12       |      | mg/Kg | 5   | 8/1/2012 2:43:53 PM  |
| Zinc                                           | 33     | 12       |      | mg/Kg | 5   | 8/4/2012 3:37:35 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:17:55 PM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:27:00 AM

Lab ID: 1207940-003

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:17:55 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:27:00 AM

Lab ID: 1207940-003

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/27/2012 5:17:55 PM |
| Surr: 2,4,6-Tribromophenol             | 107    | 20.1-121 |      | %REC      | 1  | 7/27/2012 5:17:55 PM |
| Surr: 2-Fluorobiphenyl                 | 95.5   | 19-133   |      | %REC      | 1  | 7/27/2012 5:17:55 PM |
| Surr: 2-Fluorophenol                   | 92.9   | 20.2-108 |      | %REC      | 1  | 7/27/2012 5:17:55 PM |
| Surr: 4-Terphenyl-d14                  | 97.3   | 18.9-115 |      | %REC      | 1  | 7/27/2012 5:17:55 PM |
| Surr: Nitrobenzene-d5                  | 93.5   | 20.8-123 |      | %REC      | 1  | 7/27/2012 5:17:55 PM |
| Surr: Phenol-d5                        | 84.8   | 19.8-115 |      | %REC      | 1  | 7/27/2012 5:17:55 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | 12.2   | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Toluene                                | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Ethylbenzene                           | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Xylenes, Total                         | ND     | 2.54     |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.69     |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Naphthalene                            | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1-Methylnaphthalene                    | ND     | 3.39     |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 2-Methylnaphthalene                    | ND     | 3.39     |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Acetone                                | ND     | 25.4     |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Bromobenzene                           | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Bromodichloromethane                   | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Bromoform                              | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 2-Butanone                             | ND     | 4.23     |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Carbon tetrachloride                   | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Chlorobenzene                          | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Chloroethane                           | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Chloroform                             | ND     | 0.847    |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:27:00 AM

Lab ID: 1207940-003

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|-------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: <b>MMS</b>  |
| Chloromethane                          | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 2-Chlorotoluene                        | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Carbon disulfide                       | ND     | 4.23  |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 4-Chlorotoluene                        | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| cis-1,2-DCE                            | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| cis-1,3-Dichloropropene                | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.69  |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Dibromochloromethane                   | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Dibromomethane                         | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Dichlorodifluoromethane                | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,1-Dichloroethane                     | 0.918  | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,1-Dichloroethene                     | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2-Dichloropropane                    | ND     | 1.69  |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,3-Dichloropropane                    | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 2,2-Dichloropropane                    | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,1-Dichloropropene                    | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Hexachlorobutadiene                    | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Isopropylbenzene                       | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 4-Isopropyltoluene                     | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Methylene chloride                     | ND     | 4.23  |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| n-Butylbenzene                         | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 2-Hexanone                             | ND     | 4.23  |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| n-Propylbenzene                        | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| sec-Butylbenzene                       | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Styrene                                | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 4-Methyl-2-pentanone                   | ND     | 4.23  |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| tert-Butylbenzene                      | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Tetrachloroethene (PCE)                | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| trans-1,2-DCE                          | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| trans-1,3-Dichloropropene              | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,1,1-Trichloroethane                  | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,1,2-Trichloroethane                  | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Trichloroethene (TCE)                  | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Trichlorofluoromethane                 | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| 1,2,3-Trichloropropane                 | ND     | 0.847 |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-8 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 11:27:00 AM**Lab ID:** 1207940-003**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|--------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>  |
| Vinyl chloride                         | ND     | 0.847  |      | µg/Kg-dry | 1  | 7/26/2012 8:53:14 PM |
| Surr: 1,2-Dichloroethane-d4            | 168    | 70-130 | S    | %REC      | 1  | 7/26/2012 8:53:14 PM |
| Surr: 4-Bromofluorobenzene             | 96.7   | 70-130 |      | %REC      | 1  | 7/26/2012 8:53:14 PM |
| Surr: Dibromofluoromethane             | 87.2   | 70-130 |      | %REC      | 1  | 7/26/2012 8:53:14 PM |
| Surr: Toluene-d8                       | 96.6   | 70-130 |      | %REC      | 1  | 7/26/2012 8:53:14 PM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

B   Analyte detected in the associated Method Blank  
H   Holding times for preparation or analysis exceeded  
ND  Not Detected at the Reporting Limit  
RL  Reporting Detection Limit  
U   Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:40:00 AM

Lab ID: 1207940-004

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JPM         |
| Diesel Range Organics (DRO)                    | 4300   | 200      |      | mg/Kg | 20  | 7/23/2012 9:51:40 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 990      |      | mg/Kg | 20  | 7/23/2012 9:51:40 AM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/23/2012 9:51:40 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 250      |      | mg/Kg | 50  | 7/27/2012 4:00:09 AM |
| Surr: BFB                                      | 111    | 84-116   |      | %REC  | 50  | 7/27/2012 4:00:09 AM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:22:17 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 2:48:46 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| Barium                                         | 690    | 50       |      | mg/Kg | 500 | 8/5/2012 1:16:54 PM  |
| Beryllium                                      | 0.88   | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 2:48:46 PM  |
| Chromium                                       | 10     | 1.5      |      | mg/Kg | 5   | 8/1/2012 2:48:46 PM  |
| Cobalt                                         | 4.7    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| Iron                                           | 13000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:16:54 PM  |
| Lead                                           | 5.0    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| Manganese                                      | 190    | 0.50     |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| Nickel                                         | 7.9    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 2:48:46 PM  |
| Vanadium                                       | 18     | 12       |      | mg/Kg | 5   | 8/1/2012 2:48:46 PM  |
| Zinc                                           | 15     | 12       |      | mg/Kg | 5   | 8/4/2012 3:39:56 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 5:47:57 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:40:00 AM

Lab ID: 1207940-004

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2-Chloronaphthalene                    | ND     | 1.2 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Di-n-octyl phthalate                   | ND     | 1.2 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 1-Methylnaphthalene                    | 3.6    | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2-Methylnaphthalene                    | 4.2    | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| Naphthalene                            | 1.5    | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM |

**Qualifiers:**

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- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 11:40:00 AM

Lab ID: 1207940-004

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| Phenanthrene                           | 1.1    | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 5:47:57 PM  |
| Surr: 2,4,6-Tribromophenol             | 87.4   | 20.1-121 |      | %REC  | 1  | 7/27/2012 5:47:57 PM  |
| Surr: 2-Fluorobiphenyl                 | 70.0   | 19-133   |      | %REC  | 1  | 7/27/2012 5:47:57 PM  |
| Surr: 2-Fluorophenol                   | 72.2   | 20.2-108 |      | %REC  | 1  | 7/27/2012 5:47:57 PM  |
| Surr: 4-Terphenyl-d14                  | 75.0   | 18.9-115 |      | %REC  | 1  | 7/27/2012 5:47:57 PM  |
| Surr: Nitrobenzene-d5                  | 0      | 20.8-123 | S    | %REC  | 1  | 7/27/2012 5:47:57 PM  |
| Surr: Phenol-d5                        | 86.8   | 19.8-115 |      | %REC  | 1  | 7/27/2012 5:47:57 PM  |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA          |
| Benzene                                | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Toluene                                | 1.4    | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Ethylbenzene                           | 3.8    | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2,4-Trimethylbenzene                 | 6.7    | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,3,5-Trimethylbenzene                 | 2.2    | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Naphthalene                            | ND     | 2.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1-Methylnaphthalene                    | ND     | 4.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 2-Methylnaphthalene                    | ND     | 4.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Acetone                                | ND     | 15       |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Bromobenzene                           | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Bromodichloromethane                   | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Bromoform                              | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Bromomethane                           | ND     | 3.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 2-Butanone                             | ND     | 10       |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Carbon disulfide                       | ND     | 10       |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Carbon tetrachloride                   | ND     | 2.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Chlorobenzene                          | ND     | 1.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Chloroethane                           | ND     | 2.0      |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-8 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 11:40:00 AM

**Lab ID:** 1207940-004

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA          |
| Chloroform                         | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Chloromethane                      | ND     | 3.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| cis-1,2-DCE                        | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Dibromochloromethane               | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Dibromomethane                     | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,1-Dichloroethane                 | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,1-Dichloropropene                | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Hexachlorobutadiene                | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 2-Hexanone                         | ND     | 10  |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Isopropylbenzene                   | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 4-Isopropyltoluene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 4-Methyl-2-pentanone               | ND     | 10  |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Methylene chloride                 | ND     | 3.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| n-Butylbenzene                     | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| n-Propylbenzene                    | 1.4    | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| sec-Butylbenzene                   | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Styrene                            | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| tert-Butylbenzene                  | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Tetrachloroethene (PCE)            | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| trans-1,2-DCE                      | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| trans-1,3-Dichloropropene          | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2,3-Trichlorobenzene             | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,1,1-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,1,2-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Trichloroethene (TCE)              | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Trichlorofluoromethane             | ND     | 1.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| 1,2,3-Trichloropropane             | ND     | 2.0 |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |

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**Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-8 (1.5-2.0')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 11:40:00 AM**Lab ID:** 1207940-004**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>RAA</b>   |
| Vinyl chloride                     | ND     | 1.0    |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Xylenes, Total                     | 9.3    | 2.0    |      | mg/Kg | 20 | 7/23/2012 11:36:10 PM |
| Surr: 1,2-Dichloroethane-d4        | 93.1   | 70-130 |      | %REC  | 20 | 7/23/2012 11:36:10 PM |
| Surr: 4-Bromofluorobenzene         | 86.6   | 70-130 |      | %REC  | 20 | 7/23/2012 11:36:10 PM |
| Surr: Dibromofluoromethane         | 108    | 70-130 |      | %REC  | 20 | 7/23/2012 11:36:10 PM |
| Surr: Toluene-d8                   | 101    | 70-130 |      | %REC  | 20 | 7/23/2012 11:36:10 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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S Spike Recovery outside accepted recovery limits

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H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-8 (1.5-2.0") DUP

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 11:40:00 AM

**Lab ID:** 1207940-005

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 3600   | 200      |      | mg/Kg | 20  | 7/23/2012 10:13:29 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 980      |      | mg/Kg | 20  | 7/23/2012 10:13:29 AM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/23/2012 10:13:29 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)                  | ND     | 250      |      | mg/Kg | 50  | 7/27/2012 4:28:51 AM  |
| Surr: BFB                                      | 115    | 84-116   |      | %REC  | 50  | 7/27/2012 4:28:51 AM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:24:04 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:02:41 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| Barium                                         | 410    | 10       |      | mg/Kg | 100 | 8/5/2012 1:21:10 PM   |
| Beryllium                                      | 0.93   | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:02:41 PM   |
| Chromium                                       | 11     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:02:41 PM   |
| Cobalt                                         | 5.0    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| Iron                                           | 14000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:23:20 PM   |
| Lead                                           | 3.7    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| Manganese                                      | 210    | 0.50     |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| Nickel                                         | 8.5    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 3:02:41 PM   |
| Vanadium                                       | 21     | 12       |      | mg/Kg | 5   | 8/1/2012 3:02:41 PM   |
| Zinc                                           | 17     | 12       |      | mg/Kg | 5   | 8/4/2012 3:42:19 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:18:03 PM  |

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## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (1.5-2.0') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 11:40:00 AM

Lab ID: 1207940-005

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2-Chloronaphthalene                    | ND     | 1.2 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Di-n-octyl phthalate                   | ND     | 1.2 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 1-Methylnaphthalene                    | 1.5    | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2-Methylnaphthalene                    | 1.6    | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM |

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## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-8 (1.5-2.0') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 11:40:00 AM

Lab ID: 1207940-005

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:18:03 PM  |
| Surr: 2,4,6-Tribromophenol             | 111    | 20.1-121 |      | %REC  | 1  | 7/27/2012 6:18:03 PM  |
| Surr: 2-Fluorobiphenyl                 | 92.7   | 19-133   |      | %REC  | 1  | 7/27/2012 6:18:03 PM  |
| Surr: 2-Fluorophenol                   | 103    | 20.2-108 |      | %REC  | 1  | 7/27/2012 6:18:03 PM  |
| Surr: 4-Terphenyl-d14                  | 110    | 18.9-115 |      | %REC  | 1  | 7/27/2012 6:18:03 PM  |
| Surr: Nitrobenzene-d5                  | 114    | 20.8-123 |      | %REC  | 1  | 7/27/2012 6:18:03 PM  |
| Surr: Phenol-d5                        | 106    | 19.8-115 |      | %REC  | 1  | 7/27/2012 6:18:03 PM  |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA          |
| Benzene                                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Toluene                                | 1.7    | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Ethylbenzene                           | 4.7    | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2,4-Trimethylbenzene                 | 8.4    | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,3,5-Trimethylbenzene                 | 2.7    | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Naphthalene                            | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1-Methylnaphthalene                    | ND     | 4.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 2-Methylnaphthalene                    | ND     | 4.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Acetone                                | ND     | 15       |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Bromobenzene                           | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Bromodichloromethane                   | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Bromoform                              | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Bromomethane                           | ND     | 3.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 2-Butanone                             | ND     | 10       |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Carbon disulfide                       | ND     | 10       |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Carbon tetrachloride                   | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Chlorobenzene                          | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Chloroethane                           | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |

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| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA          |
| Chloroform                         | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Chloromethane                      | ND     | 3.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| cis-1,2-DCE                        | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Dibromochloromethane               | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Dibromomethane                     | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,1-Dichloroethane                 | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,1-Dichloropropene                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Hexachlorobutadiene                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 2-Hexanone                         | ND     | 10  |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Isopropylbenzene                   | 1.2    | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 4-Isopropyltoluene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 4-Methyl-2-pentanone               | ND     | 10  |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Methylene chloride                 | ND     | 3.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| n-Butylbenzene                     | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| n-Propylbenzene                    | 1.7    | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| sec-Butylbenzene                   | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Styrene                            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| tert-Butylbenzene                  | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Tetrachloroethene (PCE)            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| trans-1,2-DCE                      | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| trans-1,3-Dichloropropene          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2,3-Trichlorobenzene             | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,1,1-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,1,2-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Trichloroethene (TCE)              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| Trichlorofluoromethane             | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |
| 1,2,3-Trichloropropane             | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 12:32:38 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-8 (1.5-2.0') DUP**Project:** SWMU NO.14**Collection Date:** 7/19/2012 11:40:00 AM**Lab ID:** 1207940-005**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| <b>Analyses</b>                    | <b>Result</b> | <b>RL</b> | <b>Qual</b> | <b>Units</b> | <b>DF</b> | <b>Date Analyzed</b>  |
|------------------------------------|---------------|-----------|-------------|--------------|-----------|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |               |           |             |              |           | <b>Analyst: RAA</b>   |
| Vinyl chloride                     | ND            | 1.0       |             | mg/Kg        | 20        | 7/24/2012 12:32:38 AM |
| Xylenes, Total                     | 12            | 2.0       |             | mg/Kg        | 20        | 7/24/2012 12:32:38 AM |
| Surr: 1,2-Dichloroethane-d4        | 93.4          | 70-130    |             | %REC         | 20        | 7/24/2012 12:32:38 AM |
| Surr: 4-Bromofluorobenzene         | 78.2          | 70-130    |             | %REC         | 20        | 7/24/2012 12:32:38 AM |
| Surr: Dibromofluoromethane         | 104           | 70-130    |             | %REC         | 20        | 7/24/2012 12:32:38 AM |
| Surr: Toluene-d8                   | 104           | 70-130    |             | %REC         | 20        | 7/24/2012 12:32:38 AM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

                  B    Analyte detected in the associated Method Blank  
                  H    Holding times for preparation or analysis exceeded  
                  ND   Not Detected at the Reporting Limit  
                  RL   Reporting Detection Limit  
                  U    Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-12 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:05:00 PM

Lab ID: 1207940-006

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 15000  | 190      |      | mg/Kg | 20  | 7/23/2012 10:57:23 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 970      |      | mg/Kg | 20  | 7/23/2012 10:57:23 AM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/23/2012 10:57:23 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)                  | 700    | 500      |      | mg/Kg | 100 | 7/27/2012 4:57:29 AM  |
| Surr: BFB                                      | 111    | 84-116   |      | %REC  | 100 | 7/27/2012 4:57:29 AM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | 0.040  | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:34:47 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:07:46 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Barium                                         | 150    | 0.50     |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Beryllium                                      | 1.0    | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:07:46 PM   |
| Chromium                                       | 12     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:07:46 PM   |
| Cobalt                                         | 5.9    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:25:53 PM   |
| Lead                                           | 4.4    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Manganese                                      | 240    | 0.50     |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Nickel                                         | 9.8    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 3:07:46 PM   |
| Vanadium                                       | 23     | 12       |      | mg/Kg | 5   | 8/1/2012 3:07:46 PM   |
| Zinc                                           | 18     | 12       |      | mg/Kg | 5   | 8/4/2012 3:44:40 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Acenaphthylene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Aniline                                        | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Anthracene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Azobenzene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Benz(a)anthracene                              | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Benzo(a)pyrene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Benzo(b)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Benzo(g,h,i)perylene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Benzo(k)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Benzoic acid                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Benzyl alcohol                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 6:48:08 PM  |

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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-12 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:05:00 PM

Lab ID: 1207940-006

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                        | Result | RL   | Qual | Units | DF | Date Analyzed        |
|---------------------------------|--------|------|------|-------|----|----------------------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate      | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 4-Bromophenyl phenyl ether      | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Butyl benzyl phthalate          | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Carbazole                       | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 4-Chloro-3-methylphenol         | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 4-Chloroaniline                 | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2-Chloronaphthalene             | ND     | 0.50 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2-Chlorophenol                  | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 4-Chlorophenyl phenyl ether     | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Chrysene                        | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Di-n-butyl phthalate            | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Di-n-octyl phthalate            | ND     | 0.50 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Dibenz(a,h)anthracene           | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Dibenzofuran                    | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 1,2-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 1,3-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 1,4-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 3,3'-Dichlorobenzidine          | ND     | 0.50 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Diethyl phthalate               | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Dimethyl phthalate              | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2,4-Dichlorophenol              | ND     | 0.80 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2,4-Dimethylphenol              | ND     | 0.60 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 4,6-Dinitro-2-methylphenol      | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2,4-Dinitrophenol               | ND     | 0.80 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2,4-Dinitrotoluene              | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2,6-Dinitrotoluene              | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Fluoranthene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Fluorene                        | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Hexachlorobenzene               | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Hexachlorobutadiene             | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Hexachlorocyclopentadiene       | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Hexachloroethane                | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Isophorone                      | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 1-Methylnaphthalene             | 21     | 4.0  |      | mg/Kg | 10 | 7/30/2012 5:05:23 PM |
| 2-Methylnaphthalene             | 32     | 4.0  |      | mg/Kg | 10 | 7/30/2012 5:05:23 PM |
| 2-Methylphenol                  | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 3+4-Methylphenol                | 1.1    | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| N-Nitrosodi-n-propylamine       | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| N-Nitrosodiphenylamine          | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| Naphthalene                     | 6.6    | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |
| 2-Nitroaniline                  | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
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R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-12 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:05:00 PM

Lab ID: 1207940-006

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| 4-Nitroaniline                         | ND     | 0.80     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| Nitrobenzene                           | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| 2-Nitrophenol                          | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| 4-Nitrophenol                          | ND     | 0.50     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| Pentachlorophenol                      | ND     | 0.80     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| Phenanthrene                           | 7.3    | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| Phenol                                 | 2.1    | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| Pyrene                                 | 1.1    | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| Pyridine                               | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| 1,2,4-Trichlorobenzene                 | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| 2,4,5-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| 2,4,6-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 6:48:08 PM  |
| Surr: 2,4,6-Tribromophenol             | 0      | 20.1-121 | S    | %REC  | 1  | 7/27/2012 6:48:08 PM  |
| Surr: 2-Fluorobiphenyl                 | 46.3   | 19-133   |      | %REC  | 1  | 7/27/2012 6:48:08 PM  |
| Surr: 2-Fluorophenol                   | 30.2   | 20.2-108 |      | %REC  | 1  | 7/27/2012 6:48:08 PM  |
| Surr: 4-Terphenyl-d14                  | 62.5   | 18.9-115 |      | %REC  | 1  | 7/27/2012 6:48:08 PM  |
| Surr: Nitrobenzene-d5                  | 0      | 20.8-123 | S    | %REC  | 1  | 7/27/2012 6:48:08 PM  |
| Surr: Phenol-d5                        | 67.0   | 19.8-115 |      | %REC  | 1  | 7/27/2012 6:48:08 PM  |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA          |
| Benzene                                | 5.9    | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Toluene                                | 45     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Ethylbenzene                           | 17     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2,4-Trimethylbenzene                 | 38     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,3,5-Trimethylbenzene                 | 11     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Naphthalene                            | 16     | 5.0      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1-Methylnaphthalene                    | 29     | 10       |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 2-Methylnaphthalene                    | 50     | 10       |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Acetone                                | ND     | 38       |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Bromobenzene                           | ND     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Bromodichloromethane                   | ND     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Bromoform                              | ND     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Bromomethane                           | ND     | 7.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 2-Butanone                             | ND     | 25       |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Carbon disulfide                       | ND     | 25       |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Carbon tetrachloride                   | ND     | 5.0      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Chlorobenzene                          | ND     | 2.5      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Chloroethane                           | ND     | 5.0      |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
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 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-12 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:05:00 PM

Lab ID: 1207940-006

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA          |
| Chloroform                         | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Chloromethane                      | ND     | 7.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 2-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 4-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| cis-1,2-DCE                        | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| cis-1,3-Dichloropropene            | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Dibromochloromethane               | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Dibromomethane                     | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,3-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,4-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Dichlorodifluoromethane            | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,1-Dichloroethane                 | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,1-Dichloroethene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,3-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 2,2-Dichloropropane                | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,1-Dichloropropene                | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Hexachlorobutadiene                | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 2-Hexanone                         | ND     | 25  |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Isopropylbenzene                   | 3.0    | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 4-Isopropyltoluene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 4-Methyl-2-pentanone               | ND     | 25  |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Methylene chloride                 | ND     | 7.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| n-Butylbenzene                     | 4.0    | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| n-Propylbenzene                    | 6.2    | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| sec-Butylbenzene                   | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Styrene                            | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| tert-Butylbenzene                  | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Tetrachloroethene (PCE)            | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| trans-1,2-DCE                      | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| trans-1,3-Dichloropropene          | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2,3-Trichlorobenzene             | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2,4-Trichlorobenzene             | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,1,1-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,1,2-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Trichloroethene (TCE)              | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Trichlorofluoromethane             | ND     | 2.5 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| 1,2,3-Trichloropropane             | ND     | 5.0 |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-12 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 12:05:00 PM

**Lab ID:** 1207940-006

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA          |
| Vinyl chloride                     | ND     | 2.5    |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Xylenes, Total                     | 86     | 5.0    |      | mg/Kg | 50 | 7/22/2012 12:37:39 AM |
| Surr: 1,2-Dichloroethane-d4        | 93.9   | 70-130 |      | %REC  | 50 | 7/22/2012 12:37:39 AM |
| Surr: 4-Bromofluorobenzene         | 86.2   | 70-130 |      | %REC  | 50 | 7/22/2012 12:37:39 AM |
| Surr: Dibromofluoromethane         | 93.3   | 70-130 |      | %REC  | 50 | 7/22/2012 12:37:39 AM |
| Surr: Toluene-d8                   | 97.4   | 70-130 |      | %REC  | 50 | 7/22/2012 12:37:39 AM |

**Qualifiers:**

- \* /X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-12 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:12:00 PM

Lab ID: 1207940-007

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 1500   | 97       |      | mg/Kg | 10  | 7/23/2012 7:19:35 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 490      |      | mg/Kg | 10  | 7/23/2012 7:19:35 AM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 10  | 7/23/2012 7:19:35 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | 370    | 100      |      | mg/Kg | 20  | 7/30/2012 4:07:16 PM |
| Surr: BFB                                      | 115    | 84-116   |      | %REC  | 20  | 7/30/2012 4:07:16 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.097  | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:36:35 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:12:50 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| Barium                                         | 120    | 0.50     |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| Beryllium                                      | 0.95   | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:12:50 PM  |
| Chromium                                       | 12     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:12:50 PM  |
| Cobalt                                         | 5.3    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:38:51 PM  |
| Lead                                           | 2.6    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| Manganese                                      | 300    | 10       |      | mg/Kg | 100 | 8/5/2012 1:36:26 PM  |
| Nickel                                         | 8.7    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 3:12:50 PM  |
| Vanadium                                       | 22     | 12       |      | mg/Kg | 5   | 8/1/2012 3:12:50 PM  |
| Zinc                                           | 18     | 12       |      | mg/Kg | 5   | 8/4/2012 3:47:03 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Acenaphthylene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Aniline                                        | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Anthracene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Azobenzene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Benz(a)anthracene                              | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Benzo(a)pyrene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Benzo(b)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Benzo(g,h,i)perylene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Benzo(k)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Benzoic acid                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Benzyl alcohol                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Bis(2-chloroethyl)ether                        | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.40     |      | mg/Kg | 1   | 7/27/2012 7:18:12 PM |

Qualifiers: \*/X Value exceeds Maximum Contaminant Level.  
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 S Spike Recovery outside accepted recovery limits

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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-12 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:12:00 PM

Lab ID: 1207940-007

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Butyl benzyl phthalate                 | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Carbazole                              | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 4-Chloro-3-methylphenol                | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 4-Chloroaniline                        | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2-Chloronaphthalene                    | ND     | 0.50 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2-Chlorophenol                         | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Chrysene                               | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Di-n-butyl phthalate                   | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Di-n-octyl phthalate                   | ND     | 0.50 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Dibenzofuran                           | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 0.50 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Diethyl phthalate                      | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Dimethyl phthalate                     | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2,4-Dichlorophenol                     | ND     | 0.80 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2,4-Dimethylphenol                     | ND     | 0.60 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2,4-Dinitrophenol                      | ND     | 0.80 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2,4-Dinitrotoluene                     | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2,6-Dinitrotoluene                     | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Fluoranthene                           | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Fluorene                               | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Hexachlorobenzene                      | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Hexachlorobutadiene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Hexachlorocyclopentadiene              | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Hexachloroethane                       | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Isophorone                             | ND     | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 1-Methylnaphthalene                    | 5.2    | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2-Methylnaphthalene                    | 7.7    | 2.0  |      | mg/Kg | 5  | 7/30/2012 5:35:57 PM |
| 2-Methylphenol                         | 1.1    | 1.0  |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 3+4-Methylphenol                       | 2.2    | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Naphthalene                            | 1.6    | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2-Nitroaniline                         | ND     | 0.40 |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-12 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 12:12:00 PM

**Lab ID:** 1207940-007

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 4-Nitroaniline                         | ND     | 0.80     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Nitrobenzene                           | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2-Nitrophenol                          | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 4-Nitrophenol                          | ND     | 0.50     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Pentachlorophenol                      | ND     | 0.80     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Phenanthrene                           | 1.2    | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Phenol                                 | 2.8    | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Pyrene                                 | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Pyridine                               | ND     | 1.0      |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2,4,5-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| 2,4,6-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg | 1  | 7/27/2012 7:18:12 PM |
| Surr: 2,4,6-Tribromophenol             | 62.6   | 20.1-121 |      | %REC  | 1  | 7/27/2012 7:18:12 PM |
| Surr: 2-Fluorobiphenyl                 | 56.3   | 19-133   |      | %REC  | 1  | 7/27/2012 7:18:12 PM |
| Surr: 2-Fluorophenol                   | 64.9   | 20.2-108 |      | %REC  | 1  | 7/27/2012 7:18:12 PM |
| Surr: 4-Terphenyl-d14                  | 69.9   | 18.9-115 |      | %REC  | 1  | 7/27/2012 7:18:12 PM |
| Surr: Nitrobenzene-d5                  | 74.1   | 20.8-123 |      | %REC  | 1  | 7/27/2012 7:18:12 PM |
| Surr: Phenol-d5                        | 78.4   | 19.8-115 |      | %REC  | 1  | 7/27/2012 7:18:12 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | 2.9    | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Toluene                                | 14     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Ethylbenzene                           | 7.5    | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2,4-Trimethylbenzene                 | 22     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,3,5-Trimethylbenzene                 | 6.3    | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Naphthalene                            | 10     | 5.0      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1-Methylnaphthalene                    | 21     | 10       |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 2-Methylnaphthalene                    | 36     | 10       |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Acetone                                | 47     | 38       |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Bromobenzene                           | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Bromodichloromethane                   | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Bromoform                              | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Bromomethane                           | ND     | 7.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 2-Butanone                             | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Carbon disulfide                       | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Carbon tetrachloride                   | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Chlorobenzene                          | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Chloroethane                           | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-12 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:12:00 PM

Lab ID: 1207940-007

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Chloromethane                      | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 2-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 4-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| cis-1,2-DCE                        | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| cis-1,3-Dichloropropene            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Dibromochloromethane               | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Dibromomethane                     | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,3-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,4-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Dichlorodifluoromethane            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,1-Dichloroethane                 | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,1-Dichloroethene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,3-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 2,2-Dichloropropane                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,1-Dichloropropene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Hexachlorobutadiene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 2-Hexanone                         | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Isopropylbenzene                   | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 4-Isopropyltoluene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 4-Methyl-2-pentanone               | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Methylene chloride                 | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| n-Butylbenzene                     | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| n-Propylbenzene                    | 3.6    | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| sec-Butylbenzene                   | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Styrene                            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| tert-Butylbenzene                  | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Tetrachloroethene (PCE)            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| trans-1,2-DCE                      | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| trans-1,3-Dichloropropene          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2,3-Trichlorobenzene             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2,4-Trichlorobenzene             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,1,1-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,1,2-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Trichloroethene (TCE)              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Trichlorofluoromethane             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| 1,2,3-Trichloropropane             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |

**Qualifiers:**

- \* / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-12 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 12:12:00 PM

**Lab ID:** 1207940-007

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA         |
| Vinyl chloride                     | ND     | 2.5    |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Xylenes, Total                     | 36     | 5.0    |      | mg/Kg | 50 | 7/24/2012 1:29:07 AM |
| Surr: 1,2-Dichloroethane-d4        | 97.8   | 70-130 |      | %REC  | 50 | 7/24/2012 1:29:07 AM |
| Surr: 4-Bromofluorobenzene         | 92.3   | 70-130 |      | %REC  | 50 | 7/24/2012 1:29:07 AM |
| Surr: Dibromofluoromethane         | 103    | 70-130 |      | %REC  | 50 | 7/24/2012 1:29:07 AM |
| Surr: Toluene-d8                   | 98.4   | 70-130 |      | %REC  | 50 | 7/24/2012 1:29:07 AM |

**Qualifiers:**

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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-13 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:36:00 PM

Lab ID: 1207940-008

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 1000   | 99       |      | mg/Kg | 10  | 7/23/2012 7:41:16 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 500      |      | mg/Kg | 10  | 7/23/2012 7:41:16 AM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 10  | 7/23/2012 7:41:16 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | ND     | 50       |      | mg/Kg | 10  | 7/30/2012 4:37:26 PM |
| Surr: BFB                                      | 129    | 84-116   | S    | %REC  | 10  | 7/30/2012 4:37:26 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.14   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:38:23 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:17:52 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:49:23 PM  |
| Barium                                         | 350    | 10       |      | mg/Kg | 100 | 8/5/2012 1:41:23 PM  |
| Beryllium                                      | 0.97   | 0.75     |      | mg/Kg | 5   | 8/4/2012 3:49:23 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:17:52 PM  |
| Chromium                                       | 17     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:17:52 PM  |
| Cobalt                                         | 5.7    | 1.5      |      | mg/Kg | 5   | 8/4/2012 3:49:23 PM  |
| Iron                                           | 8400   | 500      |      | mg/Kg | 500 | 8/5/2012 1:43:37 PM  |
| Lead                                           | 2.0    | 1.2      |      | mg/Kg | 5   | 8/4/2012 3:49:23 PM  |
| Manganese                                      | 340    | 10       |      | mg/Kg | 100 | 8/5/2012 1:41:23 PM  |
| Nickel                                         | 9.1    | 2.5      |      | mg/Kg | 5   | 8/4/2012 3:49:23 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 3:49:23 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 3:17:52 PM  |
| Vanadium                                       | 26     | 12       |      | mg/Kg | 5   | 8/1/2012 3:17:52 PM  |
| Zinc                                           | 36     | 12       |      | mg/Kg | 5   | 8/4/2012 3:49:23 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Acenaphthylene                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Aniline                                        | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Anthracene                                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Azobenzene                                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Benz(a)anthracene                              | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Benzo(a)pyrene                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Benzo(b)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Benzo(g,h,i)perylene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Benzo(k)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Benzoic acid                                   | ND     | 0.50     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Benzyl alcohol                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Bis(2-chloroethyl)ether                        | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:06:31 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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S Spike Recovery outside accepted recovery limits

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H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-13 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:36:00 PM

Lab ID: 1207940-008

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                        | Result | RL   | Qual | Units | DF | Date Analyzed        |
|---------------------------------|--------|------|------|-------|----|----------------------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate      | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 4-Bromophenyl phenyl ether      | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Butyl benzyl phthalate          | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Carbazole                       | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 4-Chloro-3-methylphenol         | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 4-Chloroaniline                 | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2-Chloronaphthalene             | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2-Chlorophenol                  | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 4-Chlorophenyl phenyl ether     | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Chrysene                        | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Di-n-butyl phthalate            | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Di-n-octyl phthalate            | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Dibenz(a,h)anthracene           | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Dibenzofuran                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 1,2-Dichlorobenzene             | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 1,3-Dichlorobenzene             | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 1,4-Dichlorobenzene             | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 3,3'-Dichlorobenzidine          | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Diethyl phthalate               | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Dimethyl phthalate              | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2,4-Dichlorophenol              | ND     | 0.40 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2,4-Dimethylphenol              | ND     | 0.30 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 4,6-Dinitro-2-methylphenol      | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2,4-Dinitrophenol               | ND     | 0.40 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2,4-Dinitrotoluene              | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2,6-Dinitrotoluene              | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Fluoranthene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Fluorene                        | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Hexachlorobenzene               | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Hexachlorobutadiene             | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Hexachlorocyclopentadiene       | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Hexachloroethane                | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Isophorone                      | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 1-Methylnaphthalene             | 1.6    | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2-Methylnaphthalene             | 0.81   | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2-Methylphenol                  | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 3+4-Methylphenol                | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| N-Nitrosodi-n-propylamine       | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| N-Nitrosodiphenylamine          | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Naphthalene                     | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2-Nitroaniline                  | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
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 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-13 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 12:36:00 PM**Lab ID:** 1207940-008**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 4-Nitroaniline                         | ND     | 0.40     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Nitrobenzene                           | ND     | 0.50     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2-Nitrophenol                          | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 4-Nitrophenol                          | ND     | 0.25     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Pentachlorophenol                      | ND     | 0.40     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Phenanthrene                           | 1.4    | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Phenol                                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Pyrene                                 | 0.21   | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Pyridine                               | ND     | 0.50     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2,4,5-Trichlorophenol                  | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| 2,4,6-Trichlorophenol                  | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:06:31 PM |
| Surr: 2,4,6-Tribromophenol             | 57.8   | 20.1-121 |      | %REC  | 1  | 7/30/2012 6:06:31 PM |
| Surr: 2-Fluorobiphenyl                 | 58.6   | 19-133   |      | %REC  | 1  | 7/30/2012 6:06:31 PM |
| Surr: 2-Fluorophenol                   | 60.7   | 20.2-108 |      | %REC  | 1  | 7/30/2012 6:06:31 PM |
| Surr: 4-Terphenyl-d14                  | 79.7   | 18.9-115 |      | %REC  | 1  | 7/30/2012 6:06:31 PM |
| Surr: Nitrobenzene-d5                  | 68.2   | 20.8-123 |      | %REC  | 1  | 7/30/2012 6:06:31 PM |
| Surr: Phenol-d5                        | 75.4   | 19.8-115 |      | %REC  | 1  | 7/30/2012 6:06:31 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Toluene                                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Ethylbenzene                           | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2,4-Trimethylbenzene                 | 3.7    | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,3,5-Trimethylbenzene                 | 1.4    | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Naphthalene                            | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1-Methylnaphthalene                    | 12     | 4.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 2-Methylnaphthalene                    | 13     | 4.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Acetone                                | ND     | 15       |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Bromobenzene                           | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Bromodichloromethane                   | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Bromoform                              | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Bromomethane                           | ND     | 3.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 2-Butanone                             | ND     | 10       |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Carbon disulfide                       | ND     | 10       |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Carbon tetrachloride                   | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Chlorobenzene                          | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Chloroethane                           | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-13 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 12:36:00 PM

**Lab ID:** 1207940-008

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Chloromethane                      | ND     | 3.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| cis-1,2-DCE                        | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Dibromochloromethane               | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Dibromomethane                     | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,1-Dichloroethane                 | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,1-Dichloropropene                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Hexachlorobutadiene                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 2-Hexanone                         | ND     | 10  |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Isopropylbenzene                   | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 4-Isopropyltoluene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 4-Methyl-2-pentanone               | ND     | 10  |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Methylene chloride                 | ND     | 3.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| n-Butylbenzene                     | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| n-Propylbenzene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| sec-Butylbenzene                   | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Styrene                            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| tert-Butylbenzene                  | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Tetrachloroethene (PCE)            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| trans-1,2-DCE                      | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| trans-1,3-Dichloropropene          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2,3-Trichlorobenzene             | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,1,1-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,1,2-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Trichloroethene (TCE)              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Trichlorofluoromethane             | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| 1,2,3-Trichloropropane             | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-13 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 12:36:00 PM

**Lab ID:** 1207940-008

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA         |
| Vinyl chloride                     | ND     | 1.0    |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Xylenes, Total                     | 2.4    | 2.0    |      | mg/Kg | 20 | 7/24/2012 3:22:12 AM |
| Surr: 1,2-Dichloroethane-d4        | 91.3   | 70-130 |      | %REC  | 20 | 7/24/2012 3:22:12 AM |
| Surr: 4-Bromofluorobenzene         | 90.4   | 70-130 |      | %REC  | 20 | 7/24/2012 3:22:12 AM |
| Surr: Dibromofluoromethane         | 101    | 70-130 |      | %REC  | 20 | 7/24/2012 3:22:12 AM |
| Surr: Toluene-d8                   | 102    | 70-130 |      | %REC  | 20 | 7/24/2012 3:22:12 AM |

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# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-13 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 12:45:00 PM

**Lab ID:** 1207940-009

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 1300   | 99       |      | mg/Kg | 10  | 7/22/2012 8:07:03 PM |
| Motor Oil Range Organics (MRO)                 | ND     | 500      |      | mg/Kg | 10  | 7/22/2012 8:07:03 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 10  | 7/22/2012 8:07:03 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | 58     | 50       |      | mg/Kg | 10  | 7/30/2012 5:07:41 PM |
| Surr: BFB                                      | 122    | 84-116   | S    | %REC  | 10  | 7/30/2012 5:07:41 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:40:09 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:23:00 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| Barium                                         | 230    | 0.50     |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| Beryllium                                      | 1.0    | 0.75     |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:23:00 PM  |
| Chromium                                       | 13     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:23:00 PM  |
| Cobalt                                         | 5.7    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| Iron                                           | 16000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:48:51 PM  |
| Lead                                           | 3.3    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| Manganese                                      | 390    | 10       |      | mg/Kg | 100 | 8/5/2012 1:46:28 PM  |
| Nickel                                         | 9.5    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 3:23:00 PM  |
| Vanadium                                       | 23     | 12       |      | mg/Kg | 5   | 8/1/2012 3:23:00 PM  |
| Zinc                                           | 19     | 12       |      | mg/Kg | 5   | 8/4/2012 4:01:53 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Acenaphthylene                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Aniline                                        | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Anthracene                                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Azobenzene                                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Benz(a)anthracene                              | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Benzo(a)pyrene                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Benzo(b)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Benzo(g,h,i)perylene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Benzo(k)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Benzoic acid                                   | ND     | 0.50     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Benzyl alcohol                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Bis(2-chloroethyl)ether                        | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 6:37:04 PM |

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 H Holding times for preparation or analysis exceeded  
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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-13 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:45:00 PM

Lab ID: 1207940-009

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Butyl benzyl phthalate                 | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Carbazole                              | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 4-Chloro-3-methylphenol                | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 4-Chloroaniline                        | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2-Chloronaphthalene                    | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2-Chlorophenol                         | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Chrysene                               | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Di-n-butyl phthalate                   | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Di-n-octyl phthalate                   | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Dibenzofuran                           | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Diethyl phthalate                      | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Dimethyl phthalate                     | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2,4-Dichlorophenol                     | ND     | 0.40 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2,4-Dimethylphenol                     | ND     | 0.30 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2,4-Dinitrophenol                      | ND     | 0.40 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2,4-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2,6-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Fluoranthene                           | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Fluorene                               | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Hexachlorobenzene                      | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Hexachlorobutadiene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Hexachlorocyclopentadiene              | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Hexachloroethane                       | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Isophorone                             | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 1-Methylnaphthalene                    | 1.4    | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2-Methylnaphthalene                    | 2.3    | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2-Methylphenol                         | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 3+4-Methylphenol                       | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| Naphthalene                            | 0.65   | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |
| 2-Nitroaniline                         | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-13 (1.5-2.0')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 12:45:00 PM**Lab ID:** 1207940-009**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| 4-Nitroaniline                         | ND     | 0.40     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| Nitrobenzene                           | ND     | 0.50     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| 2-Nitrophenol                          | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| 4-Nitrophenol                          | ND     | 0.25     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| Pentachlorophenol                      | ND     | 0.40     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| Phenanthrene                           | 0.60   | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| Phenol                                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| Pyrene                                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| Pyridine                               | ND     | 0.50     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| 1,2,4-Trichlorobenzene                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| 2,4,5-Trichlorophenol                  | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| 2,4,6-Trichlorophenol                  | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 6:37:04 PM  |
| Surr: 2,4,6-Tribromophenol             | 92.0   | 20.1-121 |      | %REC  | 1  | 7/30/2012 6:37:04 PM  |
| Surr: 2-Fluorobiphenyl                 | 80.4   | 19-133   |      | %REC  | 1  | 7/30/2012 6:37:04 PM  |
| Surr: 2-Fluorophenol                   | 73.8   | 20.2-108 |      | %REC  | 1  | 7/30/2012 6:37:04 PM  |
| Surr: 4-Terphenyl-d14                  | 92.5   | 18.9-115 |      | %REC  | 1  | 7/30/2012 6:37:04 PM  |
| Surr: Nitrobenzene-d5                  | 78.1   | 20.8-123 |      | %REC  | 1  | 7/30/2012 6:37:04 PM  |
| Surr: Phenol-d5                        | 92.9   | 19.8-115 |      | %REC  | 1  | 7/30/2012 6:37:04 PM  |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA          |
| Benzene                                | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Toluene                                | 0.61   | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Ethylbenzene                           | 1.3    | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2,4-Trimethylbenzene                 | 3.5    | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,3,5-Trimethylbenzene                 | 0.93   | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Naphthalene                            | 1.2    | 1.0      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1-Methylnaphthalene                    | 2.6    | 2.0      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 2-Methylnaphthalene                    | 4.6    | 2.0      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Acetone                                | ND     | 7.5      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Bromobenzene                           | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Bromodichloromethane                   | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Bromoform                              | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Bromomethane                           | ND     | 1.5      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 2-Butanone                             | ND     | 5.0      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Carbon disulfide                       | ND     | 5.0      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Carbon tetrachloride                   | ND     | 1.0      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Chlorobenzene                          | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Chloroethane                           | ND     | 1.0      |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-13 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 12:45:00 PM

Lab ID: 1207940-009

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL   | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|------|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |      |      |       |    | Analyst: RAA          |
| Chloroform                         | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Chloromethane                      | ND     | 1.5  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 2-Chlorotoluene                    | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 4-Chlorotoluene                    | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| cis-1,2-DCE                        | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| cis-1,3-Dichloropropene            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Dibromochloromethane               | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Dibromomethane                     | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2-Dichlorobenzene                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,3-Dichlorobenzene                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,4-Dichlorobenzene                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Dichlorodifluoromethane            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,1-Dichloroethane                 | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,1-Dichloroethene                 | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2-Dichloropropane                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,3-Dichloropropane                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 2,2-Dichloropropane                | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,1-Dichloropropene                | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Hexachlorobutadiene                | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 2-Hexanone                         | ND     | 5.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Isopropylbenzene                   | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 4-Isopropyltoluene                 | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 4-Methyl-2-pentanone               | ND     | 5.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Methylene chloride                 | ND     | 1.5  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| n-Butylbenzene                     | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| n-Propylbenzene                    | 0.55   | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| sec-Butylbenzene                   | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Styrene                            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| tert-Butylbenzene                  | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Tetrachloroethene (PCE)            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| trans-1,2-DCE                      | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| trans-1,3-Dichloropropene          | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2,3-Trichlorobenzene             | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2,4-Trichlorobenzene             | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,1,1-Trichloroethane              | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,1,2-Trichloroethane              | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Trichloroethene (TCE)              | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| Trichlorofluoromethane             | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |
| 1,2,3-Trichloropropane             | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 12:36:59 PM |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL



**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-13 (1.5-2.0')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 12:45:00 PM**Lab ID:** 1207940-009**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| <b>Analyses</b>                    | <b>Result</b> | <b>RL</b> | <b>Qual</b> | <b>Units</b> | <b>DF</b> | <b>Date Analyzed</b>  |
|------------------------------------|---------------|-----------|-------------|--------------|-----------|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |               |           |             |              |           | Analyst: <b>RAA</b>   |
| Vinyl chloride                     | ND            | 0.50      |             | mg/Kg        | 10        | 7/24/2012 12:36:59 PM |
| Xylenes, Total                     | 5.5           | 1.0       |             | mg/Kg        | 10        | 7/24/2012 12:36:59 PM |
| Surr: 1,2-Dichloroethane-d4        | 97.7          | 70-130    |             | %REC         | 10        | 7/24/2012 12:36:59 PM |
| Surr: 4-Bromofluorobenzene         | 83.2          | 70-130    |             | %REC         | 10        | 7/24/2012 12:36:59 PM |
| Surr: Dibromofluoromethane         | 105           | 70-130    |             | %REC         | 10        | 7/24/2012 12:36:59 PM |
| Surr: Toluene-d8                   | 98.8          | 70-130    |             | %REC         | 10        | 7/24/2012 12:36:59 PM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

                  B    Analyte detected in the associated Method Blank  
                  H    Holding times for preparation or analysis exceeded  
                  ND   Not Detected at the Reporting Limit  
                  RL   Reporting Detection Limit  
                  U    Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-14 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:07:00 PM

Lab ID: 1207940-010

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 7700   | 200      |      | mg/Kg | 20  | 7/23/2012 11:41:16 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 980      |      | mg/Kg | 20  | 7/23/2012 11:41:16 AM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/23/2012 11:41:16 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA          |
| Gasoline Range Organics (GRO)                  | 450    | 100      |      | mg/Kg | 20  | 7/30/2012 5:37:48 PM  |
| Surr: BFB                                      | 143    | 84-116   | S    | %REC  | 20  | 7/30/2012 5:37:48 PM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | 0.33   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:41:56 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:37:59 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:37:59 PM   |
| Barium                                         | 980    | 10       |      | mg/Kg | 100 | 8/5/2012 1:51:24 PM   |
| Beryllium                                      | 0.93   | 0.75     |      | mg/Kg | 5   | 8/4/2012 4:04:15 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:37:59 PM   |
| Chromium                                       | 18     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:37:59 PM   |
| Cobalt                                         | 5.7    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:04:15 PM   |
| Iron                                           | 16000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:55:14 PM   |
| Lead                                           | 3.3    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:04:15 PM   |
| Manganese                                      | 350    | 10       |      | mg/Kg | 100 | 8/5/2012 1:51:24 PM   |
| Nickel                                         | 9.1    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:04:15 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:37:59 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:04:15 PM   |
| Vanadium                                       | 27     | 12       |      | mg/Kg | 5   | 8/1/2012 3:37:59 PM   |
| Zinc                                           | 34     | 12       |      | mg/Kg | 5   | 8/4/2012 4:04:15 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 7:07:36 PM  |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-14 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:07:00 PM

Lab ID: 1207940-010

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 1-Methylnaphthalene                    | 18     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2-Methylnaphthalene                    | 28     | 5.0 |      | mg/Kg | 5  | 7/31/2012 1:08:09 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Naphthalene                            | 3.7    | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-14 (0-0.5")

Project: SWMU NO.14

Collection Date: 7/19/2012 1:07:00 PM

Lab ID: 1207940-010

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Phenanthrene                           | 6.6    | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Pyrene                                 | 1.0    | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/30/2012 7:07:36 PM |
| Surr: 2,4,6-Tribromophenol             | 37.8   | 20.1-121 |      | %REC  | 1  | 7/30/2012 7:07:36 PM |
| Surr: 2-Fluorobiphenyl                 | 55.3   | 19-133   |      | %REC  | 1  | 7/30/2012 7:07:36 PM |
| Surr: 2-Fluorophenol                   | 38.2   | 20.2-108 |      | %REC  | 1  | 7/30/2012 7:07:36 PM |
| Surr: 4-Terphenyl-d14                  | 75.4   | 18.9-115 |      | %REC  | 1  | 7/30/2012 7:07:36 PM |
| Surr: Nitrobenzene-d5                  | 0      | 20.8-123 | S    | %REC  | 1  | 7/30/2012 7:07:36 PM |
| Surr: Phenol-d5                        | 50.0   | 19.8-115 |      | %REC  | 1  | 7/30/2012 7:07:36 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Toluene                                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Ethylbenzene                           | 4.3    | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2,4-Trimethylbenzene                 | 38     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,3,5-Trimethylbenzene                 | 12     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Naphthalene                            | 11     | 5.0      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1-Methylnaphthalene                    | 31     | 10       |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 2-Methylnaphthalene                    | 55     | 10       |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Acetone                                | ND     | 38       |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Bromobenzene                           | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Bromodichloromethane                   | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Bromoform                              | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Bromomethane                           | ND     | 7.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 2-Butanone                             | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Carbon disulfide                       | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Carbon tetrachloride                   | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Chlorobenzene                          | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Chloroethane                           | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-14 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:07:00 PM

**Lab ID:** 1207940-010

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Chloromethane                      | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 2-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 4-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| cis-1,2-DCE                        | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| cis-1,3-Dichloropropene            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Dibromochloromethane               | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Dibromomethane                     | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,3-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,4-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Dichlorodifluoromethane            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,1-Dichloroethane                 | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,1-Dichloroethene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,3-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 2,2-Dichloropropane                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,1-Dichloropropene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Hexachlorobutadiene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 2-Hexanone                         | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Isopropylbenzene                   | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 4-Isopropyltoluene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 4-Methyl-2-pentanone               | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Methylene chloride                 | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| n-Butylbenzene                     | 3.3    | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| n-Propylbenzene                    | 4.0    | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| sec-Butylbenzene                   | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Styrene                            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| tert-Butylbenzene                  | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Tetrachloroethene (PCE)            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| trans-1,2-DCE                      | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| trans-1,3-Dichloropropene          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2,3-Trichlorobenzene             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2,4-Trichlorobenzene             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,1,1-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,1,2-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Trichloroethene (TCE)              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Trichlorofluoromethane             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| 1,2,3-Trichloropropane             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

**Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-14 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 1:07:00 PM**Lab ID:** 1207940-010**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>RAA</b>  |
| Vinyl chloride                     | ND     | 2.5    |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Xylenes, Total                     | 45     | 5.0    |      | mg/Kg | 50 | 7/24/2012 5:15:17 AM |
| Surr: 1,2-Dichloroethane-d4        | 95.0   | 70-130 |      | %REC  | 50 | 7/24/2012 5:15:17 AM |
| Surr: 4-Bromofluorobenzene         | 76.0   | 70-130 |      | %REC  | 50 | 7/24/2012 5:15:17 AM |
| Surr: Dibromofluoromethane         | 109    | 70-130 |      | %REC  | 50 | 7/24/2012 5:15:17 AM |
| Surr: Toluene-d8                   | 102    | 70-130 |      | %REC  | 50 | 7/24/2012 5:15:17 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-14 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:12:00 PM

**Lab ID:** 1207940-011

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 2800   | 99       |      | mg/Kg | 10  | 7/22/2012 9:34:51 PM |
| Motor Oil Range Organics (MRO)                 | ND     | 500      |      | mg/Kg | 10  | 7/22/2012 9:34:51 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 10  | 7/22/2012 9:34:51 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | ND     | 100      |      | mg/Kg | 20  | 7/30/2012 6:07:52 PM |
| Surr: BFB                                      | 96.8   | 84-116   |      | %REC  | 20  | 7/30/2012 6:07:52 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:43:43 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:42:54 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:42:54 PM  |
| Barium                                         | 190    | 0.50     |      | mg/Kg | 5   | 8/4/2012 4:06:36 PM  |
| Beryllium                                      | 1.0    | 0.75     |      | mg/kg | 5   | 8/15/2012 8:29:04 AM |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:42:54 PM  |
| Chromium                                       | 11     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:42:54 PM  |
| Cobalt                                         | 4.9    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:06:36 PM  |
| Iron                                           | 14000  | 500      |      | mg/Kg | 500 | 8/5/2012 1:57:49 PM  |
| Lead                                           | 2.9    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:06:36 PM  |
| Manganese                                      | 240    | 0.50     |      | mg/Kg | 5   | 8/4/2012 4:06:36 PM  |
| Nickel                                         | 8.1    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:06:36 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:42:54 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:06:36 PM  |
| Vanadium                                       | 21     | 12       |      | mg/Kg | 5   | 8/1/2012 3:42:54 PM  |
| Zinc                                           | 19     | 12       |      | mg/Kg | 5   | 8/4/2012 4:06:36 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Acenaphthylene                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Aniline                                        | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Anthracene                                     | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Azobenzene                                     | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Benz(a)anthracene                              | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Benzo(a)pyrene                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Benzo(b)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Benzo(g,h,i)perylene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Benzo(k)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Benzyl alcohol                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Bis(2-chloroethyl)ether                        | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 7:38:08 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-14 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:12:00 PM

Lab ID: 1207940-011

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Butyl benzyl phthalate                 | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Carbazole                              | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 4-Chloroaniline                        | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2-Chloronaphthalene                    | ND     | 1.2  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2-Chlorophenol                         | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Chrysene                               | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Di-n-butyl phthalate                   | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Di-n-octyl phthalate                   | ND     | 1.2  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Dibenzofuran                           | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Diethyl phthalate                      | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Dimethyl phthalate                     | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Fluoranthene                           | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Fluorene                               | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Hexachlorobenzene                      | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Hexachlorobutadiene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Hexachlorocyclopentadiene              | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Hexachloroethane                       | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Isophorone                             | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 1-Methylnaphthalene                    | 17     | 5.0  |      | mg/Kg | 5  | 7/31/2012 1:38:27 PM |
| 2-Methylnaphthalene                    | 27     | 5.0  |      | mg/Kg | 5  | 7/31/2012 1:38:27 PM |
| 2-Methylphenol                         | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 3+4-Methylphenol                       | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Naphthalene                            | 4.3    | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2-Nitroaniline                         | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-14 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:12:00 PM

**Lab ID:** 1207940-011

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2-Nitrophenol                          | ND     | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Phenanthrene                           | 6.2    | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Phenol                                 | ND     | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Pyrene                                 | ND     | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2,4,5-Trichlorophenol                  | ND     | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| 2,4,6-Trichlorophenol                  | ND     | 0.99     |      | mg/Kg | 1  | 7/30/2012 7:38:08 PM |
| Surr: 2,4,6-Tribromophenol             | 91.6   | 20.1-121 |      | %REC  | 1  | 7/30/2012 7:38:08 PM |
| Surr: 2-Fluorobiphenyl                 | 99.9   | 19-133   |      | %REC  | 1  | 7/30/2012 7:38:08 PM |
| Surr: 2-Fluorophenol                   | 105    | 20.2-108 |      | %REC  | 1  | 7/30/2012 7:38:08 PM |
| Surr: 4-Terphenyl-d14                  | 120    | 18.9-115 | S    | %REC  | 1  | 7/30/2012 7:38:08 PM |
| Surr: Nitrobenzene-d5                  | 0      | 20.8-123 | S    | %REC  | 1  | 7/30/2012 7:38:08 PM |
| Surr: Phenol-d5                        | 122    | 19.8-115 | S    | %REC  | 1  | 7/30/2012 7:38:08 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | 0.84   | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Toluene                                | 0.83   | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Ethylbenzene                           | 1.7    | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2,4-Trimethylbenzene                 | 4.8    | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,3,5-Trimethylbenzene                 | 0.87   | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Naphthalene                            | 1.4    | 1.0      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1-Methylnaphthalene                    | 3.3    | 2.0      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 2-Methylnaphthalene                    | 6.1    | 2.0      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Acetone                                | ND     | 7.5      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Bromobenzene                           | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Bromodichloromethane                   | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Bromoform                              | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Bromomethane                           | ND     | 1.5      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 2-Butanone                             | ND     | 5.0      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Carbon disulfide                       | ND     | 5.0      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Carbon tetrachloride                   | ND     | 1.0      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Chlorobenzene                          | ND     | 0.50     |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Chloroethane                           | ND     | 1.0      |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-14 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:12:00 PM

Lab ID: 1207940-011

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL   | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |      |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Chloromethane                      | ND     | 1.5  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 2-Chlorotoluene                    | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 4-Chlorotoluene                    | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| cis-1,2-DCE                        | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| cis-1,3-Dichloropropene            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Dibromochloromethane               | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Dibromomethane                     | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2-Dichlorobenzene                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,3-Dichlorobenzene                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,4-Dichlorobenzene                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Dichlorodifluoromethane            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,1-Dichloroethane                 | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,1-Dichloroethene                 | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2-Dichloropropane                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,3-Dichloropropane                | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 2,2-Dichloropropane                | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,1-Dichloropropene                | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Hexachlorobutadiene                | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 2-Hexanone                         | ND     | 5.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Isopropylbenzene                   | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 4-Isopropyltoluene                 | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 4-Methyl-2-pentanone               | ND     | 5.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Methylene chloride                 | ND     | 1.5  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| n-Butylbenzene                     | 0.51   | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| n-Propylbenzene                    | 0.73   | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| sec-Butylbenzene                   | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Styrene                            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| tert-Butylbenzene                  | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Tetrachloroethene (PCE)            | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| trans-1,2-DCE                      | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| trans-1,3-Dichloropropene          | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2,3-Trichlorobenzene             | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2,4-Trichlorobenzene             | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,1,1-Trichloroethane              | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,1,2-Trichloroethane              | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Trichloroethene (TCE)              | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Trichlorofluoromethane             | ND     | 0.50 |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| 1,2,3-Trichloropropane             | ND     | 1.0  |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-14 (1.5-2.0')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 1:12:00 PM**Lab ID:** 1207940-011**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>RAA</b>  |
| Vinyl chloride                     | ND     | 0.50   |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Xylenes, Total                     | 5.3    | 1.0    |      | mg/Kg | 10 | 7/24/2012 1:33:50 PM |
| Surr: 1,2-Dichloroethane-d4        | 95.0   | 70-130 |      | %REC  | 10 | 7/24/2012 1:33:50 PM |
| Surr: 4-Bromofluorobenzene         | 81.7   | 70-130 |      | %REC  | 10 | 7/24/2012 1:33:50 PM |
| Surr: Dibromofluoromethane         | 110    | 70-130 |      | %REC  | 10 | 7/24/2012 1:33:50 PM |
| Surr: Toluene-d8                   | 103    | 70-130 |      | %REC  | 10 | 7/24/2012 1:33:50 PM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

                  B    Analyte detected in the associated Method Blank  
                  H    Holding times for preparation or analysis exceeded  
                  ND   Not Detected at the Reporting Limit  
                  RL   Reporting Detection Limit  
                  U    Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-11 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:33:00 PM

Lab ID: 1207940-012

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 350    | 9.7      |      | mg/Kg | 1   | 7/23/2012 1:01:37 PM |
| Motor Oil Range Organics (MRO)                 | 150    | 48       |      | mg/Kg | 1   | 7/23/2012 1:01:37 PM |
| Surr: DNOP                                     | 108    | 77.6-140 |      | %REC  | 1   | 7/23/2012 1:01:37 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | ND     | 25       |      | mg/Kg | 5   | 7/30/2012 6:38:08 PM |
| Surr: BFB                                      | 105    | 84-116   |      | %REC  | 5   | 7/30/2012 6:38:08 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.14   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:45:29 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:48:04 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:48:04 PM  |
| Barium                                         | 590    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:00:21 PM  |
| Beryllium                                      | 0.83   | 0.75     |      | mg/Kg | 5   | 8/15/2012 8:33:02 AM |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:48:04 PM  |
| Chromium                                       | 21     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:48:04 PM  |
| Cobalt                                         | 5.4    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:09:00 PM  |
| Iron                                           | 14000  | 500      |      | mg/Kg | 500 | 8/5/2012 2:10:31 PM  |
| Lead                                           | 7.0    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:09:00 PM  |
| Manganese                                      | 550    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:00:21 PM  |
| Nickel                                         | 9.7    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:09:00 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:48:04 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:09:00 PM  |
| Vanadium                                       | 25     | 12       |      | mg/Kg | 5   | 8/1/2012 3:48:04 PM  |
| Zinc                                           | 59     | 12       |      | mg/Kg | 5   | 8/4/2012 4:09:00 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:08:37 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-11 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:33:00 PM

**Lab ID:** 1207940-012

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2-Chloronaphthalene                    | ND     | 1.2 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Di-n-octyl phthalate                   | ND     | 1.2 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:08:37 PM |

**Qualifiers:**

- \* / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-11 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:33:00 PM

Lab ID: 1207940-012

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:08:37 PM |
| Surr: 2,4,6-Tribromophenol             | 95.1   | 20.1-121 |      | %REC      | 1  | 7/30/2012 8:08:37 PM |
| Surr: 2-Fluorobiphenyl                 | 89.2   | 19-133   |      | %REC      | 1  | 7/30/2012 8:08:37 PM |
| Surr: 2-Fluorophenol                   | 80.1   | 20.2-108 |      | %REC      | 1  | 7/30/2012 8:08:37 PM |
| Surr: 4-Terphenyl-d14                  | 108    | 18.9-115 |      | %REC      | 1  | 7/30/2012 8:08:37 PM |
| Surr: Nitrobenzene-d5                  | 97.0   | 20.8-123 |      | %REC      | 1  | 7/30/2012 8:08:37 PM |
| Surr: Phenol-d5                        | 84.8   | 19.8-115 |      | %REC      | 1  | 7/30/2012 8:08:37 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Toluene                                | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Ethylbenzene                           | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Xylenes, Total                         | ND     | 2.93     |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.95     |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Naphthalene                            | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1-Methylnaphthalene                    | ND     | 3.90     |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 2-Methylnaphthalene                    | ND     | 3.90     |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Acetone                                | ND     | 29.3     |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Bromobenzene                           | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Bromodichloromethane                   | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Bromoform                              | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 2-Butanone                             | ND     | 4.88     |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Carbon tetrachloride                   | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Chlorobenzene                          | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Chloroethane                           | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Chloroform                             | ND     | 0.976    |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-11 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:33:00 PM

**Lab ID:** 1207940-012

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|-------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: <b>MMS</b>  |
| Chloromethane                          | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 2-Chlorotoluene                        | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Carbon disulfide                       | ND     | 4.88  |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 4-Chlorotoluene                        | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| cis-1,2-DCE                            | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| cis-1,3-Dichloropropene                | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.95  |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Dibromochloromethane                   | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Dibromomethane                         | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Dichlorodifluoromethane                | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,1-Dichloroethane                     | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,1-Dichloroethene                     | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2-Dichloropropane                    | ND     | 1.95  |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,3-Dichloropropane                    | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 2,2-Dichloropropane                    | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,1-Dichloropropene                    | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Hexachlorobutadiene                    | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Isopropylbenzene                       | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 4-Isopropyltoluene                     | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Methylene chloride                     | ND     | 4.88  |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| n-Butylbenzene                         | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 2-Hexanone                             | ND     | 4.88  |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| n-Propylbenzene                        | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| sec-Butylbenzene                       | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Styrene                                | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 4-Methyl-2-pentanone                   | ND     | 4.88  |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| tert-Butylbenzene                      | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Tetrachloroethene (PCE)                | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| trans-1,2-DCE                          | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| trans-1,3-Dichloropropene              | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,1,1-Trichloroethane                  | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,1,2-Trichloroethane                  | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Trichloroethene (TCE)                  | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Trichlorofluoromethane                 | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| 1,2,3-Trichloropropane                 | ND     | 0.976 |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-11 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:33:00 PM

**Lab ID:** 1207940-012

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|--------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>  |
| Vinyl chloride                         | ND     | 0.976  |      | µg/Kg-dry | 1  | 7/26/2012 9:21:01 PM |
| Surr: 1,2-Dichloroethane-d4            | 96.4   | 70-130 |      | %REC      | 1  | 7/26/2012 9:21:01 PM |
| Surr: 4-Bromofluorobenzene             | 110    | 70-130 |      | %REC      | 1  | 7/26/2012 9:21:01 PM |
| Surr: Dibromofluoromethane             | 86.3   | 70-130 |      | %REC      | 1  | 7/26/2012 9:21:01 PM |
| Surr: Toluene-d8                       | 93.5   | 70-130 |      | %REC      | 1  | 7/26/2012 9:21:01 PM |

**Qualifiers:**

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- R RPD outside accepted recovery limits
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# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-11 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:38:00 PM

**Lab ID:** 1207940-013

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 350    | 10       |      | mg/Kg | 1   | 7/23/2012 1:27:14 PM |
| Motor Oil Range Organics (MRO)                 | 80     | 51       |      | mg/Kg | 1   | 7/23/2012 1:27:14 PM |
| Surr: DNOP                                     | 112    | 77.6-140 |      | %REC  | 1   | 7/23/2012 1:27:14 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | 27     | 25       |      | mg/Kg | 5   | 7/30/2012 7:08:15 PM |
| Surr: BFB                                      | 130    | 84-116   | S    | %REC  | 5   | 7/30/2012 7:08:15 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.058  | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:50:48 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:53:08 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:53:08 PM  |
| Barium                                         | 620    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:13:07 PM  |
| Beryllium                                      | 0.84   | 0.75     |      | mg/kg | 5   | 8/15/2012 8:36:01 AM |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:53:08 PM  |
| Chromium                                       | 17     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:53:08 PM  |
| Cobalt                                         | 4.9    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:11:21 PM  |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/5/2012 2:15:18 PM  |
| Lead                                           | 5.8    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:11:21 PM  |
| Manganese                                      | 700    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:13:07 PM  |
| Nickel                                         | 7.9    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:11:21 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:53:08 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:11:21 PM  |
| Vanadium                                       | 24     | 12       |      | mg/Kg | 5   | 8/1/2012 3:53:08 PM  |
| Zinc                                           | 38     | 12       |      | mg/Kg | 5   | 8/4/2012 4:11:21 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 8:39:02 PM |

**Qualifiers:**

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
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- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-11 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:38:00 PM

Lab ID: 1207940-013

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 8:39:02 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-11 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:38:00 PM

**Lab ID:** 1207940-013

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 8:39:02 PM |
| Surr: 2,4,6-Tribromophenol             | 95.2   | 20.1-121 |      | %REC      | 1  | 7/30/2012 8:39:02 PM |
| Surr: 2-Fluorobiphenyl                 | 92.3   | 19-133   |      | %REC      | 1  | 7/30/2012 8:39:02 PM |
| Surr: 2-Fluorophenol                   | 87.8   | 20.2-108 |      | %REC      | 1  | 7/30/2012 8:39:02 PM |
| Surr: 4-Terphenyl-d14                  | 106    | 18.9-115 |      | %REC      | 1  | 7/30/2012 8:39:02 PM |
| Surr: Nitrobenzene-d5                  | 99.5   | 20.8-123 |      | %REC      | 1  | 7/30/2012 8:39:02 PM |
| Surr: Phenol-d5                        | 86.6   | 19.8-115 |      | %REC      | 1  | 7/30/2012 8:39:02 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Toluene                                | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Ethylbenzene                           | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Xylenes, Total                         | ND     | 3.75     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.50     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,3,5-Trimethylbenzene                 | 7.26   | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Naphthalene                            | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1-Methylnaphthalene                    | 15.2   | 5.00     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 2-Methylnaphthalene                    | ND     | 5.00     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Acetone                                | ND     | 37.5     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Bromobenzene                           | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Bromodichloromethane                   | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Bromoform                              | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 2-Butanone                             | ND     | 6.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Carbon tetrachloride                   | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Chlorobenzene                          | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Chloroethane                           | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Chloroform                             | ND     | 1.25     |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-11 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 1:38:00 PM

Lab ID: 1207940-013

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |      |      |           |    | Analyst: MMS         |
| Chloromethane                          | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 2-Chlorotoluene                        | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Carbon disulfide                       | ND     | 6.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 4-Chlorotoluene                        | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| cis-1,2-DCE                            | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| cis-1,3-Dichloropropene                | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 2.50 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Dibromochloromethane                   | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Dibromomethane                         | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Dichlorodifluoromethane                | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,1-Dichloroethane                     | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,1-Dichloroethene                     | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2-Dichloropropane                    | ND     | 2.50 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,3-Dichloropropane                    | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 2,2-Dichloropropane                    | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,1-Dichloropropene                    | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Hexachlorobutadiene                    | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Isopropylbenzene                       | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 4-Isopropyltoluene                     | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Methylene chloride                     | ND     | 6.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| n-Butylbenzene                         | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 2-Hexanone                             | ND     | 6.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| n-Propylbenzene                        | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| sec-Butylbenzene                       | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Styrene                                | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 4-Methyl-2-pentanone                   | ND     | 6.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| tert-Butylbenzene                      | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Tetrachloroethene (PCE)                | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| trans-1,2-DCE                          | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| trans-1,3-Dichloropropene              | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,1,1-Trichloroethane                  | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,1,2-Trichloroethane                  | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Trichloroethene (TCE)                  | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Trichlorofluoromethane                 | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| 1,2,3-Trichloropropane                 | ND     | 1.25 |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-11 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 1:38:00 PM

**Lab ID:** 1207940-013

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|--------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>  |
| Vinyl chloride                         | ND     | 1.25   |      | µg/Kg-dry | 1  | 7/26/2012 9:48:36 PM |
| Surr: 1,2-Dichloroethane-d4            | 187    | 70-130 | S    | %REC      | 1  | 7/26/2012 9:48:36 PM |
| Surr: 4-Bromofluorobenzene             | 154    | 70-130 | S    | %REC      | 1  | 7/26/2012 9:48:36 PM |
| Surr: Dibromofluoromethane             | 87.3   | 70-130 |      | %REC      | 1  | 7/26/2012 9:48:36 PM |
| Surr: Toluene-d8                       | 99.6   | 70-130 |      | %REC      | 1  | 7/26/2012 9:48:36 PM |

**Qualifiers:**

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- ND Not Detected at the Reporting Limit
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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-18 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 2:08:00 PM

Lab ID: 1207940-014

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 1200   | 96       |      | mg/Kg | 10  | 7/23/2012 3:37:11 PM |
| Motor Oil Range Organics (MRO)                 | 680    | 480      |      | mg/Kg | 10  | 7/23/2012 3:37:11 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 10  | 7/23/2012 3:37:11 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | ND     | 50       |      | mg/Kg | 10  | 7/30/2012 7:38:29 PM |
| Surr: BFB                                      | 108    | 84-116   |      | %REC  | 10  | 7/30/2012 7:38:29 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.20   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:52:34 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:58:16 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:58:16 PM  |
| Barium                                         | 620    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:17:56 PM  |
| Beryllium                                      | 0.86   | 0.75     |      | mg/kg | 5   | 8/15/2012 8:38:55 AM |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 3:58:16 PM  |
| Chromium                                       | 25     | 1.5      |      | mg/Kg | 5   | 8/1/2012 3:58:16 PM  |
| Cobalt                                         | 5.2    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:13:45 PM  |
| Iron                                           | 16000  | 500      |      | mg/Kg | 500 | 8/5/2012 2:20:11 PM  |
| Lead                                           | 10     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:13:45 PM  |
| Manganese                                      | 580    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:17:56 PM  |
| Nickel                                         | 8.5    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:13:45 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 3:58:16 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:13:45 PM  |
| Vanadium                                       | 30     | 12       |      | mg/Kg | 5   | 8/1/2012 3:58:16 PM  |
| Zinc                                           | 68     | 12       |      | mg/Kg | 5   | 8/4/2012 4:13:45 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Acenaphthylene                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Aniline                                        | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Anthracene                                     | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Azobenzene                                     | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Benz(a)anthracene                              | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Benzo(a)pyrene                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Benzo(b)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Benzo(g,h,i)perylene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Benzo(k)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Benzyl alcohol                                 | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Bis(2-chloroethyl)ether                        | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.99     |      | mg/Kg | 1   | 7/30/2012 9:09:24 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
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B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-18 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 2:08:00 PM

**Lab ID:** 1207940-014

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Butyl benzyl phthalate                 | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Carbazole                              | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 4-Chloroaniline                        | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2-Chloronaphthalene                    | ND     | 1.2  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2-Chlorophenol                         | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Chrysene                               | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Di-n-butyl phthalate                   | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Di-n-octyl phthalate                   | ND     | 1.2  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Dibenzofuran                           | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Diethyl phthalate                      | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Dimethyl phthalate                     | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Fluoranthene                           | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Fluorene                               | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Hexachlorobenzene                      | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Hexachlorobutadiene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Hexachlorocyclopentadiene              | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Hexachloroethane                       | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Isophorone                             | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 1-Methylnaphthalene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2-Methylnaphthalene                    | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2-Methylphenol                         | ND     | 2.5  |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 3+4-Methylphenol                       | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| Naphthalene                            | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |
| 2-Nitroaniline                         | ND     | 0.99 |      | mg/Kg | 1  | 7/30/2012 9:09:24 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-18 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 2:08:00 PM

Lab ID: 1207940-014

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-----------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| 2-Nitrophenol                          | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| Phenanthrene                           | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| Phenol                                 | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| Pyrene                                 | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| 1,2,4-Trichlorobenzene                 | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| 2,4,5-Trichlorophenol                  | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| 2,4,6-Trichlorophenol                  | ND     | 0.99     |      | mg/Kg     | 1  | 7/30/2012 9:09:24 PM  |
| Surr: 2,4,6-Tribromophenol             | 90.2   | 20.1-121 |      | %REC      | 1  | 7/30/2012 9:09:24 PM  |
| Surr: 2-Fluorobiphenyl                 | 82.9   | 19-133   |      | %REC      | 1  | 7/30/2012 9:09:24 PM  |
| Surr: 2-Fluorophenol                   | 75.6   | 20.2-108 |      | %REC      | 1  | 7/30/2012 9:09:24 PM  |
| Surr: 4-Terphenyl-d14                  | 97.7   | 18.9-115 |      | %REC      | 1  | 7/30/2012 9:09:24 PM  |
| Surr: Nitrobenzene-d5                  | 84.3   | 20.8-123 |      | %REC      | 1  | 7/30/2012 9:09:24 PM  |
| Surr: Phenol-d5                        | 80.1   | 19.8-115 |      | %REC      | 1  | 7/30/2012 9:09:24 PM  |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS          |
| Benzene                                | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Toluene                                | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Ethylbenzene                           | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Xylenes, Total                         | ND     | 3.27     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.18     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Naphthalene                            | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1-Methylnaphthalene                    | ND     | 4.36     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 2-Methylnaphthalene                    | ND     | 4.36     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Acetone                                | ND     | 32.7     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Bromobenzene                           | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Bromodichloromethane                   | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Bromoform                              | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 2-Butanone                             | ND     | 5.45     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Carbon tetrachloride                   | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Chlorobenzene                          | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Chloroethane                           | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Chloroform                             | ND     | 1.09     |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-18 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 2:08:00 PM

**Lab ID:** 1207940-014

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |      |      |           |    | Analyst: <b>MMS</b>   |
| Chloromethane                          | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 2-Chlorotoluene                        | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Carbon disulfide                       | ND     | 5.45 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 4-Chlorotoluene                        | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| cis-1,2-DCE                            | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| cis-1,3-Dichloropropene                | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 2.18 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Dibromochloromethane                   | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Dibromomethane                         | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Dichlorodifluoromethane                | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,1-Dichloroethane                     | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,1-Dichloroethene                     | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2-Dichloropropane                    | ND     | 2.18 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,3-Dichloropropane                    | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 2,2-Dichloropropane                    | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,1-Dichloropropene                    | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Hexachlorobutadiene                    | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Isopropylbenzene                       | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 4-Isopropyltoluene                     | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Methylene chloride                     | ND     | 5.45 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| n-Butylbenzene                         | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 2-Hexanone                             | ND     | 5.45 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| n-Propylbenzene                        | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| sec-Butylbenzene                       | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Styrene                                | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 4-Methyl-2-pentanone                   | ND     | 5.45 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| tert-Butylbenzene                      | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Tetrachloroethene (PCE)                | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| trans-1,2-DCE                          | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| trans-1,3-Dichloropropene              | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,1,1-Trichloroethane                  | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,1,2-Trichloroethane                  | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Trichloroethene (TCE)                  | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| Trichlorofluoromethane                 | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |
| 1,2,3-Trichloropropane                 | ND     | 1.09 |      | µg/Kg-dry | 1  | 7/26/2012 10:43:57 PM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

Date/Time: Apr. 8. 2013 8:27AM

| File           | No. Mode | Destination  | Pg (s) | Result | Page Not Sent |
|----------------|----------|--------------|--------|--------|---------------|
| 1591 Memory TX |          | 919798479304 | P. 46  | OK     |               |

Reason for error  
 E. 1) Hang up or line fall  
 E. 3) No answer  
 E. 5) Exceeded max. E-mail size

E. 2) Busy  
 E. 4) No facsimile connection  
 E. 6) Destination does not support IP-Fax



Purchase Order 20815981

Order dates: 3/19/2013

Note: This is a confirmation order.

Chamber, Inc.

Western Refining Southwest, Inc.

Gallop Refinery

1-40 East 39 (17 miles east of Gallup)

Gallup, NM 87301

40808 COLLEGE STATION, TEXAS 77843-4088

208 Technology Way, P.O. Box

Phone: 879-468-4234

Fax: 879-467-4304

Receiving Hours: 7:30 am - 4:30 pm Monday through Friday.  
 Special Handling (overhead) Gallups requires 24 hour notice.  
 Telephone Numbers: 802-773-6228

Contract Information

Western Refining, Inc.

Contact: Morales, George

Department: Procurement

Phone: 505-722-0277

Fax: 505-663-0630

Email: George.Morales@wrr.com

George Morales

Phone: 602-258-1400

Phoenix, AZ 85063-2558

Alt: Accounts Payable

PO Box 62398

OR

APCOB@wrr.com

Western Refining Southwest, Inc. at

Submit Invoice To:

Order Information

PO Type: Service-Training

Payment Terms: N30

Currency: USD

Contract #: Purchase Orders are subject to Western's Terms and Conditions or agreed contract terms.



**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-18 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 2:08:00 PM**Lab ID:** 1207940-014**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| <b>Analyses</b>                        | <b>Result</b> | <b>RL</b> | <b>Qual</b> | <b>Units</b> | <b>DF</b> | <b>Date Analyzed</b>  |
|----------------------------------------|---------------|-----------|-------------|--------------|-----------|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |               |           |             |              |           | <b>Analyst: MMS</b>   |
| Vinyl chloride                         | ND            | 1.09      |             | µg/Kg-dry    | 1         | 7/26/2012 10:43:57 PM |
| Surr: 1,2-Dichloroethane-d4            | 180           | 70-130    | S           | %REC         | 1         | 7/26/2012 10:43:57 PM |
| Surr: 4-Bromofluorobenzene             | 96.7          | 70-130    |             | %REC         | 1         | 7/26/2012 10:43:57 PM |
| Surr: Dibromofluoromethane             | 79.8          | 70-130    |             | %REC         | 1         | 7/26/2012 10:43:57 PM |
| Surr: Toluene-d8                       | 91.8          | 70-130    |             | %REC         | 1         | 7/26/2012 10:43:57 PM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

                  B    Analyte detected in the associated Method Blank  
                  H    Holding times for preparation or analysis exceeded  
                  ND   Not Detected at the Reporting Limit  
                  RL   Reporting Detection Limit  
                  U    Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-18 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 2:15:00 PM

**Lab ID:** 1207940-015

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 14000  | 510      |      | mg/Kg | 50  | 7/23/2012 2:15:26 PM |
| Motor Oil Range Organics (MRO)                 | ND     | 2500     |      | mg/Kg | 50  | 7/23/2012 2:15:26 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 50  | 7/23/2012 2:15:26 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA         |
| Gasoline Range Organics (GRO)                  | 570    | 500      |      | mg/Kg | 100 | 7/30/2012 8:08:47 PM |
| Surr: BFB                                      | 119    | 84-116   | S    | %REC  | 100 | 7/30/2012 8:08:47 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.15   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:54:21 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:15:18 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 4:16:06 PM  |
| Barium                                         | 680    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:22:47 PM  |
| Beryllium                                      | 0.76   | 0.75     |      | mg/Kg | 5   | 8/4/2012 4:16:06 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 4:15:18 PM  |
| Chromium                                       | 26     | 1.5      |      | mg/Kg | 5   | 8/1/2012 4:15:18 PM  |
| Cobalt                                         | 5.5    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:16:06 PM  |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/5/2012 2:24:54 PM  |
| Lead                                           | 14     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:16:06 PM  |
| Manganese                                      | 540    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:22:47 PM  |
| Nickel                                         | 8.9    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:16:06 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:15:18 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:16:06 PM  |
| Vanadium                                       | 26     | 12       |      | mg/Kg | 5   | 8/1/2012 4:15:18 PM  |
| Zinc                                           | 65     | 12       |      | mg/Kg | 5   | 8/4/2012 4:16:06 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Acenaphthylene                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Aniline                                        | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Anthracene                                     | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Azobenzene                                     | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Benz(a)anthracene                              | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Benzo(a)pyrene                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Benzo(b)fluoranthene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Benzo(g,h,i)perylene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Benzo(k)fluoranthene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Benzoic acid                                   | ND     | 5.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Benzyl alcohol                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Bis(2-chloroethyl)ether                        | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 2.0      |      | mg/Kg | 1   | 7/30/2012 9:39:42 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-18 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 2:15:00 PM

Lab ID: 1207940-015

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 4-Bromophenyl phenyl ether             | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Butyl benzyl phthalate                 | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Carbazole                              | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 4-Chloro-3-methylphenol                | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 4-Chloroaniline                        | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2-Chloronaphthalene                    | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2-Chlorophenol                         | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Chrysene                               | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Di-n-butyl phthalate                   | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Di-n-octyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Dibenz(a,h)anthracene                  | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Dibenzofuran                           | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 1,2-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 1,3-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 1,4-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Diethyl phthalate                      | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Dimethyl phthalate                     | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2,4-Dichlorophenol                     | ND     | 4.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2,4-Dimethylphenol                     | ND     | 3.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2,4-Dinitrophenol                      | ND     | 4.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2,4-Dinitrotoluene                     | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2,6-Dinitrotoluene                     | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Fluoranthene                           | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Fluorene                               | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Hexachlorobenzene                      | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Hexachlorobutadiene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Hexachlorocyclopentadiene              | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Hexachloroethane                       | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Isophorone                             | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 1-Methylnaphthalene                    | 4.5    | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2-Methylnaphthalene                    | 7.0    | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2-Methylphenol                         | ND     | 5.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 3+4-Methylphenol                       | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| N-Nitrosodi-n-propylamine              | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| N-Nitrosodiphenylamine                 | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Naphthalene                            | 2.8    | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2-Nitroaniline                         | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 S Spike Recovery outside accepted recovery limits

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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-18 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 2:15:00 PM

**Lab ID:** 1207940-015

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 4-Nitroaniline                         | ND     | 4.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Nitrobenzene                           | ND     | 5.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2-Nitrophenol                          | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 4-Nitrophenol                          | ND     | 2.5      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Pentachlorophenol                      | ND     | 4.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Phenanthrene                           | 2.2    | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Phenol                                 | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Pyrene                                 | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Pyridine                               | ND     | 5.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2,4,5-Trichlorophenol                  | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| 2,4,6-Trichlorophenol                  | ND     | 2.0      |      | mg/Kg | 1  | 7/30/2012 9:39:42 PM |
| Surr: 2,4,6-Tribromophenol             | 0      | 20.1-121 | S    | %REC  | 1  | 7/30/2012 9:39:42 PM |
| Surr: 2-Fluorobiphenyl                 | 48.1   | 19-133   |      | %REC  | 1  | 7/30/2012 9:39:42 PM |
| Surr: 2-Fluorophenol                   | 28.9   | 20.2-108 |      | %REC  | 1  | 7/30/2012 9:39:42 PM |
| Surr: 4-Terphenyl-d14                  | 50.7   | 18.9-115 |      | %REC  | 1  | 7/30/2012 9:39:42 PM |
| Surr: Nitrobenzene-d5                  | 0      | 20.8-123 | S    | %REC  | 1  | 7/30/2012 9:39:42 PM |
| Surr: Phenol-d5                        | 33.1   | 19.8-115 |      | %REC  | 1  | 7/30/2012 9:39:42 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Toluene                                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Ethylbenzene                           | 17     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2,4-Trimethylbenzene                 | 37     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,3,5-Trimethylbenzene                 | 13     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Naphthalene                            | 8.8    | 5.0      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1-Methylnaphthalene                    | 12     | 10       |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 2-Methylnaphthalene                    | 20     | 10       |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Acetone                                | ND     | 38       |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Bromobenzene                           | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Bromodichloromethane                   | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Bromoform                              | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Bromomethane                           | ND     | 7.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 2-Butanone                             | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Carbon disulfide                       | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Carbon tetrachloride                   | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Chlorobenzene                          | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Chloroethane                           | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-18 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 2:15:00 PM

Lab ID: 1207940-015

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Chloromethane                      | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 2-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 4-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| cis-1,2-DCE                        | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| cis-1,3-Dichloropropene            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Dibromochloromethane               | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Dibromomethane                     | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,3-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,4-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Dichlorodifluoromethane            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,1-Dichloroethane                 | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,1-Dichloroethene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,3-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 2,2-Dichloropropane                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,1-Dichloropropene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Hexachlorobutadiene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 2-Hexanone                         | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Isopropylbenzene                   | 3.5    | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 4-Isopropyltoluene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 4-Methyl-2-pentanone               | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Methylene chloride                 | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| n-Butylbenzene                     | 2.8    | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| n-Propylbenzene                    | 5.7    | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| sec-Butylbenzene                   | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Styrene                            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| tert-Butylbenzene                  | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Tetrachloroethene (PCE)            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| trans-1,2-DCE                      | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| trans-1,3-Dichloropropene          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2,3-Trichlorobenzene             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2,4-Trichlorobenzene             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,1,1-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,1,2-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Trichloroethene (TCE)              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| Trichlorofluoromethane             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |
| 1,2,3-Trichloropropane             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 7:08:15 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL



**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-18 (1.5-2.0')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 2:15:00 PM**Lab ID:** 1207940-015**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| <b>Analyses</b>                    | <b>Result</b> | <b>RL</b> | <b>Qual</b> | <b>Units</b> | <b>DF</b> | <b>Date Analyzed</b> |
|------------------------------------|---------------|-----------|-------------|--------------|-----------|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |               |           |             |              |           | Analyst: <b>RAA</b>  |
| Vinyl chloride                     | ND            | 2.5       |             | mg/Kg        | 50        | 7/24/2012 7:08:15 AM |
| Xylenes, Total                     | 53            | 5.0       |             | mg/Kg        | 50        | 7/24/2012 7:08:15 AM |
| Surr: 1,2-Dichloroethane-d4        | 94.6          | 70-130    |             | %REC         | 50        | 7/24/2012 7:08:15 AM |
| Surr: 4-Bromofluorobenzene         | 86.1          | 70-130    |             | %REC         | 50        | 7/24/2012 7:08:15 AM |
| Surr: Dibromofluoromethane         | 108           | 70-130    |             | %REC         | 50        | 7/24/2012 7:08:15 AM |
| Surr: Toluene-d8                   | 104           | 70-130    |             | %REC         | 50        | 7/24/2012 7:08:15 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:00:00 PM

Lab ID: 1207940-016

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 300    | 10       |      | mg/Kg | 1   | 7/23/2012 12:03:58 PM |
| Motor Oil Range Organics (MRO)                 | 240    | 51       |      | mg/Kg | 1   | 7/23/2012 12:03:58 PM |
| Surr: DNOP                                     | 120    | 77.6-140 |      | %REC  | 1   | 7/23/2012 12:03:58 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA          |
| Gasoline Range Organics (GRO)                  | ND     | 20       |      | mg/Kg | 4   | 7/30/2012 8:38:54 PM  |
| Surr: BFB                                      | 107    | 84-116   |      | %REC  | 4   | 7/30/2012 8:38:54 PM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | 0.27   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:56:09 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:20:29 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 4:18:27 PM   |
| Barium                                         | 490    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:29:09 PM   |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/4/2012 4:18:27 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 4:20:29 PM   |
| Chromium                                       | 63     | 1.5      |      | mg/Kg | 5   | 8/1/2012 4:20:29 PM   |
| Cobalt                                         | 5.3    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:18:27 PM   |
| Iron                                           | 18000  | 500      |      | mg/Kg | 500 | 8/5/2012 2:31:23 PM   |
| Lead                                           | 14     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:18:27 PM   |
| Manganese                                      | 550    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:29:09 PM   |
| Nickel                                         | 9.8    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:18:27 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:20:29 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:18:27 PM   |
| Vanadium                                       | 26     | 12       |      | mg/Kg | 5   | 8/1/2012 4:20:29 PM   |
| Zinc                                           | 190    | 12       |      | mg/Kg | 5   | 8/4/2012 4:18:27 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:09:54 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:00:00 PM

Lab ID: 1207940-016

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC          |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2-Chloronaphthalene                    | ND     | 1.2 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Di-n-octyl phthalate                   | ND     | 1.2 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:09:54 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:00:00 PM

Lab ID: 1207940-016

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-----------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:09:54 PM |
| Surr: 2,4,6-Tribromophenol             | 77.6   | 20.1-121 |      | %REC      | 1  | 7/30/2012 10:09:54 PM |
| Surr: 2-Fluorobiphenyl                 | 77.9   | 19-133   |      | %REC      | 1  | 7/30/2012 10:09:54 PM |
| Surr: 2-Fluorophenol                   | 68.0   | 20.2-108 |      | %REC      | 1  | 7/30/2012 10:09:54 PM |
| Surr: 4-Terphenyl-d14                  | 76.2   | 18.9-115 |      | %REC      | 1  | 7/30/2012 10:09:54 PM |
| Surr: Nitrobenzene-d5                  | 76.9   | 20.8-123 |      | %REC      | 1  | 7/30/2012 10:09:54 PM |
| Surr: Phenol-d5                        | 67.6   | 19.8-115 |      | %REC      | 1  | 7/30/2012 10:09:54 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS          |
| Benzene                                | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Toluene                                | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Ethylbenzene                           | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Xylenes, Total                         | ND     | 3.68     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.45     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Naphthalene                            | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1-Methylnaphthalene                    | ND     | 4.90     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 2-Methylnaphthalene                    | ND     | 4.90     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Acetone                                | ND     | 36.8     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Bromobenzene                           | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Bromodichloromethane                   | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Bromoform                              | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 2-Butanone                             | ND     | 6.13     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Carbon tetrachloride                   | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Chlorobenzene                          | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Chloroethane                           | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Chloroform                             | ND     | 1.23     |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-5 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 3:00:00 PM

**Lab ID:** 1207940-016

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |      |      |           |    | Analyst: <b>MMS</b>   |
| Chloromethane                          | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 2-Chlorotoluene                        | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Carbon disulfide                       | ND     | 6.13 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 4-Chlorotoluene                        | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| cis-1,2-DCE                            | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| cis-1,3-Dichloropropene                | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 2.45 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Dibromochloromethane                   | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Dibromomethane                         | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Dichlorodifluoromethane                | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,1-Dichloroethane                     | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,1-Dichloroethene                     | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2-Dichloropropane                    | ND     | 2.45 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,3-Dichloropropane                    | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 2,2-Dichloropropane                    | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,1-Dichloropropene                    | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Hexachlorobutadiene                    | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Isopropylbenzene                       | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 4-Isopropyltoluene                     | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Methylene chloride                     | ND     | 6.13 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| n-Butylbenzene                         | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 2-Hexanone                             | ND     | 6.13 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| n-Propylbenzene                        | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| sec-Butylbenzene                       | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Styrene                                | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 4-Methyl-2-pentanone                   | ND     | 6.13 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| tert-Butylbenzene                      | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Tetrachloroethene (PCE)                | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| trans-1,2-DCE                          | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| trans-1,3-Dichloropropene              | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,1,1-Trichloroethane                  | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,1,2-Trichloroethane                  | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Trichloroethene (TCE)                  | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Trichlorofluoromethane                 | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| 1,2,3-Trichloropropane                 | ND     | 1.23 |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |

**Qualifiers:**

- \* / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-5 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 3:00:00 PM

**Lab ID:** 1207940-016

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|--------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>   |
| Vinyl chloride                         | ND     | 1.23   |      | µg/Kg-dry | 1  | 7/26/2012 11:11:45 PM |
| Surr: 1,2-Dichloroethane-d4            | 179    | 70-130 | S    | %REC      | 1  | 7/26/2012 11:11:45 PM |
| Surr: 4-Bromofluorobenzene             | 102    | 70-130 |      | %REC      | 1  | 7/26/2012 11:11:45 PM |
| Surr: Dibromofluoromethane             | 85.3   | 70-130 |      | %REC      | 1  | 7/26/2012 11:11:45 PM |
| Surr: Toluene-d8                       | 97.3   | 70-130 |      | %REC      | 1  | 7/26/2012 11:11:45 PM |

**Qualifiers:**

- \* /X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 3:00:00 PM

Lab ID: 1207940-017

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 280    | 9.8      |      | mg/Kg | 1   | 7/23/2012 1:53:07 PM  |
| Motor Oil Range Organics (MRO)                 | 220    | 49       |      | mg/Kg | 1   | 7/23/2012 1:53:07 PM  |
| Surr: DNOP                                     | 112    | 77.6-140 |      | %REC  | 1   | 7/23/2012 1:53:07 PM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA          |
| Gasoline Range Organics (GRO)                  | ND     | 20       |      | mg/Kg | 4   | 7/31/2012 12:40:15 AM |
| Surr: BFB                                      | 101    | 84-116   |      | %REC  | 4   | 7/31/2012 12:40:15 AM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | 0.23   | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:57:56 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:25:31 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 4:20:48 PM   |
| Barium                                         | 460    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:33:58 PM   |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/4/2012 4:20:48 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 4:25:31 PM   |
| Chromium                                       | 29     | 1.5      |      | mg/Kg | 5   | 8/1/2012 4:25:31 PM   |
| Cobalt                                         | 3.9    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:20:48 PM   |
| Iron                                           | 12000  | 500      |      | mg/Kg | 500 | 8/5/2012 2:44:11 PM   |
| Lead                                           | 9.9    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:20:48 PM   |
| Manganese                                      | 870    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:33:58 PM   |
| Nickel                                         | 7.1    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:20:48 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:25:31 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:20:48 PM   |
| Vanadium                                       | 19     | 12       |      | mg/Kg | 5   | 8/1/2012 4:25:31 PM   |
| Zinc                                           | 160    | 12       |      | mg/Kg | 5   | 8/4/2012 4:20:48 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/30/2012 10:40:02 PM |

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 R RPD outside accepted recovery limits  
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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 3:00:00 PM

Lab ID: 1207940-017

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC          |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/30/2012 10:40:02 PM |

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## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 3:00:00 PM

Lab ID: 1207940-017

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-----------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/30/2012 10:40:02 PM |
| Surr: 2,4,6-Tribromophenol             | 89.3   | 20.1-121 |      | %REC      | 1  | 7/30/2012 10:40:02 PM |
| Surr: 2-Fluorobiphenyl                 | 81.6   | 19-133   |      | %REC      | 1  | 7/30/2012 10:40:02 PM |
| Surr: 2-Fluorophenol                   | 78.7   | 20.2-108 |      | %REC      | 1  | 7/30/2012 10:40:02 PM |
| Surr: 4-Terphenyl-d14                  | 78.3   | 18.9-115 |      | %REC      | 1  | 7/30/2012 10:40:02 PM |
| Surr: Nitrobenzene-d5                  | 85.1   | 20.8-123 |      | %REC      | 1  | 7/30/2012 10:40:02 PM |
| Surr: Phenol-d5                        | 76.1   | 19.8-115 |      | %REC      | 1  | 7/30/2012 10:40:02 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS          |
| Benzene                                | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Toluene                                | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Ethylbenzene                           | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Xylenes, Total                         | ND     | 2.62     |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.75     |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Naphthalene                            | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1-Methylnaphthalene                    | ND     | 3.49     |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 2-Methylnaphthalene                    | ND     | 3.49     |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Acetone                                | ND     | 26.2     |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Bromobenzene                           | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Bromodichloromethane                   | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Bromoform                              | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 2-Butanone                             | ND     | 4.37     |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Carbon tetrachloride                   | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Chlorobenzene                          | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Chloroethane                           | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Chloroform                             | ND     | 0.873    |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 3:00:00 PM

Lab ID: 1207940-017

Matrix: SOIL

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| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|-------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: MMS          |
| Chloromethane                          | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 2-Chlorotoluene                        | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Carbon disulfide                       | ND     | 4.37  |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 4-Chlorotoluene                        | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| cis-1,2-DCE                            | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| cis-1,3-Dichloropropene                | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.75  |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Dibromochloromethane                   | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Dibromomethane                         | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Dichlorodifluoromethane                | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,1-Dichloroethane                     | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,1-Dichloroethene                     | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2-Dichloropropane                    | ND     | 1.75  |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,3-Dichloropropane                    | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 2,2-Dichloropropane                    | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,1-Dichloropropene                    | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Hexachlorobutadiene                    | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Isopropylbenzene                       | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 4-Isopropyltoluene                     | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Methylene chloride                     | ND     | 4.37  |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| n-Butylbenzene                         | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 2-Hexanone                             | ND     | 4.37  |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| n-Propylbenzene                        | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| sec-Butylbenzene                       | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Styrene                                | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 4-Methyl-2-pentanone                   | ND     | 4.37  |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| tert-Butylbenzene                      | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Tetrachloroethene (PCE)                | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| trans-1,2-DCE                          | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| trans-1,3-Dichloropropene              | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,1,1-Trichloroethane                  | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,1,2-Trichloroethane                  | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Trichloroethene (TCE)                  | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Trichlorofluoromethane                 | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| 1,2,3-Trichloropropane                 | ND     | 0.873 |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

**Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-5 (0-0.5') DUP**Project:** SWMU NO.14**Collection Date:** 7/19/2012 3:00:00 PM**Lab ID:** 1207940-017**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|--------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: MMS          |
| Vinyl chloride                         | ND     | 0.873  |      | µg/Kg-dry | 1  | 7/26/2012 11:39:28 PM |
| Surr: 1,2-Dichloroethane-d4            | 182    | 70-130 | S    | %REC      | 1  | 7/26/2012 11:39:28 PM |
| Surr: 4-Bromofluorobenzene             | 96.3   | 70-130 |      | %REC      | 1  | 7/26/2012 11:39:28 PM |
| Surr: Dibromofluoromethane             | 85.8   | 70-130 |      | %REC      | 1  | 7/26/2012 11:39:28 PM |
| Surr: Toluene-d8                       | 94.2   | 70-130 |      | %REC      | 1  | 7/26/2012 11:39:28 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
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U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-5 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 3:06:00 PM

**Lab ID:** 1207940-018

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 53     | 10       |      | mg/Kg | 1   | 7/23/2012 9:56:26 AM  |
| Motor Oil Range Organics (MRO)                 | ND     | 51       |      | mg/Kg | 1   | 7/23/2012 9:56:26 AM  |
| Surr: DNOP                                     | 108    | 77.6-140 |      | %REC  | 1   | 7/23/2012 9:56:26 AM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: RAA          |
| Gasoline Range Organics (GRO)                  | ND     | 5.0      |      | mg/Kg | 1   | 7/31/2012 1:10:26 AM  |
| Surr: BFB                                      | 118    | 84-116   | S    | %REC  | 1   | 7/31/2012 1:10:26 AM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 9:59:44 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:30:33 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 4:23:19 PM   |
| Barium                                         | 340    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:46:45 PM   |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/4/2012 4:23:19 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 4:30:33 PM   |
| Chromium                                       | 11     | 1.5      |      | mg/Kg | 5   | 8/1/2012 4:30:33 PM   |
| Cobalt                                         | 4.6    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:23:19 PM   |
| Iron                                           | 13000  | 500      |      | mg/Kg | 500 | 8/5/2012 2:48:56 PM   |
| Lead                                           | 2.5    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:23:19 PM   |
| Manganese                                      | 450    | 2.0      |      | mg/Kg | 20  | 8/5/2012 2:46:45 PM   |
| Nickel                                         | 7.1    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:23:19 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:30:33 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:23:19 PM   |
| Vanadium                                       | 26     | 12       |      | mg/Kg | 5   | 8/1/2012 4:30:33 PM   |
| Zinc                                           | 20     | 12       |      | mg/Kg | 5   | 8/4/2012 4:23:19 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Acenaphthylene                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Aniline                                        | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Anthracene                                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Azobenzene                                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Benz(a)anthracene                              | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Benzo(a)pyrene                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Benzo(b)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Benzo(g,h,i)perylene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Benzo(k)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Benzoic acid                                   | ND     | 0.50     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Benzyl alcohol                                 | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Bis(2-chloroethyl)ether                        | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.20     |      | mg/Kg | 1   | 7/30/2012 11:10:04 PM |

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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-5 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 3:06:00 PM

**Lab ID:** 1207940-018

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC          |
| Bis(2-ethylhexyl)phthalate             | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Butyl benzyl phthalate                 | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Carbazole                              | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 4-Chloro-3-methylphenol                | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 4-Chloroaniline                        | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2-Chloronaphthalene                    | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2-Chlorophenol                         | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Chrysene                               | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Di-n-butyl phthalate                   | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Di-n-octyl phthalate                   | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Dibenzofuran                           | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 0.25 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Diethyl phthalate                      | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Dimethyl phthalate                     | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2,4-Dichlorophenol                     | ND     | 0.40 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2,4-Dimethylphenol                     | ND     | 0.30 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2,4-Dinitrophenol                      | ND     | 0.40 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2,4-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2,6-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Fluoranthene                           | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Fluorene                               | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Hexachlorobenzene                      | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Hexachlorobutadiene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Hexachlorocyclopentadiene              | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Hexachloroethane                       | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Isophorone                             | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 1-Methylnaphthalene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2-Methylnaphthalene                    | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2-Methylphenol                         | ND     | 0.50 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 3+4-Methylphenol                       | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Naphthalene                            | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2-Nitroaniline                         | ND     | 0.20 |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |

**Qualifiers:**

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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:06:00 PM

Lab ID: 1207940-018

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 4-Nitroaniline                         | ND     | 0.40     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Nitrobenzene                           | ND     | 0.50     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2-Nitrophenol                          | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 4-Nitrophenol                          | ND     | 0.25     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Pentachlorophenol                      | ND     | 0.40     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Phenanthrene                           | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Phenol                                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Pyrene                                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Pyridine                               | ND     | 0.50     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2,4,5-Trichlorophenol                  | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| 2,4,6-Trichlorophenol                  | ND     | 0.20     |      | mg/Kg | 1  | 7/30/2012 11:10:04 PM |
| Surr: 2,4,6-Tribromophenol             | 81.4   | 20.1-121 |      | %REC  | 1  | 7/30/2012 11:10:04 PM |
| Surr: 2-Fluorobiphenyl                 | 67.6   | 19-133   |      | %REC  | 1  | 7/30/2012 11:10:04 PM |
| Surr: 2-Fluorophenol                   | 59.3   | 20.2-108 |      | %REC  | 1  | 7/30/2012 11:10:04 PM |
| Surr: 4-Terphenyl-d14                  | 71.8   | 18.9-115 |      | %REC  | 1  | 7/30/2012 11:10:04 PM |
| Surr: Nitrobenzene-d5                  | 70.4   | 20.8-123 |      | %REC  | 1  | 7/30/2012 11:10:04 PM |
| Surr: Phenol-d5                        | 64.0   | 19.8-115 |      | %REC  | 1  | 7/30/2012 11:10:04 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA          |
| Benzene                                | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Toluene                                | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Ethylbenzene                           | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| 1,2,4-Trimethylbenzene                 | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| 1,3,5-Trimethylbenzene                 | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| 1,2-Dichloroethane (EDC)               | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| 1,2-Dibromoethane (EDB)                | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Naphthalene                            | ND     | 0.10     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| 1-Methylnaphthalene                    | ND     | 0.20     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| 2-Methylnaphthalene                    | ND     | 0.20     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Acetone                                | ND     | 0.75     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Bromobenzene                           | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Bromodichloromethane                   | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Bromoform                              | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Bromomethane                           | ND     | 0.15     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| 2-Butanone                             | ND     | 0.50     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Carbon disulfide                       | ND     | 0.50     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Carbon tetrachloride                   | ND     | 0.10     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Chlorobenzene                          | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |
| Chloroethane                           | ND     | 0.10     |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM  |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
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## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-5 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:06:00 PM

Lab ID: 1207940-018

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL    | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |       |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Chloromethane                      | ND     | 0.15  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 2-Chlorotoluene                    | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 4-Chlorotoluene                    | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| cis-1,2-DCE                        | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| cis-1,3-Dichloropropene            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Dibromochloromethane               | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Dibromomethane                     | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,2-Dichlorobenzene                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,3-Dichlorobenzene                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,4-Dichlorobenzene                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Dichlorodifluoromethane            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,1-Dichloroethane                 | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,1-Dichloroethene                 | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,2-Dichloropropane                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,3-Dichloropropane                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 2,2-Dichloropropane                | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,1-Dichloropropene                | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Hexachlorobutadiene                | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 2-Hexanone                         | ND     | 0.50  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Isopropylbenzene                   | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 4-Isopropyltoluene                 | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 4-Methyl-2-pentanone               | ND     | 0.50  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Methylene chloride                 | ND     | 0.15  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| n-Butylbenzene                     | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| n-Propylbenzene                    | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| sec-Butylbenzene                   | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Styrene                            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| tert-Butylbenzene                  | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Tetrachloroethene (PCE)            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| trans-1,2-DCE                      | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| trans-1,3-Dichloropropene          | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,2,3-Trichlorobenzene             | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,2,4-Trichlorobenzene             | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,1,1-Trichloroethane              | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,1,2-Trichloroethane              | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Trichloroethene (TCE)              | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Trichlorofluoromethane             | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| 1,2,3-Trichloropropane             | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-5 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 3:06:00 PM

**Lab ID:** 1207940-018

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA         |
| Vinyl chloride                     | ND     | 0.050  |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Xylenes, Total                     | ND     | 0.10   |      | mg/Kg | 1  | 7/24/2012 2:30:42 PM |
| Surr: 1,2-Dichloroethane-d4        | 94.9   | 70-130 |      | %REC  | 1  | 7/24/2012 2:30:42 PM |
| Surr: 4-Bromofluorobenzene         | 95.0   | 70-130 |      | %REC  | 1  | 7/24/2012 2:30:42 PM |
| Surr: Dibromofluoromethane         | 104    | 70-130 |      | %REC  | 1  | 7/24/2012 2:30:42 PM |
| Surr: Toluene-d8                   | 105    | 70-130 |      | %REC  | 1  | 7/24/2012 2:30:42 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-19 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:26:00 PM

Lab ID: 1207940-019

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | ND     | 9.9      |      | mg/Kg | 1   | 7/23/2012 2:19:03 PM |
| Motor Oil Range Organics (MRO)                 | ND     | 49       |      | mg/Kg | 1   | 7/23/2012 2:19:03 PM |
| Surr: DNOP                                     | 109    | 77.6-140 |      | %REC  | 1   | 7/23/2012 2:19:03 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 5.0      |      | mg/Kg | 1   | 7/30/2012 2:47:18 PM |
| Surr: BFB                                      | 104    | 84-116   |      | %REC  | 1   | 7/30/2012 2:47:18 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:01:33 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:35:32 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| Barium                                         | 180    | 0.50     |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 4:35:32 PM  |
| Chromium                                       | 6.6    | 1.5      |      | mg/Kg | 5   | 8/1/2012 4:35:32 PM  |
| Cobalt                                         | 3.2    | 1.5      |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| Iron                                           | 8200   | 500      |      | mg/kg | 500 | 8/15/2012 8:55:15 AM |
| Lead                                           | 2.2    | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| Manganese                                      | 300    | 2.0      |      | mg/kg | 20  | 8/15/2012 8:41:50 AM |
| Nickel                                         | 6.9    | 2.5      |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 4:35:32 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| Vanadium                                       | 22     | 12       |      | mg/Kg | 5   | 8/1/2012 4:35:32 PM  |
| Zinc                                           | 18     | 12       |      | mg/Kg | 5   | 8/4/2012 4:37:38 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 2:08:54 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-19 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:26:00 PM

Lab ID: 1207940-019

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-19 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:26:00 PM

Lab ID: 1207940-019

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 2:08:54 PM |
| Surr: 2,4,6-Tribromophenol             | 96.3   | 20.1-121 |      | %REC  | 1  | 7/31/2012 2:08:54 PM |
| Surr: 2-Fluorobiphenyl                 | 94.1   | 19-133   |      | %REC  | 1  | 7/31/2012 2:08:54 PM |
| Surr: 2-Fluorophenol                   | 84.0   | 20.2-108 |      | %REC  | 1  | 7/31/2012 2:08:54 PM |
| Surr: 4-Terphenyl-d14                  | 106    | 18.9-115 |      | %REC  | 1  | 7/31/2012 2:08:54 PM |
| Surr: Nitrobenzene-d5                  | 93.7   | 20.8-123 |      | %REC  | 1  | 7/31/2012 2:08:54 PM |
| Surr: Phenol-d5                        | 84.7   | 19.8-115 |      | %REC  | 1  | 7/31/2012 2:08:54 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Toluene                                | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Ethylbenzene                           | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Naphthalene                            | ND     | 0.10     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1-Methylnaphthalene                    | ND     | 0.20     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 2-Methylnaphthalene                    | ND     | 0.20     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Acetone                                | ND     | 0.75     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Bromobenzene                           | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Bromodichloromethane                   | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Bromoform                              | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Bromomethane                           | ND     | 0.15     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 2-Butanone                             | ND     | 0.50     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Carbon disulfide                       | ND     | 0.50     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Carbon tetrachloride                   | ND     | 0.10     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Chlorobenzene                          | ND     | 0.050    |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Chloroethane                           | ND     | 0.10     |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-19 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:26:00 PM

Lab ID: 1207940-019

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL    | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |       |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Chloromethane                      | ND     | 0.15  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 2-Chlorotoluene                    | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 4-Chlorotoluene                    | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| cis-1,2-DCE                        | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| cis-1,3-Dichloropropene            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Dibromochloromethane               | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Dibromomethane                     | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2-Dichlorobenzene                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,3-Dichlorobenzene                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,4-Dichlorobenzene                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Dichlorodifluoromethane            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,1-Dichloroethane                 | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,1-Dichloroethene                 | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2-Dichloropropane                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,3-Dichloropropane                | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 2,2-Dichloropropane                | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,1-Dichloropropene                | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Hexachlorobutadiene                | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 2-Hexanone                         | ND     | 0.50  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Isopropylbenzene                   | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 4-Isopropyltoluene                 | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 4-Methyl-2-pentanone               | ND     | 0.50  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Methylene chloride                 | ND     | 0.15  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| n-Butylbenzene                     | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| n-Propylbenzene                    | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| sec-Butylbenzene                   | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Styrene                            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| tert-Butylbenzene                  | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Tetrachloroethene (PCE)            | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| trans-1,2-DCE                      | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| trans-1,3-Dichloropropene          | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2,3-Trichlorobenzene             | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2,4-Trichlorobenzene             | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,1,1-Trichloroethane              | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,1,2-Trichloroethane              | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Trichloroethene (TCE)              | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Trichlorofluoromethane             | ND     | 0.050 |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| 1,2,3-Trichloropropane             | ND     | 0.10  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-19 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 3:26:00 PM**Lab ID:** 1207940-019**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>RAA</b>  |
| Vinyl chloride                     | ND     | 0.050  |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Xylenes, Total                     | ND     | 0.10   |      | mg/Kg | 1  | 7/24/2012 2:59:07 PM |
| Surr: 1,2-Dichloroethane-d4        | 95.5   | 70-130 |      | %REC  | 1  | 7/24/2012 2:59:07 PM |
| Surr: 4-Bromofluorobenzene         | 98.4   | 70-130 |      | %REC  | 1  | 7/24/2012 2:59:07 PM |
| Surr: Dibromofluoromethane         | 104    | 70-130 |      | %REC  | 1  | 7/24/2012 2:59:07 PM |
| Surr: Toluene-d8                   | 97.9   | 70-130 |      | %REC  | 1  | 7/24/2012 2:59:07 PM |

**Qualifiers:**

- \* / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-19 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:33:00 PM

Lab ID: 1207940-020

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 29     | 9.8      |      | mg/Kg | 1   | 7/23/2012 4:03:03 PM  |
| Motor Oil Range Organics (MRO)                 | 51     | 49       |      | mg/Kg | 1   | 7/23/2012 4:03:03 PM  |
| Surr: DNOP                                     | 110    | 77.6-140 |      | %REC  | 1   | 7/23/2012 4:03:03 PM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)                  | ND     | 5.0      |      | mg/Kg | 1   | 7/30/2012 3:16:07 PM  |
| Surr: BFB                                      | 101    | 84-116   |      | %REC  | 1   | 7/30/2012 3:16:07 PM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | 0.063  | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:03:21 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Barium                                         | 790    | 5.0      |      | mg/kg | 50  | 8/18/2012 11:41:55 AM |
| Beryllium                                      | 0.81   | 0.75     |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Chromium                                       | 12     | 1.5      |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Cobalt                                         | 4.8    | 1.5      |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Iron                                           | 12000  | 500      |      | mg/kg | 500 | 8/18/2012 11:44:19 AM |
| Lead                                           | 4.1    | 1.2      |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Manganese                                      | 640    | 5.0      |      | mg/kg | 50  | 8/18/2012 11:41:55 AM |
| Nickel                                         | 8.0    | 2.5      |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Vanadium                                       | 21     | 12       |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| Zinc                                           | 34     | 12       |      | mg/Kg | 5   | 8/1/2012 2:07:41 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Acenaphthylene                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Aniline                                        | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Anthracene                                     | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Azobenzene                                     | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Benz(a)anthracene                              | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Benzo(a)pyrene                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Benzo(b)fluoranthene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Benzo(g,h,i)perylene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Benzo(k)fluoranthene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Benzoic acid                                   | ND     | 4.9      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Benzyl alcohol                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 3:40:39 PM  |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-19 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:33:00 PM

Lab ID: 1207940-020

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 4-Bromophenyl phenyl ether             | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Butyl benzyl phthalate                 | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Carbazole                              | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 4-Chloro-3-methylphenol                | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 4-Chloroaniline                        | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2-Chloronaphthalene                    | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2-Chlorophenol                         | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Chrysene                               | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Di-n-butyl phthalate                   | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Di-n-octyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Dibenz(a,h)anthracene                  | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Dibenzofuran                           | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 1,2-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 1,3-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 1,4-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Diethyl phthalate                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Dimethyl phthalate                     | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2,4-Dichlorophenol                     | ND     | 4.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2,4-Dimethylphenol                     | ND     | 3.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2,4-Dinitrophenol                      | ND     | 4.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2,4-Dinitrotoluene                     | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2,6-Dinitrotoluene                     | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Fluoranthene                           | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Fluorene                               | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Hexachlorobenzene                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Hexachlorobutadiene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Hexachlorocyclopentadiene              | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Hexachloroethane                       | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Isophorone                             | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 1-Methylnaphthalene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2-Methylnaphthalene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2-Methylphenol                         | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 3+4-Methylphenol                       | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| N-Nitrosodi-n-propylamine              | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| N-Nitrosodiphenylamine                 | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Naphthalene                            | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2-Nitroaniline                         | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-19 (1.5-2.0')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 3:33:00 PM**Lab ID:** 1207940-020**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 4-Nitroaniline                         | ND     | 4.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Nitrobenzene                           | ND     | 4.9      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2-Nitrophenol                          | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 4-Nitrophenol                          | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Pentachlorophenol                      | ND     | 4.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Phenanthrene                           | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Phenol                                 | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Pyrene                                 | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Pyridine                               | ND     | 4.9      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2,4,5-Trichlorophenol                  | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| 2,4,6-Trichlorophenol                  | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 3:40:39 PM |
| Surr: 2,4,6-Tribromophenol             | 89.5   | 20.1-121 |      | %REC  | 1  | 7/31/2012 3:40:39 PM |
| Surr: 2-Fluorobiphenyl                 | 98.4   | 19-133   |      | %REC  | 1  | 7/31/2012 3:40:39 PM |
| Surr: 2-Fluorophenol                   | 93.9   | 20.2-108 |      | %REC  | 1  | 7/31/2012 3:40:39 PM |
| Surr: 4-Terphenyl-d14                  | 136    | 18.9-115 | S    | %REC  | 1  | 7/31/2012 3:40:39 PM |
| Surr: Nitrobenzene-d5                  | 104    | 20.8-123 |      | %REC  | 1  | 7/31/2012 3:40:39 PM |
| Surr: Phenol-d5                        | 91.9   | 19.8-115 |      | %REC  | 1  | 7/31/2012 3:40:39 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: JDJ         |
| Benzene                                | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Toluene                                | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Ethylbenzene                           | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Naphthalene                            | ND     | 0.10     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1-Methylnaphthalene                    | ND     | 0.20     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 2-Methylnaphthalene                    | ND     | 0.20     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Acetone                                | ND     | 0.75     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Bromobenzene                           | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Bromodichloromethane                   | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Bromoform                              | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Bromomethane                           | ND     | 0.15     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 2-Butanone                             | ND     | 0.50     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Carbon disulfide                       | ND     | 0.50     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Carbon tetrachloride                   | ND     | 0.10     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Chlorobenzene                          | ND     | 0.050    |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Chloroethane                           | ND     | 0.10     |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-19 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 3:33:00 PM

Lab ID: 1207940-020

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                    | Result | RL    | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|-------|------|-------|----|----------------------|
| EPA METHOD 8260B: VOLATILES |        |       |      |       |    | Analyst: JDJ         |
| Chloroform                  | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Chloromethane               | ND     | 0.15  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 2-Chlorotoluene             | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 4-Chlorotoluene             | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| cis-1,2-DCE                 | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| cis-1,3-Dichloropropene     | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2-Dibromo-3-chloropropane | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Dibromochloromethane        | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Dibromomethane              | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2-Dichlorobenzene         | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,3-Dichlorobenzene         | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,4-Dichlorobenzene         | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Dichlorodifluoromethane     | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,1-Dichloroethane          | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,1-Dichloroethene          | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2-Dichloropropane         | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,3-Dichloropropane         | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 2,2-Dichloropropane         | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,1-Dichloropropene         | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Hexachlorobutadiene         | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 2-Hexanone                  | ND     | 0.50  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Isopropylbenzene            | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 4-Isopropyltoluene          | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 4-Methyl-2-pentanone        | ND     | 0.50  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Methylene chloride          | ND     | 0.15  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| n-Butylbenzene              | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| n-Propylbenzene             | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| sec-Butylbenzene            | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Styrene                     | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| tert-Butylbenzene           | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Tetrachloroethene (PCE)     | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| trans-1,2-DCE               | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| trans-1,3-Dichloropropene   | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2,3-Trichlorobenzene      | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2,4-Trichlorobenzene      | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,1,1-Trichloroethane       | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,1,2-Trichloroethane       | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Trichloroethene (TCE)       | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Trichlorofluoromethane      | ND     | 0.050 |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| 1,2,3-Trichloropropane      | ND     | 0.10  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-19 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 3:33:00 PM

**Lab ID:** 1207940-020

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: JDJ         |
| Vinyl chloride                     | ND     | 0.050  |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Xylenes, Total                     | ND     | 0.10   |      | mg/Kg | 1  | 7/25/2012 2:29:14 PM |
| Surr: 1,2-Dichloroethane-d4        | 95.2   | 70-130 |      | %REC  | 1  | 7/25/2012 2:29:14 PM |
| Surr: 4-Bromofluorobenzene         | 103    | 70-130 |      | %REC  | 1  | 7/25/2012 2:29:14 PM |
| Surr: Dibromofluoromethane         | 105    | 70-130 |      | %REC  | 1  | 7/25/2012 2:29:14 PM |
| Surr: Toluene-d8                   | 104    | 70-130 |      | %REC  | 1  | 7/25/2012 2:29:14 PM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

                  B    Analyte detected in the associated Method Blank  
                  H    Holding times for preparation or analysis exceeded  
                  ND   Not Detected at the Reporting Limit  
                  RL   Reporting Detection Limit  
                  U    Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-17 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 4:11:00 PM

**Lab ID:** 1207940-021

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 2900   | 190      |      | mg/Kg | 20  | 7/24/2012 3:30:47 PM |
| Motor Oil Range Organics (MRO)                 | 2800   | 970      |      | mg/Kg | 20  | 7/24/2012 3:30:47 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/24/2012 3:30:47 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 25       |      | mg/Kg | 5   | 7/30/2012 3:44:56 PM |
| Surr: BFB                                      | 102    | 84-116   |      | %REC  | 5   | 7/30/2012 3:44:56 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 1.3    | 0.16     |      | mg/Kg | 5   | 8/2/2012 10:26:54 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Barium                                         | 850    | 5.0      |      | mg/Kg | 50  | 8/6/2012 4:20:43 PM  |
| Beryllium                                      | 0.86   | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Chromium                                       | 20     | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Cobalt                                         | 5.4    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Iron                                           | 17000  | 500      |      | mg/Kg | 500 | 8/6/2012 4:23:05 PM  |
| Lead                                           | 7.1    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Manganese                                      | 560    | 5.0      |      | mg/Kg | 50  | 8/6/2012 4:20:43 PM  |
| Nickel                                         | 12     | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Vanadium                                       | 28     | 12       |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| Zinc                                           | 230    | 12       |      | mg/Kg | 5   | 8/5/2012 5:04:02 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Acenaphthylene                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Aniline                                        | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Anthracene                                     | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Azobenzene                                     | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Benz(a)anthracene                              | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Benzo(a)pyrene                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Benzo(b)fluoranthene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Benzo(g,h,i)perylene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Benzo(k)fluoranthene                           | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Benzoic acid                                   | ND     | 4.9      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Benzyl alcohol                                 | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Bis(2-chloroethyl)ether                        | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 2.0      |      | mg/Kg | 1   | 7/31/2012 4:11:12 PM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-17 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:11:00 PM

Lab ID: 1207940-021

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 4-Bromophenyl phenyl ether             | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Butyl benzyl phthalate                 | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Carbazole                              | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 4-Chloro-3-methylphenol                | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 4-Chloroaniline                        | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2-Chloronaphthalene                    | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2-Chlorophenol                         | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Chrysene                               | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Di-n-butyl phthalate                   | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Di-n-octyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Dibenz(a,h)anthracene                  | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Dibenzofuran                           | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 1,2-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 1,3-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 1,4-Dichlorobenzene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Diethyl phthalate                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Dimethyl phthalate                     | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2,4-Dichlorophenol                     | ND     | 4.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2,4-Dimethylphenol                     | ND     | 3.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2,4-Dinitrophenol                      | ND     | 4.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2,4-Dinitrotoluene                     | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2,6-Dinitrotoluene                     | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Fluoranthene                           | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Fluorene                               | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Hexachlorobenzene                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Hexachlorobutadiene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Hexachlorocyclopentadiene              | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Hexachloroethane                       | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Isophorone                             | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 1-Methylnaphthalene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2-Methylnaphthalene                    | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2-Methylphenol                         | ND     | 4.9 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 3+4-Methylphenol                       | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| N-Nitrosodi-n-propylamine              | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| N-Nitrosodiphenylamine                 | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| Naphthalene                            | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |
| 2-Nitroaniline                         | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:11:12 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-17 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:11:00 PM

Lab ID: 1207940-021

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-----------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| 4-Nitroaniline                         | ND     | 4.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| Nitrobenzene                           | ND     | 4.9      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| 2-Nitrophenol                          | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| 4-Nitrophenol                          | ND     | 2.5      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| Pentachlorophenol                      | ND     | 4.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| Phenanthrene                           | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| Phenol                                 | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| Pyrene                                 | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| Pyridine                               | ND     | 4.9      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| 1,2,4-Trichlorobenzene                 | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| 2,4,5-Trichlorophenol                  | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| 2,4,6-Trichlorophenol                  | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 4:11:12 PM  |
| Surr: 2,4,6-Tribromophenol             | 118    | 20.1-121 |      | %REC      | 1  | 7/31/2012 4:11:12 PM  |
| Surr: 2-Fluorobiphenyl                 | 101    | 19-133   |      | %REC      | 1  | 7/31/2012 4:11:12 PM  |
| Surr: 2-Fluorophenol                   | 88.9   | 20.2-108 |      | %REC      | 1  | 7/31/2012 4:11:12 PM  |
| Surr: 4-Terphenyl-d14                  | 130    | 18.9-115 | S    | %REC      | 1  | 7/31/2012 4:11:12 PM  |
| Surr: Nitrobenzene-d5                  | 104    | 20.8-123 |      | %REC      | 1  | 7/31/2012 4:11:12 PM  |
| Surr: Phenol-d5                        | 86.7   | 19.8-115 |      | %REC      | 1  | 7/31/2012 4:11:12 PM  |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS          |
| Benzene                                | 1.29   | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Toluene                                | 2.73   | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Ethylbenzene                           | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Xylenes, Total                         | ND     | 3.05     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.03     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Naphthalene                            | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1-Methylnaphthalene                    | ND     | 4.07     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 2-Methylnaphthalene                    | ND     | 4.07     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Acetone                                | ND     | 30.5     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Bromobenzene                           | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Bromodichloromethane                   | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Bromoform                              | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 2-Butanone                             | ND     | 5.09     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Carbon tetrachloride                   | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Chlorobenzene                          | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Chloroethane                           | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Chloroform                             | ND     | 1.02     |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |

**Qualifiers:**

- \* /X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-17 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:11:00 PM

Lab ID: 1207940-021

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |      |      |           |    | Analyst: MMS          |
| Chloromethane                          | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 2-Chlorotoluene                        | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Carbon disulfide                       | ND     | 5.09 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 4-Chlorotoluene                        | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| cis-1,2-DCE                            | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| cis-1,3-Dichloropropene                | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2-Dibromo-3-chloropropane            | ND     | 2.03 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Dibromochloromethane                   | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Dibromomethane                         | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2-Dichlorobenzene                    | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,3-Dichlorobenzene                    | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,4-Dichlorobenzene                    | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Dichlorodifluoromethane                | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,1-Dichloroethane                     | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,1-Dichloroethene                     | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2-Dichloropropane                    | ND     | 2.03 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,3-Dichloropropane                    | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 2,2-Dichloropropane                    | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,1-Dichloropropene                    | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Hexachlorobutadiene                    | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Isopropylbenzene                       | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 4-Isopropyltoluene                     | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Methylene chloride                     | ND     | 5.09 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| n-Butylbenzene                         | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 2-Hexanone                             | ND     | 5.09 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| n-Propylbenzene                        | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| sec-Butylbenzene                       | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Styrene                                | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 4-Methyl-2-pentanone                   | ND     | 5.09 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| tert-Butylbenzene                      | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,1,1,2-Tetrachloroethane              | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,1,2,2-Tetrachloroethane              | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Tetrachloroethene (PCE)                | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| trans-1,2-DCE                          | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| trans-1,3-Dichloropropene              | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2,3-Trichlorobenzene                 | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,1,1-Trichloroethane                  | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,1,2-Trichloroethane                  | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Trichloroethene (TCE)                  | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Trichlorofluoromethane                 | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| 1,2,3-Trichloropropane                 | ND     | 1.02 |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |

**Qualifiers:** \* /X Value exceeds Maximum Contaminant Level.  
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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-17 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 4:11:00 PM**Lab ID:** 1207940-021**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|--------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>   |
| Vinyl chloride                         | ND     | 1.02   |      | µg/Kg-dry | 1  | 7/27/2012 12:07:10 AM |
| Surr: 1,2-Dichloroethane-d4            | 188    | 70-130 | S    | %REC      | 1  | 7/27/2012 12:07:10 AM |
| Surr: 4-Bromofluorobenzene             | 106    | 70-130 |      | %REC      | 1  | 7/27/2012 12:07:10 AM |
| Surr: Dibromofluoromethane             | 88.6   | 70-130 |      | %REC      | 1  | 7/27/2012 12:07:10 AM |
| Surr: Toluene-d8                       | 99.4   | 70-130 |      | %REC      | 1  | 7/27/2012 12:07:10 AM |

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- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-17 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:18:00 PM

Lab ID: 1207940-022

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 13000  | 500      |      | mg/Kg | 50  | 7/24/2012 1:53:49 PM |
| Motor Oil Range Organics (MRO)                 | ND     | 2500     |      | mg/Kg | 50  | 7/24/2012 1:53:49 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 50  | 7/24/2012 1:53:49 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 250      |      | mg/Kg | 50  | 7/30/2012 4:13:41 PM |
| Surr: BFB                                      | 129    | 84-116   | S    | %REC  | 50  | 7/30/2012 4:13:41 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.12   | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:14:21 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Barium                                         | 600    | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:31:51 AM  |
| Beryllium                                      | 0.87   | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Chromium                                       | 25     | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Cobalt                                         | 5.4    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/8/2012 9:34:20 AM  |
| Lead                                           | 3.2    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Manganese                                      | 640    | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:31:51 AM  |
| Nickel                                         | 8.7    | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Vanadium                                       | 27     | 12       |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| Zinc                                           | 37     | 12       |      | mg/Kg | 5   | 8/5/2012 5:09:28 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 4:41:47 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL



## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-17 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:18:00 PM

Lab ID: 1207940-022

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Fluorene                               | 3.0    | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 1-Methylnaphthalene                    | 29     | 5.0 |      | mg/Kg | 5  | 8/1/2012 7:00:40 PM  |
| 2-Methylnaphthalene                    | 38     | 5.0 |      | mg/Kg | 5  | 8/1/2012 7:00:40 PM  |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Naphthalene                            | 7.1    | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
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B Analyte detected in the associated Method Blank  
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 RL Reporting Detection Limit  
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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-17 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:18:00 PM

Lab ID: 1207940-022

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Phenanthrene                           | 9.8    | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Pyrene                                 | 2.6    | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 4:41:47 PM |
| Surr: 2,4,6-Tribromophenol             | 0      | 20.1-121 | S    | %REC  | 1  | 7/31/2012 4:41:47 PM |
| Surr: 2-Fluorobiphenyl                 | 35.8   | 19-133   |      | %REC  | 1  | 7/31/2012 4:41:47 PM |
| Surr: 2-Fluorophenol                   | 47.7   | 20.2-108 |      | %REC  | 1  | 7/31/2012 4:41:47 PM |
| Surr: 4-Terphenyl-d14                  | 59.1   | 18.9-115 |      | %REC  | 1  | 7/31/2012 4:41:47 PM |
| Surr: Nitrobenzene-d5                  | 0      | 20.8-123 | S    | %REC  | 1  | 7/31/2012 4:41:47 PM |
| Surr: Phenol-d5                        | 56.3   | 19.8-115 |      | %REC  | 1  | 7/31/2012 4:41:47 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: DJF         |
| Benzene                                | 1.6    | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Toluene                                | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Ethylbenzene                           | 13     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2,4-Trimethylbenzene                 | 33     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,3,5-Trimethylbenzene                 | 7.8    | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Naphthalene                            | 17     | 2.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1-Methylnaphthalene                    | 38     | 4.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 2-Methylnaphthalene                    | 60     | 4.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Acetone                                | ND     | 15       |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Bromobenzene                           | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Bromodichloromethane                   | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Bromoform                              | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Bromomethane                           | ND     | 3.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 2-Butanone                             | ND     | 10       |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Carbon disulfide                       | ND     | 10       |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Carbon tetrachloride                   | ND     | 2.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Chlorobenzene                          | ND     | 1.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Chloroethane                           | ND     | 2.0      |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-17 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:18:00 PM

Lab ID: 1207940-022

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                    | Result | RL  | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|-----|------|-------|----|----------------------|
| EPA METHOD 8260B: VOLATILES |        |     |      |       |    | Analyst: DJF         |
| Chloroform                  | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Chloromethane               | ND     | 3.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 2-Chlorotoluene             | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 4-Chlorotoluene             | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| cis-1,2-DCE                 | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| cis-1,3-Dichloropropene     | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2-Dibromo-3-chloropropane | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Dibromochloromethane        | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Dibromomethane              | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2-Dichlorobenzene         | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,3-Dichlorobenzene         | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,4-Dichlorobenzene         | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Dichlorodifluoromethane     | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,1-Dichloroethane          | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,1-Dichloroethene          | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2-Dichloropropane         | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,3-Dichloropropane         | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 2,2-Dichloropropane         | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,1-Dichloropropene         | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Hexachlorobutadiene         | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 2-Hexanone                  | ND     | 10  |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Isopropylbenzene            | 2.9    | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 4-Isopropyltoluene          | 2.7    | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 4-Methyl-2-pentanone        | ND     | 10  |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Methylene chloride          | ND     | 3.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| n-Butylbenzene              | 4.6    | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| n-Propylbenzene             | 4.9    | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| sec-Butylbenzene            | 2.9    | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Styrene                     | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| tert-Butylbenzene           | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,1,2,2-Tetrachloroethane   | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Tetrachloroethene (PCE)     | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| trans-1,2-DCE               | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| trans-1,3-Dichloropropene   | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2,3-Trichlorobenzene      | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2,4-Trichlorobenzene      | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,1,1-Trichloroethane       | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,1,2-Trichloroethane       | 1.0    | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Trichloroethene (TCE)       | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Trichlorofluoromethane      | ND     | 1.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| 1,2,3-Trichloropropane      | ND     | 2.0 |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-17 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 4:18:00 PM

**Lab ID:** 1207940-022

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: DJF         |
| Vinyl chloride                     | ND     | 1.0    |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Xylenes, Total                     | 14     | 2.0    |      | mg/Kg | 20 | 7/30/2012 3:17:50 PM |
| Surr: 1,2-Dichloroethane-d4        | 91.5   | 70-130 |      | %REC  | 20 | 7/30/2012 3:17:50 PM |
| Surr: 4-Bromofluorobenzene         | 66.9   | 70-130 | S    | %REC  | 20 | 7/30/2012 3:17:50 PM |
| Surr: Dibromofluoromethane         | 90.6   | 70-130 |      | %REC  | 20 | 7/30/2012 3:17:50 PM |
| Surr: Toluene-d8                   | 101    | 70-130 |      | %REC  | 20 | 7/30/2012 3:17:50 PM |

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U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-16 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:45:00 PM

Lab ID: 1207940-023

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 480    | 49       |      | mg/Kg | 5   | 7/24/2012 3:08:41 PM |
| Motor Oil Range Organics (MRO)                 | 480    | 240      |      | mg/Kg | 5   | 7/24/2012 3:08:41 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 5   | 7/24/2012 3:08:41 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 25       |      | mg/Kg | 5   | 7/30/2012 4:42:30 PM |
| Surr: BFB                                      | 101    | 84-116   |      | %REC  | 5   | 7/30/2012 4:42:30 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.062  | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:16:09 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Barium                                         | 550    | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:37:03 AM  |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Chromium                                       | 13     | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Cobalt                                         | 4.4    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Iron                                           | 11000  | 500      |      | mg/Kg | 500 | 8/8/2012 9:39:29 AM  |
| Lead                                           | 4.8    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Manganese                                      | 1100   | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:37:03 AM  |
| Nickel                                         | 6.9    | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Vanadium                                       | 22     | 12       |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| Zinc                                           | 69     | 12       |      | mg/Kg | 5   | 8/5/2012 5:11:50 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:12:23 PM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
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B Analyte detected in the associated Method Blank  
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 ND Not Detected at the Reporting Limit  
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 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-16 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:45:00 PM

Lab ID: 1207940-023

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:12:23 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-16 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 4:45:00 PM

**Lab ID:** 1207940-023

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 5:12:23 PM |
| Surr: 2,4,6-Tribromophenol             | 92.8   | 20.1-121 |      | %REC      | 1  | 7/31/2012 5:12:23 PM |
| Surr: 2-Fluorobiphenyl                 | 84.4   | 19-133   |      | %REC      | 1  | 7/31/2012 5:12:23 PM |
| Surr: 2-Fluorophenol                   | 72.7   | 20.2-108 |      | %REC      | 1  | 7/31/2012 5:12:23 PM |
| Surr: 4-Terphenyl-d14                  | 98.2   | 18.9-115 |      | %REC      | 1  | 7/31/2012 5:12:23 PM |
| Surr: Nitrobenzene-d5                  | 83.0   | 20.8-123 |      | %REC      | 1  | 7/31/2012 5:12:23 PM |
| Surr: Phenol-d5                        | 77.1   | 19.8-115 |      | %REC      | 1  | 7/31/2012 5:12:23 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Toluene                                | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Ethylbenzene                           | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Xylenes, Total                         | ND     | 2.72     |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.81     |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Naphthalene                            | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1-Methylnaphthalene                    | ND     | 3.62     |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 2-Methylnaphthalene                    | ND     | 3.62     |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Acetone                                | ND     | 27.2     |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Bromobenzene                           | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Bromodichloromethane                   | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Bromoform                              | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 2-Butanone                             | ND     | 4.53     |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Carbon tetrachloride                   | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Chlorobenzene                          | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Chloroethane                           | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Chloroform                             | ND     | 0.906    |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-16 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:45:00 PM

Lab ID: 1207940-023

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|-------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: MMS         |
| Chloromethane                          | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 2-Chlorotoluene                        | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Carbon disulfide                       | ND     | 4.53  |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 4-Chlorotoluene                        | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| cis-1,2-DCE                            | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| cis-1,3-Dichloropropene                | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.81  |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Dibromochloromethane                   | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Dibromomethane                         | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2-Dichlorobenzene                    | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,3-Dichlorobenzene                    | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,4-Dichlorobenzene                    | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Dichlorodifluoromethane                | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,1-Dichloroethane                     | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,1-Dichloroethene                     | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2-Dichloropropane                    | ND     | 1.81  |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,3-Dichloropropane                    | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 2,2-Dichloropropane                    | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,1-Dichloropropene                    | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Hexachlorobutadiene                    | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Isopropylbenzene                       | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 4-Isopropyltoluene                     | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Methylene chloride                     | ND     | 4.53  |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| n-Butylbenzene                         | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 2-Hexanone                             | ND     | 4.53  |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| n-Propylbenzene                        | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| sec-Butylbenzene                       | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Styrene                                | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 4-Methyl-2-pentanone                   | ND     | 4.53  |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| tert-Butylbenzene                      | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Tetrachloroethene (PCE)                | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| trans-1,2-DCE                          | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| trans-1,3-Dichloropropene              | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,1,1-Trichloroethane                  | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,1,2-Trichloroethane                  | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Trichloroethene (TCE)                  | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Trichlorofluoromethane                 | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| 1,2,3-Trichloropropane                 | ND     | 0.906 |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL



**Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-16 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 4:45:00 PM**Lab ID:** 1207940-023**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|--------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>  |
| Vinyl chloride                         | ND     | 0.906  |      | µg/Kg-dry | 1  | 7/27/2012 1:58:11 AM |
| Surr: 1,2-Dichloroethane-d4            | 101    | 70-130 |      | %REC      | 1  | 7/27/2012 1:58:11 AM |
| Surr: 4-Bromofluorobenzene             | 103    | 70-130 |      | %REC      | 1  | 7/27/2012 1:58:11 AM |
| Surr: Dibromofluoromethane             | 94.0   | 70-130 |      | %REC      | 1  | 7/27/2012 1:58:11 AM |
| Surr: Toluene-d8                       | 101    | 70-130 |      | %REC      | 1  | 7/27/2012 1:58:11 AM |

**Qualifiers:**

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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-16 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:51:00 PM

Lab ID: 1207940-024

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 4800   | 200      |      | mg/Kg | 20  | 7/24/2012 1:09:38 PM |
| Motor Oil Range Organics (MRO)                 | 1100   | 1000     |      | mg/Kg | 20  | 7/24/2012 1:09:38 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/24/2012 1:09:38 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 250      |      | mg/Kg | 50  | 7/30/2012 5:11:15 PM |
| Surr: BFB                                      | 102    | 84-116   |      | %REC  | 50  | 7/30/2012 5:11:15 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.052  | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:17:56 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Barium                                         | 1000   | 5.0      |      | mg/Kg | 50  | 8/8/2012 12:12:41 PM |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Chromium                                       | 15     | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Cobalt                                         | 4.5    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 8/8/2012 12:15:05 PM |
| Lead                                           | 5.1    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Manganese                                      | 560    | 5.0      |      | mg/Kg | 50  | 8/8/2012 12:12:41 PM |
| Nickel                                         | 7.1    | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Vanadium                                       | 25     | 12       |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| Zinc                                           | 25     | 12       |      | mg/Kg | 5   | 8/5/2012 5:14:15 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 5:42:57 PM |

**Qualifiers:** \* /X Value exceeds Maximum Contaminant Level.  
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R RPD outside accepted recovery limits  
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ND Not Detected at the Reporting Limit  
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U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-16 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:51:00 PM

Lab ID: 1207940-024

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                        | Result | RL  | Qual | Units | DF | Date Analyzed        |
|---------------------------------|--------|-----|------|-------|----|----------------------|
| EPA METHOD 8270C: SEMIVOLATILES |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate      | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 4-Bromophenyl phenyl ether      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Butyl benzyl phthalate          | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Carbazole                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 4-Chloro-3-methylphenol         | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 4-Chloroaniline                 | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2-Chloronaphthalene             | ND     | 1.2 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2-Chlorophenol                  | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 4-Chlorophenyl phenyl ether     | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Chrysene                        | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Di-n-butyl phthalate            | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Di-n-octyl phthalate            | ND     | 1.2 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Dibenz(a,h)anthracene           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Dibenzofuran                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 1,2-Dichlorobenzene             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 1,3-Dichlorobenzene             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 1,4-Dichlorobenzene             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 3,3'-Dichlorobenzidine          | ND     | 1.2 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Diethyl phthalate               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Dimethyl phthalate              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2,4-Dichlorophenol              | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2,4-Dimethylphenol              | ND     | 1.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 4,6-Dinitro-2-methylphenol      | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2,4-Dinitrophenol               | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2,4-Dinitrotoluene              | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2,6-Dinitrotoluene              | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Fluoranthene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Fluorene                        | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Hexachlorobenzene               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Hexachlorobutadiene             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Hexachlorocyclopentadiene       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Hexachloroethane                | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Indeno(1,2,3-cd)pyrene          | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Isophorone                      | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 1-Methylnaphthalene             | 6.3    | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2-Methylnaphthalene             | 6.1    | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2-Methylphenol                  | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 3+4-Methylphenol                | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| N-Nitrosodi-n-propylamine       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| N-Nitrosodiphenylamine          | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Naphthalene                     | 1.4    | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2-Nitroaniline                  | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-16 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:51:00 PM

Lab ID: 1207940-024

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Phenanthrene                           | 1.7    | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 5:42:57 PM |
| Surr: 2,4,6-Tribromophenol             | 89.7   | 20.1-121 |      | %REC  | 1  | 7/31/2012 5:42:57 PM |
| Surr: 2-Fluorobiphenyl                 | 78.4   | 19-133   |      | %REC  | 1  | 7/31/2012 5:42:57 PM |
| Surr: 2-Fluorophenol                   | 85.2   | 20.2-108 |      | %REC  | 1  | 7/31/2012 5:42:57 PM |
| Surr: 4-Terphenyl-d14                  | 102    | 18.9-115 |      | %REC  | 1  | 7/31/2012 5:42:57 PM |
| Surr: Nitrobenzene-d5                  | 94.4   | 20.8-123 |      | %REC  | 1  | 7/31/2012 5:42:57 PM |
| Surr: Phenol-d5                        | 84.8   | 19.8-115 |      | %REC  | 1  | 7/31/2012 5:42:57 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Toluene                                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Ethylbenzene                           | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2,4-Trimethylbenzene                 | 3.6    | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,3,5-Trimethylbenzene                 | 1.1    | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Naphthalene                            | 3.9    | 2.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1-Methylnaphthalene                    | 12     | 4.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 2-Methylnaphthalene                    | 9.6    | 4.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Acetone                                | ND     | 15       |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Bromobenzene                           | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Bromodichloromethane                   | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Bromoform                              | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Bromomethane                           | ND     | 3.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 2-Butanone                             | ND     | 10       |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Carbon disulfide                       | ND     | 10       |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Carbon tetrachloride                   | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Chlorobenzene                          | ND     | 1.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Chloroethane                           | ND     | 2.0      |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
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R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

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H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-16 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 4:51:00 PM

Lab ID: 1207940-024

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Chloromethane                      | ND     | 3.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| cis-1,2-DCE                        | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Dibromochloromethane               | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Dibromomethane                     | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,1-Dichloroethane                 | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,1-Dichloropropene                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Hexachlorobutadiene                | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 2-Hexanone                         | ND     | 10  |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Isopropylbenzene                   | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 4-Isopropyltoluene                 | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 4-Methyl-2-pentanone               | ND     | 10  |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Methylene chloride                 | ND     | 3.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| n-Butylbenzene                     | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| n-Propylbenzene                    | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| sec-Butylbenzene                   | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Styrene                            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| tert-Butylbenzene                  | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Tetrachloroethene (PCE)            | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| trans-1,2-DCE                      | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| trans-1,3-Dichloropropene          | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2,3-Trichlorobenzene             | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,1,1-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,1,2-Trichloroethane              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Trichloroethene (TCE)              | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Trichlorofluoromethane             | ND     | 1.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| 1,2,3-Trichloropropane             | ND     | 2.0 |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-16 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 4:51:00 PM

**Lab ID:** 1207940-024

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA         |
| Vinyl chloride                     | ND     | 1.0    |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Xylenes, Total                     | ND     | 2.0    |      | mg/Kg | 20 | 7/24/2012 4:24:10 PM |
| Surr: 1,2-Dichloroethane-d4        | 92.9   | 70-130 |      | %REC  | 20 | 7/24/2012 4:24:10 PM |
| Surr: 4-Bromofluorobenzene         | 83.2   | 70-130 |      | %REC  | 20 | 7/24/2012 4:24:10 PM |
| Surr: Dibromofluoromethane         | 105    | 70-130 |      | %REC  | 20 | 7/24/2012 4:24:10 PM |
| Surr: Toluene-d8                   | 100    | 70-130 |      | %REC  | 20 | 7/24/2012 4:24:10 PM |

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H Holding times for preparation or analysis exceeded  
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RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-15 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:14:00 PM

Lab ID: 1207940-025

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 1400   | 200      |      | mg/Kg | 20  | 7/24/2012 1:31:41 PM |
| Motor Oil Range Organics (MRO)                 | ND     | 990      |      | mg/Kg | 20  | 7/24/2012 1:31:41 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 20  | 7/24/2012 1:31:41 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 50       |      | mg/Kg | 10  | 7/30/2012 5:39:56 PM |
| Surr: BFB                                      | 101    | 84-116   |      | %REC  | 10  | 7/30/2012 5:39:56 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.13   | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:19:43 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Barium                                         | 670    | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:42:14 AM  |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Chromium                                       | 14     | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Cobalt                                         | 4.7    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Iron                                           | 12000  | 500      |      | mg/Kg | 500 | 8/8/2012 9:44:39 AM  |
| Lead                                           | 4.1    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Manganese                                      | 540    | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:42:14 AM  |
| Nickel                                         | 8.2    | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Vanadium                                       | 23     | 12       |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| Zinc                                           | 140    | 12       |      | mg/Kg | 5   | 8/5/2012 5:18:23 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:13:31 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-15 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:14:00 PM

Lab ID: 1207940-025

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2-Chloronaphthalene                    | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Di-n-octyl phthalate                   | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.3 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 1-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2-Methylnaphthalene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| Naphthalene                            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:13:31 PM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL



# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-15 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:14:00 PM

Lab ID: 1207940-025

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-----------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| 4-Nitrophenol                          | ND     | 1.3      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| Phenanthrene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| Phenol                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| Pyridine                               | ND     | 2.5      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 6:13:31 PM  |
| Surr: 2,4,6-Tribromophenol             | 86.8   | 20.1-121 |      | %REC      | 1  | 7/31/2012 6:13:31 PM  |
| Surr: 2-Fluorobiphenyl                 | 82.8   | 19-133   |      | %REC      | 1  | 7/31/2012 6:13:31 PM  |
| Surr: 2-Fluorophenol                   | 76.1   | 20.2-108 |      | %REC      | 1  | 7/31/2012 6:13:31 PM  |
| Surr: 4-Terphenyl-d14                  | 113    | 18.9-115 |      | %REC      | 1  | 7/31/2012 6:13:31 PM  |
| Surr: Nitrobenzene-d5                  | 83.7   | 20.8-123 |      | %REC      | 1  | 7/31/2012 6:13:31 PM  |
| Surr: Phenol-d5                        | 80.1   | 19.8-115 |      | %REC      | 1  | 7/31/2012 6:13:31 PM  |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS          |
| Benzene                                | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Toluene                                | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Ethylbenzene                           | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Xylenes, Total                         | ND     | 2.89     |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.92     |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Naphthalene                            | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1-Methylnaphthalene                    | ND     | 3.85     |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 2-Methylnaphthalene                    | ND     | 3.85     |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Acetone                                | ND     | 28.9     |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Bromobenzene                           | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Bromodichloromethane                   | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Bromoform                              | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 2-Butanone                             | ND     | 4.81     |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Carbon tetrachloride                   | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Chlorobenzene                          | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Chloroethane                           | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Chloroform                             | ND     | 0.962    |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-15 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:14:00 PM

Lab ID: 1207940-025

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|-------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: <b>MMS</b>   |
| Chloromethane                          | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 2-Chlorotoluene                        | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Carbon disulfide                       | ND     | 4.81  |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 4-Chlorotoluene                        | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| cis-1,2-DCE                            | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| cis-1,3-Dichloropropene                | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.92  |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Dibromochloromethane                   | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Dibromomethane                         | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2-Dichlorobenzene                    | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,3-Dichlorobenzene                    | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,4-Dichlorobenzene                    | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Dichlorodifluoromethane                | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,1-Dichloroethane                     | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,1-Dichloroethene                     | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2-Dichloropropane                    | ND     | 1.92  |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,3-Dichloropropane                    | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 2,2-Dichloropropane                    | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,1-Dichloropropene                    | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Hexachlorobutadiene                    | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Isopropylbenzene                       | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 4-Isopropyltoluene                     | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Methylene chloride                     | ND     | 4.81  |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| n-Butylbenzene                         | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 2-Hexanone                             | ND     | 4.81  |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| n-Propylbenzene                        | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| sec-Butylbenzene                       | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Styrene                                | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 4-Methyl-2-pentanone                   | ND     | 4.81  |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| tert-Butylbenzene                      | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Tetrachloroethene (PCE)                | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| trans-1,2-DCE                          | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| trans-1,3-Dichloropropene              | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,1,1-Trichloroethane                  | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,1,2-Trichloroethane                  | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Trichloroethene (TCE)                  | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Trichlorofluoromethane                 | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| 1,2,3-Trichloropropane                 | ND     | 0.962 |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-15 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 5:14:00 PM

**Lab ID:** 1207940-025

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed         |
|----------------------------------------|--------|--------|------|-----------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>   |
| Vinyl chloride                         | ND     | 0.962  |      | µg/Kg-dry | 1  | 7/27/2012 12:34:55 AM |
| Surr: 1,2-Dichloroethane-d4            | 122    | 70-130 |      | %REC      | 1  | 7/27/2012 12:34:55 AM |
| Surr: 4-Bromofluorobenzene             | 104    | 70-130 |      | %REC      | 1  | 7/27/2012 12:34:55 AM |
| Surr: Dibromofluoromethane             | 77.5   | 70-130 |      | %REC      | 1  | 7/27/2012 12:34:55 AM |
| Surr: Toluene-d8                       | 99.0   | 70-130 |      | %REC      | 1  | 7/27/2012 12:34:55 AM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-15 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:19:00 PM

Lab ID: 1207940-026

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | 10000  | 1000     |      | mg/Kg | 100 | 7/24/2012 2:46:24 PM |
| Motor Oil Range Organics (MRO)                 | ND     | 5100     |      | mg/Kg | 100 | 7/24/2012 2:46:24 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 100 | 7/24/2012 2:46:24 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | 1600   | 500      |      | mg/Kg | 100 | 7/30/2012 6:08:45 PM |
| Surr: BFB                                      | 142    | 84-116   | S    | %REC  | 100 | 7/30/2012 6:08:45 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | 0.22   | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:21:30 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Barium                                         | 650    | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:47:22 AM  |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Chromium                                       | 8.9    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Cobalt                                         | 3.6    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Iron                                           | 7300   | 500      |      | mg/Kg | 500 | 8/8/2012 9:49:47 AM  |
| Lead                                           | 1.3    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Manganese                                      | 360    | 5.0      |      | mg/Kg | 50  | 8/8/2012 9:47:22 AM  |
| Nickel                                         | 5.6    | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Vanadium                                       | 20     | 12       |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| Zinc                                           | 68     | 12       |      | mg/Kg | 5   | 8/5/2012 5:20:48 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Acenaphthylene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Aniline                                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Anthracene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Azobenzene                                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Benz(a)anthracene                              | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Benzo(a)pyrene                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Benzo(b)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Benzo(g,h,i)perylene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Benzo(k)fluoranthene                           | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Benzoic acid                                   | ND     | 2.5      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Benzyl alcohol                                 | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Bis(2-chloroethyl)ether                        | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 6:44:05 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-15 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 5:19:00 PM

**Lab ID:** 1207940-026

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL  | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |     |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 4-Bromophenyl phenyl ether             | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Butyl benzyl phthalate                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Carbazole                              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 4-Chloro-3-methylphenol                | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 4-Chloroaniline                        | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2-Chloronaphthalene                    | ND     | 1.2 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2-Chlorophenol                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Chrysene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Di-n-butyl phthalate                   | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Di-n-octyl phthalate                   | ND     | 1.2 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Dibenz(a,h)anthracene                  | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Dibenzofuran                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 1,2-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 1,3-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 1,4-Dichlorobenzene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 1.2 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Diethyl phthalate                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Dimethyl phthalate                     | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2,4-Dichlorophenol                     | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2,4-Dimethylphenol                     | ND     | 1.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2,4-Dinitrophenol                      | ND     | 2.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2,4-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2,6-Dinitrotoluene                     | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Fluoranthene                           | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Fluorene                               | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Hexachlorobenzene                      | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Hexachlorobutadiene                    | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Hexachlorocyclopentadiene              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Hexachloroethane                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Isophorone                             | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 1-Methylnaphthalene                    | 4.4    | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2-Methylnaphthalene                    | 6.7    | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2-Methylphenol                         | ND     | 2.5 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 3+4-Methylphenol                       | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| N-Nitrosodi-n-propylamine              | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| N-Nitrosodiphenylamine                 | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Naphthalene                            | 1.7    | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2-Nitroaniline                         | ND     | 1.0 |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

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 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-15 (1.5-2.0')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:19:00 PM

Lab ID: 1207940-026

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 4-Nitroaniline                         | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Nitrobenzene                           | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Phenanthrene                           | 2.8    | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Pyrene                                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Pyridine                               | ND     | 2.5      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1  | 7/31/2012 6:44:05 PM |
| Surr: 2,4,6-Tribromophenol             | 32.3   | 20.1-121 |      | %REC  | 1  | 7/31/2012 6:44:05 PM |
| Surr: 2-Fluorobiphenyl                 | 41.9   | 19-133   |      | %REC  | 1  | 7/31/2012 6:44:05 PM |
| Surr: 2-Fluorophenol                   | 0      | 20.2-108 | S    | %REC  | 1  | 7/31/2012 6:44:05 PM |
| Surr: 4-Terphenyl-d14                  | 64.2   | 18.9-115 |      | %REC  | 1  | 7/31/2012 6:44:05 PM |
| Surr: Nitrobenzene-d5                  | 0      | 20.8-123 | S    | %REC  | 1  | 7/31/2012 6:44:05 PM |
| Surr: Phenol-d5                        | 39.2   | 19.8-115 |      | %REC  | 1  | 7/31/2012 6:44:05 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA         |
| Benzene                                | 2.8    | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Toluene                                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Ethylbenzene                           | 23     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2,4-Trimethylbenzene                 | 44     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,3,5-Trimethylbenzene                 | 16     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Naphthalene                            | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1-Methylnaphthalene                    | ND     | 10       |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 2-Methylnaphthalene                    | ND     | 10       |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Acetone                                | ND     | 38       |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Bromobenzene                           | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Bromodichloromethane                   | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Bromoform                              | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Bromomethane                           | ND     | 7.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 2-Butanone                             | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Carbon disulfide                       | ND     | 25       |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Carbon tetrachloride                   | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Chlorobenzene                          | ND     | 2.5      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Chloroethane                           | ND     | 5.0      |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
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ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

**Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-15 (1.5-2.0')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 5:19:00 PM**Lab ID:** 1207940-026**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Chloroform                         | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Chloromethane                      | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 2-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 4-Chlorotoluene                    | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| cis-1,2-DCE                        | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| cis-1,3-Dichloropropene            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Dibromochloromethane               | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Dibromomethane                     | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,3-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,4-Dichlorobenzene                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Dichlorodifluoromethane            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,1-Dichloroethane                 | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,1-Dichloroethene                 | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,3-Dichloropropane                | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 2,2-Dichloropropane                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,1-Dichloropropene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Hexachlorobutadiene                | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 2-Hexanone                         | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Isopropylbenzene                   | 6.6    | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 4-Isopropyltoluene                 | 3.4    | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 4-Methyl-2-pentanone               | ND     | 25  |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Methylene chloride                 | ND     | 7.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| n-Butylbenzene                     | 3.8    | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| n-Propylbenzene                    | 8.1    | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| sec-Butylbenzene                   | 3.8    | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Styrene                            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| tert-Butylbenzene                  | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Tetrachloroethene (PCE)            | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| trans-1,2-DCE                      | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| trans-1,3-Dichloropropene          | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2,3-Trichlorobenzene             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2,4-Trichlorobenzene             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,1,1-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,1,2-Trichloroethane              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Trichloroethene (TCE)              | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Trichlorofluoromethane             | ND     | 2.5 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| 1,2,3-Trichloropropane             | ND     | 5.0 |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-15 (1.5-2.0')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 5:19:00 PM

**Lab ID:** 1207940-026

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA         |
| Vinyl chloride                     | ND     | 2.5    |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Xylenes, Total                     | 120    | 5.0    |      | mg/Kg | 50 | 7/24/2012 5:20:42 PM |
| Surr: 1,2-Dichloroethane-d4        | 105    | 70-130 |      | %REC  | 50 | 7/24/2012 5:20:42 PM |
| Surr: 4-Bromofluorobenzene         | 84.8   | 70-130 |      | %REC  | 50 | 7/24/2012 5:20:42 PM |
| Surr: Dibromofluoromethane         | 113    | 70-130 |      | %REC  | 50 | 7/24/2012 5:20:42 PM |
| Surr: Toluene-d8                   | 107    | 70-130 |      | %REC  | 50 | 7/24/2012 5:20:42 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
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R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

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RL Reporting Detection Limit  
U Samples with CalcVal < MDL



## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-20 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:50:00 PM

Lab ID: 1207940-027

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|-----|----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP         |
| Diesel Range Organics (DRO)                    | ND     | 10       |      | mg/Kg | 1   | 7/24/2012 9:49:16 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 50       |      | mg/Kg | 1   | 7/24/2012 9:49:16 AM |
| Surr: DNOP                                     | 107    | 77.6-140 |      | %REC  | 1   | 7/24/2012 9:49:16 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB         |
| Gasoline Range Organics (GRO)                  | ND     | 5.0      |      | mg/Kg | 1   | 7/30/2012 6:37:37 PM |
| Surr: BFB                                      | 104    | 84-116   |      | %REC  | 1   | 7/30/2012 6:37:37 PM |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD         |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:23:17 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF         |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Barium                                         | 940    | 5.0      |      | mg/Kg | 50  | 8/8/2012 10:03:14 AM |
| Beryllium                                      | ND     | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Chromium                                       | 9.4    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Cobalt                                         | 5.2    | 3.0      |      | mg/Kg | 10  | 8/8/2012 11:34:09 AM |
| Iron                                           | 13000  | 500      |      | mg/Kg | 500 | 8/8/2012 10:05:39 AM |
| Lead                                           | 2.7    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Manganese                                      | 650    | 5.0      |      | mg/Kg | 50  | 8/8/2012 10:03:14 AM |
| Nickel                                         | 6.9    | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Vanadium                                       | 21     | 12       |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| Zinc                                           | 17     | 12       |      | mg/Kg | 5   | 8/5/2012 5:31:38 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC         |
| Acenaphthene                                   | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Acenaphthylene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Aniline                                        | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Anthracene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Azobenzene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Benz(a)anthracene                              | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Benzo(a)pyrene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Benzo(b)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Benzo(g,h,i)perylene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Benzo(k)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Benzoic acid                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Benzyl alcohol                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Bis(2-chloroethoxy)methane                     | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Bis(2-chloroethyl)ether                        | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:14:38 PM |

**Qualifiers:**

- \* /X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-20 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:50:00 PM

Lab ID: 1207940-027

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate             | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Butyl benzyl phthalate                 | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Carbazole                              | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 4-Chloro-3-methylphenol                | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 4-Chloroaniline                        | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2-Chloronaphthalene                    | ND     | 0.50 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2-Chlorophenol                         | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Chrysene                               | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Di-n-butyl phthalate                   | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Di-n-octyl phthalate                   | ND     | 0.50 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Dibenzofuran                           | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 0.50 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Diethyl phthalate                      | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Dimethyl phthalate                     | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2,4-Dichlorophenol                     | ND     | 0.80 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2,4-Dimethylphenol                     | ND     | 0.60 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2,4-Dinitrophenol                      | ND     | 0.80 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2,4-Dinitrotoluene                     | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2,6-Dinitrotoluene                     | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Fluoranthene                           | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Fluorene                               | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Hexachlorobenzene                      | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Hexachlorobutadiene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Hexachlorocyclopentadiene              | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Hexachloroethane                       | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Isophorone                             | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 1-Methylnaphthalene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2-Methylnaphthalene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2-Methylphenol                         | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 3+4-Methylphenol                       | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| Naphthalene                            | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |
| 2-Nitroaniline                         | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:14:38 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** SWMU 14-20 (0-0.5')

**Project:** SWMU NO.14

**Collection Date:** 7/19/2012 5:50:00 PM

**Lab ID:** 1207940-027

**Matrix:** SOIL

**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| 4-Nitroaniline                         | ND     | 0.80     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| Nitrobenzene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| 2-Nitrophenol                          | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| 4-Nitrophenol                          | ND     | 0.50     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| Pentachlorophenol                      | ND     | 0.80     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| Phenanthrene                           | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| Phenol                                 | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| Pyrene                                 | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| Pyridine                               | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| 2,4,5-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| 2,4,6-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:14:38 PM |
| Surr: 2,4,6-Tribromophenol             | 75.9   | 20.1-121 |      | %REC      | 1  | 7/31/2012 7:14:38 PM |
| Surr: 2-Fluorobiphenyl                 | 64.3   | 19-133   |      | %REC      | 1  | 7/31/2012 7:14:38 PM |
| Surr: 2-Fluorophenol                   | 58.4   | 20.2-108 |      | %REC      | 1  | 7/31/2012 7:14:38 PM |
| Surr: 4-Terphenyl-d14                  | 85.2   | 18.9-115 |      | %REC      | 1  | 7/31/2012 7:14:38 PM |
| Surr: Nitrobenzene-d5                  | 61.7   | 20.8-123 |      | %REC      | 1  | 7/31/2012 7:14:38 PM |
| Surr: Phenol-d5                        | 63.1   | 19.8-115 |      | %REC      | 1  | 7/31/2012 7:14:38 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Toluene                                | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Ethylbenzene                           | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Xylenes, Total                         | ND     | 3.44     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 2.30     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Naphthalene                            | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1-Methylnaphthalene                    | ND     | 4.59     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 2-Methylnaphthalene                    | ND     | 4.59     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Acetone                                | ND     | 34.4     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Bromobenzene                           | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Bromodichloromethane                   | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Bromoform                              | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 2-Butanone                             | ND     | 5.74     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Carbon tetrachloride                   | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Chlorobenzene                          | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Chloroethane                           | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Chloroform                             | ND     | 1.15     |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-20 (0-0.5')

Project: SWMU NO.14

Collection Date: 7/19/2012 5:50:00 PM

Lab ID: 1207940-027

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL   | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |      |      |           |    | Analyst: MMS         |
| Chloromethane                          | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 2-Chlorotoluene                        | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Carbon disulfide                       | ND     | 5.74 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 4-Chlorotoluene                        | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| cis-1,2-DCE                            | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| cis-1,3-Dichloropropene                | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2-Dibromo-3-chloropropane            | ND     | 2.30 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Dibromochloromethane                   | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Dibromomethane                         | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2-Dichlorobenzene                    | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,3-Dichlorobenzene                    | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,4-Dichlorobenzene                    | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Dichlorodifluoromethane                | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,1-Dichloroethane                     | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,1-Dichloroethene                     | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2-Dichloropropane                    | ND     | 2.30 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,3-Dichloropropane                    | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 2,2-Dichloropropane                    | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,1-Dichloropropene                    | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Hexachlorobutadiene                    | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Isopropylbenzene                       | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 4-Isopropyltoluene                     | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Methylene chloride                     | ND     | 5.74 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| n-Butylbenzene                         | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 2-Hexanone                             | ND     | 5.74 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| n-Propylbenzene                        | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| sec-Butylbenzene                       | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Styrene                                | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 4-Methyl-2-pentanone                   | ND     | 5.74 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| tert-Butylbenzene                      | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,1,1,2-Tetrachloroethane              | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,1,2,2-Tetrachloroethane              | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Tetrachloroethene (PCE)                | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| trans-1,2-DCE                          | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| trans-1,3-Dichloropropene              | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2,3-Trichlorobenzene                 | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2,4-Trichlorobenzene                 | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,1,1-Trichloroethane                  | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,1,2-Trichloroethane                  | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Trichloroethene (TCE)                  | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Trichlorofluoromethane                 | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| 1,2,3-Trichloropropane                 | ND     | 1.15 |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-20 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 7/19/2012 5:50:00 PM**Lab ID:** 1207940-027**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|--------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |        |      |           |    | Analyst: <b>MMS</b>  |
| Vinyl chloride                         | ND     | 1.15   |      | µg/Kg-dry | 1  | 7/27/2012 1:02:42 AM |
| Surr: 1,2-Dichloroethane-d4            | 136    | 70-130 | S    | %REC      | 1  | 7/27/2012 1:02:42 AM |
| Surr: 4-Bromofluorobenzene             | 94.4   | 70-130 |      | %REC      | 1  | 7/27/2012 1:02:42 AM |
| Surr: Dibromofluoromethane             | 96.0   | 70-130 |      | %REC      | 1  | 7/27/2012 1:02:42 AM |
| Surr: Toluene-d8                       | 92.9   | 70-130 |      | %REC      | 1  | 7/27/2012 1:02:42 AM |

**Qualifiers:**

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- E Value above quantitation range
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- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-20 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 5:50:00 PM

Lab ID: 1207940-028

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | ND     | 10       |      | mg/Kg | 1   | 7/24/2012 10:36:19 AM |
| Motor Oil Range Organics (MRO)                 | ND     | 51       |      | mg/Kg | 1   | 7/24/2012 10:36:19 AM |
| Surr: DNOP                                     | 111    | 77.6-140 |      | %REC  | 1   | 7/24/2012 10:36:19 AM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)                  | ND     | 5.0      |      | mg/Kg | 1   | 7/30/2012 7:06:26 PM  |
| Surr: BFB                                      | 101    | 84-116   |      | %REC  | 1   | 7/30/2012 7:06:26 PM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: DBD          |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 8/2/2012 10:25:06 AM  |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF          |
| Antimony                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Barium                                         | 890    | 5.0      |      | mg/Kg | 50  | 8/8/2012 10:08:22 AM  |
| Beryllium                                      | 0.76   | 0.75     |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Cadmium                                        | ND     | 0.50     |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Chromium                                       | 8.7    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Cobalt                                         | 7.0    | 1.5      |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Iron                                           | 14000  | 500      |      | mg/Kg | 500 | 8/8/2012 10:10:49 AM  |
| Lead                                           | 3.0    | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Manganese                                      | 910    | 5.0      |      | mg/Kg | 50  | 8/8/2012 10:08:22 AM  |
| Nickel                                         | 8.0    | 2.5      |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Selenium                                       | ND     | 12       |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Silver                                         | ND     | 1.2      |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Vanadium                                       | 24     | 12       |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| Zinc                                           | 22     | 12       |      | mg/Kg | 5   | 8/5/2012 5:34:01 PM   |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Acenaphthylene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Aniline                                        | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Anthracene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Azobenzene                                     | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Benz(a)anthracene                              | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Benzo(a)pyrene                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Benzo(b)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Benzo(g,h,i)perylene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Benzo(k)fluoranthene                           | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Benzoic acid                                   | ND     | 1.0      |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Benzyl alcohol                                 | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.40     |      | mg/Kg | 1   | 7/31/2012 7:45:05 PM  |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-20 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 5:50:00 PM

Lab ID: 1207940-028

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                        | Result | RL   | Qual | Units | DF | Date Analyzed        |
|---------------------------------|--------|------|------|-------|----|----------------------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |      |       |    | Analyst: JDC         |
| Bis(2-ethylhexyl)phthalate      | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 4-Bromophenyl phenyl ether      | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Butyl benzyl phthalate          | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Carbazole                       | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 4-Chloro-3-methylphenol         | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 4-Chloroaniline                 | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2-Chloronaphthalene             | ND     | 0.50 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2-Chlorophenol                  | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 4-Chlorophenyl phenyl ether     | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Chrysene                        | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Di-n-butyl phthalate            | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Di-n-octyl phthalate            | ND     | 0.50 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Dibenz(a,h)anthracene           | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Dibenzofuran                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 1,2-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 1,3-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 1,4-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 3,3'-Dichlorobenzidine          | ND     | 0.50 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Diethyl phthalate               | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Dimethyl phthalate              | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2,4-Dichlorophenol              | ND     | 0.80 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2,4-Dimethylphenol              | ND     | 0.60 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 4,6-Dinitro-2-methylphenol      | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2,4-Dinitrophenol               | ND     | 0.80 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2,4-Dinitrotoluene              | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2,6-Dinitrotoluene              | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Fluoranthene                    | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Fluorene                        | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Hexachlorobenzene               | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Hexachlorobutadiene             | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Hexachlorocyclopentadiene       | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Hexachloroethane                | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Indeno(1,2,3-cd)pyrene          | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Isophorone                      | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 1-Methylnaphthalene             | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2-Methylnaphthalene             | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2-Methylphenol                  | ND     | 1.0  |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 3+4-Methylphenol                | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| N-Nitrosodi-n-propylamine       | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| N-Nitrosodiphenylamine          | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| Naphthalene                     | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |
| 2-Nitroaniline                  | ND     | 0.40 |      | mg/Kg | 1  | 7/31/2012 7:45:05 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

**Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-20 (0-0.5') DUP**Project:** SWMU NO.14**Collection Date:** 7/19/2012 5:50:00 PM**Lab ID:** 1207940-028**Matrix:** SOIL**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL       | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|----------|------|-----------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |           |    | Analyst: JDC         |
| 3-Nitroaniline                         | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| 4-Nitroaniline                         | ND     | 0.80     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| Nitrobenzene                           | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| 2-Nitrophenol                          | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| 4-Nitrophenol                          | ND     | 0.50     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| Pentachlorophenol                      | ND     | 0.80     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| Phenanthrene                           | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| Phenol                                 | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| Pyrene                                 | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| Pyridine                               | ND     | 1.0      |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| 2,4,5-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| 2,4,6-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg     | 1  | 7/31/2012 7:45:05 PM |
| Surr: 2,4,6-Tribromophenol             | 47.4   | 20.1-121 |      | %REC      | 1  | 7/31/2012 7:45:05 PM |
| Surr: 2-Fluorobiphenyl                 | 45.2   | 19-133   |      | %REC      | 1  | 7/31/2012 7:45:05 PM |
| Surr: 2-Fluorophenol                   | 40.4   | 20.2-108 |      | %REC      | 1  | 7/31/2012 7:45:05 PM |
| Surr: 4-Terphenyl-d14                  | 53.2   | 18.9-115 |      | %REC      | 1  | 7/31/2012 7:45:05 PM |
| Surr: Nitrobenzene-d5                  | 46.0   | 20.8-123 |      | %REC      | 1  | 7/31/2012 7:45:05 PM |
| Surr: Phenol-d5                        | 43.6   | 19.8-115 |      | %REC      | 1  | 7/31/2012 7:45:05 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |           |    | Analyst: MMS         |
| Benzene                                | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Toluene                                | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Ethylbenzene                           | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Xylenes, Total                         | ND     | 2.93     |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.96     |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Naphthalene                            | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1-Methylnaphthalene                    | ND     | 3.91     |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 2-Methylnaphthalene                    | ND     | 3.91     |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Acetone                                | ND     | 29.3     |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Bromobenzene                           | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Bromodichloromethane                   | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Bromoform                              | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 2-Butanone                             | ND     | 4.89     |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Carbon tetrachloride                   | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Chlorobenzene                          | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Chloroethane                           | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Chloroform                             | ND     | 0.978    |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-20 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 5:50:00 PM

Lab ID: 1207940-028

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL    | Qual | Units     | DF | Date Analyzed        |
|----------------------------------------|--------|-------|------|-----------|----|----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |       |      |           |    | Analyst: MMS         |
| Chloromethane                          | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 2-Chlorotoluene                        | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Carbon disulfide                       | ND     | 4.89  |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 4-Chlorotoluene                        | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| cis-1,2-DCE                            | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| cis-1,3-Dichloropropene                | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2-Dibromo-3-chloropropane            | ND     | 1.96  |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Dibromochloromethane                   | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Dibromomethane                         | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2-Dichlorobenzene                    | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,3-Dichlorobenzene                    | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,4-Dichlorobenzene                    | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Dichlorodifluoromethane                | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,1-Dichloroethane                     | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,1-Dichloroethene                     | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2-Dichloropropane                    | ND     | 1.96  |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,3-Dichloropropane                    | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 2,2-Dichloropropane                    | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,1-Dichloropropene                    | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Hexachlorobutadiene                    | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Isopropylbenzene                       | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 4-Isopropyltoluene                     | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Methylene chloride                     | ND     | 4.89  |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| n-Butylbenzene                         | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 2-Hexanone                             | ND     | 4.89  |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| n-Propylbenzene                        | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| sec-Butylbenzene                       | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Styrene                                | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 4-Methyl-2-pentanone                   | ND     | 4.89  |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| tert-Butylbenzene                      | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Tetrachloroethene (PCE)                | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| trans-1,2-DCE                          | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| trans-1,3-Dichloropropene              | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,1,1-Trichloroethane                  | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,1,2-Trichloroethane                  | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Trichloroethene (TCE)                  | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Trichlorofluoromethane                 | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| 1,2,3-Trichloropropane                 | ND     | 0.978 |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-20 (0-0.5') DUP

Project: SWMU NO.14

Collection Date: 7/19/2012 5:50:00 PM

Lab ID: 1207940-028

Matrix: SOIL

Received Date: 7/20/2012 2:26:00 PM

| Analyses                        | Result | RL     | Qual | Units     | DF | Date Analyzed        |
|---------------------------------|--------|--------|------|-----------|----|----------------------|
| METHOD 8260B/5035LOW: VOLATILES |        |        |      |           |    | Analyst: MMS         |
| Vinyl chloride                  | ND     | 0.978  |      | µg/Kg-dry | 1  | 7/27/2012 1:30:26 AM |
| Surr: 1,2-Dichloroethane-d4     | 127    | 70-130 |      | %REC      | 1  | 7/27/2012 1:30:26 AM |
| Surr: 4-Bromofluorobenzene      | 91.7   | 70-130 |      | %REC      | 1  | 7/27/2012 1:30:26 AM |
| Surr: Dibromofluoromethane      | 96.0   | 70-130 |      | %REC      | 1  | 7/27/2012 1:30:26 AM |
| Surr: Toluene-d8                | 98.4   | 70-130 |      | %REC      | 1  | 7/27/2012 1:30:26 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-2 GW

Project: SWMU NO.14

Collection Date: 7/19/2012 10:00:00 AM

Lab ID: 1207940-029

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                  | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|-------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE</b>     |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)               | 6.5    | 1.0      |      | mg/L  | 1   | 7/23/2012 7:51:04 PM  |
| Motor Oil Range Organics (MRO)            | ND     | 5.0      |      | mg/L  | 1   | 7/23/2012 7:51:04 PM  |
| Surr: DNOP                                | 132    | 79.5-166 |      | %REC  | 1   | 7/23/2012 7:51:04 PM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>   |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)             | 1.2    | 0.25     |      | mg/L  | 5   | 7/25/2012 1:33:25 PM  |
| Surr: BFB                                 | 98.5   | 69.8-119 |      | %REC  | 5   | 7/25/2012 1:33:25 PM  |
| <b>EPA METHOD 200.7: DISSOLVED METALS</b> |        |          |      |       |     | Analyst: JLF          |
| Barium                                    | 0.18   | 0.0020   |      | mg/L  | 1   | 8/15/2012 11:54:12 AM |
| Beryllium                                 | ND     | 0.0020   |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Cadmium                                   | ND     | 0.0020   |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Chromium                                  | 0.0077 | 0.0060   |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Cobalt                                    | 0.029  | 0.0060   |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Iron                                      | 0.14   | 0.020    |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Manganese                                 | 0.54   | 0.0020   | *    | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Nickel                                    | 0.18   | 0.010    | *    | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Silver                                    | ND     | 0.0050   |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Vanadium                                  | ND     | 0.050    |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| Zinc                                      | 0.13   | 0.010    |      | mg/L  | 1   | 8/10/2012 12:09:10 PM |
| <b>EPA METHOD 200.7: METALS</b>           |        |          |      |       |     | Analyst: ELS          |
| Barium                                    | 0.54   | 0.0020   |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Beryllium                                 | 0.0021 | 0.0020   |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Cadmium                                   | ND     | 0.0020   |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Chromium                                  | 0.075  | 0.0060   |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Cobalt                                    | 0.038  | 0.0060   |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Iron                                      | 31     | 1.0      | *    | mg/L  | 50  | 8/7/2012 4:33:49 PM   |
| Manganese                                 | 1.3    | 0.020    | *    | mg/L  | 10  | 8/7/2012 10:12:15 AM  |
| Nickel                                    | 0.20   | 0.010    | *    | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Silver                                    | ND     | 0.0050   |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Vanadium                                  | ND     | 0.050    |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| Zinc                                      | 0.32   | 0.010    |      | mg/L  | 1   | 8/7/2012 10:07:08 AM  |
| <b>EPA 200.8: DISSOLVED METALS</b>        |        |          |      |       |     | Analyst: SNV          |
| Antimony                                  | ND     | 0.0050   |      | mg/L  | 5   | 7/26/2012 7:58:22 PM  |
| Arsenic                                   | 0.011  | 0.0050   | *    | mg/L  | 5   | 7/26/2012 7:58:22 PM  |
| Lead                                      | ND     | 0.0050   |      | mg/L  | 5   | 7/26/2012 7:58:22 PM  |
| Selenium                                  | 0.023  | 0.0050   |      | mg/L  | 5   | 7/26/2012 7:58:22 PM  |
| <b>EPA 200.8: METALS</b>                  |        |          |      |       |     | Analyst: SNV          |
| Antimony                                  | ND     | 0.0025   |      | mg/L  | 2.5 | 8/13/2012 5:44:15 PM  |
| Arsenic                                   | 0.012  | 0.0025   | *    | mg/L  | 2.5 | 8/13/2012 5:44:15 PM  |
| Lead                                      | 0.044  | 0.0025   | *    | mg/L  | 2.5 | 8/13/2012 5:44:15 PM  |

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 ND Not Detected at the Reporting Limit  
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# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-2 GW

Project: SWMU NO.14

Collection Date: 7/19/2012 10:00:00 AM

Lab ID: 1207940-029

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL      | Qual | Units | DF  | Date Analyzed         |
|----------------------------------------|--------|---------|------|-------|-----|-----------------------|
| <b>EPA 200.8: METALS</b>               |        |         |      |       |     | Analyst: SNV          |
| Selenium                               | 0.014  | 0.0025  |      | mg/L  | 2.5 | 8/13/2012 5:44:15 PM  |
| <b>EPA METHOD 245.1: MERCURY</b>       |        |         |      |       |     | Analyst: JLF          |
| Mercury                                | ND     | 0.00020 |      | mg/L  | 1   | 7/24/2012 10:11:41 AM |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |         |      |       |     | Analyst: JDC          |
| Acenaphthene                           | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Acenaphthylene                         | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Aniline                                | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Anthracene                             | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Azobenzene                             | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Benz(a)anthracene                      | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Benzo(a)pyrene                         | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Benzo(b)fluoranthene                   | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Benzo(g,h,i)perylene                   | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Benzo(k)fluoranthene                   | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Benzoic acid                           | ND     | 20      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Benzyl alcohol                         | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Bis(2-chloroethoxy)methane             | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Bis(2-chloroethyl)ether                | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Bis(2-chloroisopropyl)ether            | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Bis(2-ethylhexyl)phthalate             | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 4-Bromophenyl phenyl ether             | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Butyl benzyl phthalate                 | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Carbazole                              | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 4-Chloro-3-methylphenol                | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 4-Chloroaniline                        | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 2-Chloronaphthalene                    | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 2-Chlorophenol                         | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 4-Chlorophenyl phenyl ether            | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Chrysene                               | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Di-n-butyl phthalate                   | 20     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Di-n-octyl phthalate                   | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Dibenz(a,h)anthracene                  | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Dibenzofuran                           | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 1,2-Dichlorobenzene                    | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 1,3-Dichlorobenzene                    | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 1,4-Dichlorobenzene                    | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 3,3'-Dichlorobenzidine                 | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Diethyl phthalate                      | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| Dimethyl phthalate                     | ND     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 2,4-Dichlorophenol                     | ND     | 20      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |
| 2,4-Dimethylphenol                     | 27     | 10      |      | µg/L  | 1   | 7/25/2012 1:45:30 PM  |

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 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-2 GW

Project: SWMU NO.14

Collection Date: 7/19/2012 10:00:00 AM

Lab ID: 1207940-029

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL        | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |           |      |       |    | Analyst: JDC         |
| 4,6-Dinitro-2-methylphenol             | ND     | 20        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2,4-Dinitrophenol                      | ND     | 20        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2,4-Dinitrotoluene                     | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2,6-Dinitrotoluene                     | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Fluoranthene                           | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Fluorene                               | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Hexachlorobenzene                      | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Hexachlorobutadiene                    | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Hexachlorocyclopentadiene              | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Hexachloroethane                       | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Isophorone                             | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 1-Methylnaphthalene                    | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2-Methylnaphthalene                    | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2-Methylphenol                         | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 3+4-Methylphenol                       | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| N-Nitrosodi-n-propylamine              | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| N-Nitrosodimethylamine                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| N-Nitrosodiphenylamine                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Naphthalene                            | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 3-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 4-Nitroaniline                         | ND     | 20        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Nitrobenzene                           | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 4-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Pentachlorophenol                      | ND     | 20        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Phenanthrene                           | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Phenol                                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Pyrene                                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Pyridine                               | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2,4,5-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| 2,4,6-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 7/25/2012 1:45:30 PM |
| Surr: 2,4,6-Tribromophenol             | 69.8   | 44.2-126  |      | %REC  | 1  | 7/25/2012 1:45:30 PM |
| Surr: 2-Fluorobiphenyl                 | 66.1   | 37-114    |      | %REC  | 1  | 7/25/2012 1:45:30 PM |
| Surr: 2-Fluorophenol                   | 45.9   | 23.4-98   |      | %REC  | 1  | 7/25/2012 1:45:30 PM |
| Surr: 4-Terphenyl-d14                  | 77.8   | 41.3-116  |      | %REC  | 1  | 7/25/2012 1:45:30 PM |
| Surr: Nitrobenzene-d5                  | 59.6   | 39.5-118  |      | %REC  | 1  | 7/25/2012 1:45:30 PM |
| Surr: Phenol-d5                        | 42.2   | 20.9-95.9 |      | %REC  | 1  | 7/25/2012 1:45:30 PM |

## EPA METHOD 8260B: VOLATILES

Analyst: DJF

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
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 S Spike Recovery outside accepted recovery limits

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 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-2 GW

Project: SWMU NO.14

Collection Date: 7/19/2012 10:00:00 AM

Lab ID: 1207940-029

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: DJF         |
| Benzene                            | 67     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Toluene                            | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Ethylbenzene                       | 49     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Methyl tert-butyl ether (MTBE)     | 310    | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2,4-Trimethylbenzene             | 85     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,3,5-Trimethylbenzene             | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2-Dichloroethane (EDC)           | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2-Dibromoethane (EDB)            | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Naphthalene                        | 42     | 20  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1-Methylnaphthalene                | 61     | 40  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 2-Methylnaphthalene                | ND     | 40  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Acetone                            | 420    | 100 |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Bromobenzene                       | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Bromodichloromethane               | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Bromoform                          | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Bromomethane                       | ND     | 30  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 2-Butanone                         | ND     | 100 |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Carbon disulfide                   | ND     | 100 |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Carbon Tetrachloride               | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Chlorobenzene                      | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Chloroethane                       | ND     | 20  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Chloroform                         | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Chloromethane                      | ND     | 30  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 2-Chlorotoluene                    | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 4-Chlorotoluene                    | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| cis-1,2-DCE                        | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| cis-1,3-Dichloropropene            | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 20  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Dibromochloromethane               | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Dibromomethane                     | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2-Dichlorobenzene                | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,3-Dichlorobenzene                | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,4-Dichlorobenzene                | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Dichlorodifluoromethane            | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,1-Dichloroethane                 | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,1-Dichloroethene                 | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2-Dichloropropane                | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,3-Dichloropropane                | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 2,2-Dichloropropane                | ND     | 20  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,1-Dichloropropene                | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Hexachlorobutadiene                | ND     | 10  |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 2-Hexanone                         | ND     | 100 |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |

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**Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-2 GW**Project:** SWMU NO.14**Collection Date:** 7/19/2012 10:00:00 AM**Lab ID:** 1207940-029**Matrix:** AQUEOUS**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: DJF         |
| Isopropylbenzene                   | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 4-Isopropyltoluene                 | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 4-Methyl-2-pentanone               | ND     | 100    |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Methylene Chloride                 | ND     | 30     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| n-Butylbenzene                     | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| n-Propylbenzene                    | 10     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| sec-Butylbenzene                   | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Styrene                            | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| tert-Butylbenzene                  | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 20     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Tetrachloroethene (PCE)            | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| trans-1,2-DCE                      | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| trans-1,3-Dichloropropene          | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2,3-Trichlorobenzene             | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2,4-Trichlorobenzene             | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,1,1-Trichloroethane              | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,1,2-Trichloroethane              | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Trichloroethene (TCE)              | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Trichlorofluoromethane             | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| 1,2,3-Trichloropropane             | ND     | 20     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Vinyl chloride                     | ND     | 10     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Xylenes, Total                     | 45     | 15     |      | µg/L  | 10 | 7/27/2012 4:33:05 PM |
| Surr: 1,2-Dichloroethane-d4        | 90.2   | 70-130 |      | %REC  | 10 | 7/27/2012 4:33:05 PM |
| Surr: 4-Bromofluorobenzene         | 101    | 70-130 |      | %REC  | 10 | 7/27/2012 4:33:05 PM |
| Surr: Dibromofluoromethane         | 101    | 70-130 |      | %REC  | 10 | 7/27/2012 4:33:05 PM |
| Surr: Toluene-d8                   | 104    | 70-130 |      | %REC  | 10 | 7/27/2012 4:33:05 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:00:00 PM

Lab ID: 1207940-030

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                | Result | RL       | Qual | Units | DF | Date Analyzed         |
|-----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE</b>   |        |          |      |       |    | Analyst: JMP          |
| Diesel Range Organics (DRO)             | ND     | 1.0      |      | mg/L  | 1  | 7/23/2012 8:16:25 PM  |
| Motor Oil Range Organics (MRO)          | ND     | 5.0      |      | mg/L  | 1  | 7/23/2012 8:16:25 PM  |
| Surr: DNOP                              | 130    | 79.5-166 |      | %REC  | 1  | 7/23/2012 8:16:25 PM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b> |        |          |      |       |    | Analyst: NSB          |
| Gasoline Range Organics (GRO)           | ND     | 0.050    |      | mg/L  | 1  | 7/25/2012 2:08:44 AM  |
| Surr: BFB                               | 97.6   | 69.8-119 |      | %REC  | 1  | 7/25/2012 2:08:44 AM  |
| <b>EPA METHOD 200.7: METALS</b>         |        |          |      |       |    | Analyst: ELS          |
| Barium                                  | ND     | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Beryllium                               | ND     | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Cadmium                                 | ND     | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Chromium                                | ND     | 0.0060   |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Cobalt                                  | ND     | 0.0060   |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Iron                                    | ND     | 0.020    |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Manganese                               | ND     | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Nickel                                  | ND     | 0.010    |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Silver                                  | ND     | 0.0050   |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Vanadium                                | ND     | 0.050    |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| Zinc                                    | ND     | 0.010    |      | mg/L  | 1  | 8/7/2012 9:45:25 AM   |
| <b>EPA 200.8: METALS</b>                |        |          |      |       |    | Analyst: SNV          |
| Antimony                                | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:06:14 PM  |
| Arsenic                                 | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:06:14 PM  |
| Lead                                    | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:06:14 PM  |
| Selenium                                | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:06:14 PM  |
| <b>EPA METHOD 245.1: MERCURY</b>        |        |          |      |       |    | Analyst: JLF          |
| Mercury                                 | ND     | 0.00020  |      | mg/L  | 1  | 7/24/2012 10:13:29 AM |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>  |        |          |      |       |    | Analyst: JDC          |
| Acenaphthene                            | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Acenaphthylene                          | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Aniline                                 | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Anthracene                              | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Azobenzene                              | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Benz(a)anthracene                       | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Benzo(a)pyrene                          | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Benzo(b)fluoranthene                    | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Benzo(g,h,i)perylene                    | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Benzo(k)fluoranthene                    | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Benzoic acid                            | ND     | 20       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Benzyl alcohol                          | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |
| Bis(2-chloroethoxy)methane              | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:15:34 PM  |

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## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:00:00 PM

Lab ID: 1207940-030

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |    |      |       |    | Analyst: JDC         |
| Bis(2-chloroethyl)ether                | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Bis(2-chloroisopropyl)ether            | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Bis(2-ethylhexyl)phthalate             | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 4-Bromophenyl phenyl ether             | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Butyl benzyl phthalate                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Carbazole                              | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 4-Chloro-3-methylphenol                | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 4-Chloroaniline                        | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2-Chloronaphthalene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2-Chlorophenol                         | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Chrysene                               | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Di-n-butyl phthalate                   | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Di-n-octyl phthalate                   | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Dibenz(a,h)anthracene                  | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Dibenzofuran                           | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 1,2-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 1,3-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 1,4-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Diethyl phthalate                      | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Dimethyl phthalate                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2,4-Dichlorophenol                     | ND     | 20 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2,4-Dimethylphenol                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 20 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2,4-Dinitrophenol                      | ND     | 20 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2,4-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2,6-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Fluoranthene                           | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Fluorene                               | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Hexachlorobenzene                      | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Hexachlorobutadiene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Hexachlorocyclopentadiene              | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Hexachloroethane                       | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Isophorone                             | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 1-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2-Methylphenol                         | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 3+4-Methylphenol                       | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| N-Nitrosodi-n-propylamine              | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| N-Nitrosodimethylamine                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |

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## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:00:00 PM

Lab ID: 1207940-030

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL        | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |           |      |       |    | Analyst: JDC         |
| N-Nitrosodiphenylamine                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Naphthalene                            | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 3-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 4-Nitroaniline                         | ND     | 20        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Nitrobenzene                           | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 4-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Pentachlorophenol                      | ND     | 20        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Phenanthrene                           | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Phenol                                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Pyrene                                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Pyridine                               | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2,4,5-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| 2,4,6-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:15:34 PM |
| Surr: 2,4,6-Tribromophenol             | 98.6   | 44.2-126  |      | %REC  | 1  | 7/25/2012 2:15:34 PM |
| Surr: 2-Fluorobiphenyl                 | 78.3   | 37-114    |      | %REC  | 1  | 7/25/2012 2:15:34 PM |
| Surr: 2-Fluorophenol                   | 61.4   | 23.4-98   |      | %REC  | 1  | 7/25/2012 2:15:34 PM |
| Surr: 4-Terphenyl-d14                  | 93.0   | 41.3-116  |      | %REC  | 1  | 7/25/2012 2:15:34 PM |
| Surr: Nitrobenzene-d5                  | 74.3   | 39.5-118  |      | %REC  | 1  | 7/25/2012 2:15:34 PM |
| Surr: Phenol-d5                        | 45.8   | 20.9-95.9 |      | %REC  | 1  | 7/25/2012 2:15:34 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |           |      |       |    | Analyst: RAA         |
| Benzene                                | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Toluene                                | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Ethylbenzene                           | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Naphthalene                            | ND     | 2.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 2-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Acetone                                | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Bromobenzene                           | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Bromodichloromethane                   | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Bromoform                              | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Bromomethane                           | ND     | 3.0       |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 2-Butanone                             | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Carbon disulfide                       | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |

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## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:00:00 PM

Lab ID: 1207940-030

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                    | Result | RL  | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|-----|------|-------|----|----------------------|
| EPA METHOD 8260B: VOLATILES |        |     |      |       |    | Analyst: RAA         |
| Carbon Tetrachloride        | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Chlorobenzene               | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Chloroethane                | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Chloroform                  | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Chloromethane               | ND     | 3.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 2-Chlorotoluene             | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 4-Chlorotoluene             | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| cis-1,2-DCE                 | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| cis-1,3-Dichloropropene     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2-Dibromo-3-chloropropane | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Dibromochloromethane        | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Dibromomethane              | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2-Dichlorobenzene         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,3-Dichlorobenzene         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,4-Dichlorobenzene         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Dichlorodifluoromethane     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,1-Dichloroethane          | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,1-Dichloroethene          | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2-Dichloropropane         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,3-Dichloropropane         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 2,2-Dichloropropane         | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,1-Dichloropropene         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Hexachlorobutadiene         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 2-Hexanone                  | ND     | 10  |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Isopropylbenzene            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 4-Isopropyltoluene          | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 4-Methyl-2-pentanone        | ND     | 10  |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Methylene Chloride          | ND     | 3.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| n-Butylbenzene              | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| n-Propylbenzene             | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| sec-Butylbenzene            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Styrene                     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| tert-Butylbenzene           | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,1,2,2-Tetrachloroethane   | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Tetrachloroethene (PCE)     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| trans-1,2-DCE               | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| trans-1,3-Dichloropropene   | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2,3-Trichlorobenzene      | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2,4-Trichlorobenzene      | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,1,1-Trichloroethane       | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,1,2-Trichloroethane       | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:00:00 PM

Lab ID: 1207940-030

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA         |
| Trichloroethene (TCE)              | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Trichlorofluoromethane             | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| 1,2,3-Trichloropropane             | ND     | 2.0    |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Vinyl chloride                     | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Xylenes, Total                     | ND     | 1.5    |      | µg/L  | 1  | 7/25/2012 2:19:04 AM |
| Surr: 1,2-Dichloroethane-d4        | 91.4   | 70-130 |      | %REC  | 1  | 7/25/2012 2:19:04 AM |
| Surr: 4-Bromofluorobenzene         | 111    | 70-130 |      | %REC  | 1  | 7/25/2012 2:19:04 AM |
| Surr: Dibromofluoromethane         | 100    | 70-130 |      | %REC  | 1  | 7/25/2012 2:19:04 AM |
| Surr: Toluene-d8                   | 105    | 70-130 |      | %REC  | 1  | 7/25/2012 2:19:04 AM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

                  B    Analyte detected in the associated Method Blank  
                  H    Holding times for preparation or analysis exceeded  
                  ND   Not Detected at the Reporting Limit  
                  RL   Reporting Detection Limit  
                  U    Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:15:00 PM

Lab ID: 1207940-031

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                | Result | RL       | Qual | Units | DF | Date Analyzed         |
|-----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE</b>   |        |          |      |       |    | Analyst: JMP          |
| Diesel Range Organics (DRO)             | ND     | 1.0      |      | mg/L  | 1  | 7/23/2012 8:41:47 PM  |
| Motor Oil Range Organics (MRO)          | ND     | 5.0      |      | mg/L  | 1  | 7/23/2012 8:41:47 PM  |
| Surr: DNOP                              | 128    | 79.5-166 |      | %REC  | 1  | 7/23/2012 8:41:47 PM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b> |        |          |      |       |    | Analyst: NSB          |
| Gasoline Range Organics (GRO)           | ND     | 0.050    |      | mg/L  | 1  | 7/25/2012 2:38:55 AM  |
| Surr: BFB                               | 88.8   | 69.8-119 |      | %REC  | 1  | 7/25/2012 2:38:55 AM  |
| <b>EPA METHOD 200.7: METALS</b>         |        |          |      |       |    | Analyst: ELS          |
| Barium                                  | 0.0062 | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Beryllium                               | ND     | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Cadmium                                 | ND     | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Chromium                                | ND     | 0.0060   |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Cobalt                                  | ND     | 0.0060   |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Iron                                    | 0.14   | 0.020    |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Manganese                               | ND     | 0.0020   |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Nickel                                  | ND     | 0.010    |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Silver                                  | ND     | 0.0050   |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Vanadium                                | ND     | 0.050    |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| Zinc                                    | ND     | 0.010    |      | mg/L  | 1  | 8/7/2012 9:52:35 AM   |
| <b>EPA 200.8: METALS</b>                |        |          |      |       |    | Analyst: SNV          |
| Antimony                                | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:10:10 PM  |
| Arsenic                                 | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:10:10 PM  |
| Lead                                    | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:10:10 PM  |
| Selenium                                | ND     | 0.0010   |      | mg/L  | 1  | 7/26/2012 8:10:10 PM  |
| <b>EPA METHOD 245.1: MERCURY</b>        |        |          |      |       |    | Analyst: JLF          |
| Mercury                                 | ND     | 0.00020  |      | mg/L  | 1  | 7/24/2012 10:15:18 AM |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>  |        |          |      |       |    | Analyst: JDC          |
| Acenaphthene                            | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Acenaphthylene                          | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Aniline                                 | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Anthracene                              | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Azobenzene                              | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Benz(a)anthracene                       | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Benzo(a)pyrene                          | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Benzo(b)fluoranthene                    | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Benzo(g,h,i)perylene                    | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Benzo(k)fluoranthene                    | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Benzoic acid                            | ND     | 20       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Benzyl alcohol                          | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |
| Bis(2-chloroethoxy)methane              | ND     | 10       |      | µg/L  | 1  | 7/25/2012 2:45:43 PM  |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:15:00 PM

Lab ID: 1207940-031

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|----|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |    |      |       |    | Analyst: JDC         |
| Bis(2-chloroethyl)ether                | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Bis(2-chloroisopropyl)ether            | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Bis(2-ethylhexyl)phthalate             | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 4-Bromophenyl phenyl ether             | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Butyl benzyl phthalate                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Carbazole                              | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 4-Chloro-3-methylphenol                | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 4-Chloroaniline                        | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2-Chloronaphthalene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2-Chlorophenol                         | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Chrysene                               | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Di-n-butyl phthalate                   | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Di-n-octyl phthalate                   | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Dibenz(a,h)anthracene                  | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Dibenzofuran                           | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 1,2-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 1,3-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 1,4-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Diethyl phthalate                      | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Dimethyl phthalate                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2,4-Dichlorophenol                     | ND     | 20 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2,4-Dimethylphenol                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 20 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2,4-Dinitrophenol                      | ND     | 20 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2,4-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2,6-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Fluoranthene                           | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Fluorene                               | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Hexachlorobenzene                      | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Hexachlorobutadiene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Hexachlorocyclopentadiene              | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Hexachloroethane                       | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Isophorone                             | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 1-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2-Methylphenol                         | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 3+4-Methylphenol                       | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| N-Nitrosodi-n-propylamine              | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| N-Nitrosodimethylamine                 | ND     | 10 |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |

**Qualifiers:** \* /X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB071912

Project: SWMU NO.14

Collection Date: 7/19/2012 6:15:00 PM

Lab ID: 1207940-031

Matrix: AQUEOUS

Received Date: 7/20/2012 2:26:00 PM

| Analyses                               | Result | RL        | Qual | Units | DF | Date Analyzed        |
|----------------------------------------|--------|-----------|------|-------|----|----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |           |      |       |    | Analyst: JDC         |
| N-Nitrosodiphenylamine                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Naphthalene                            | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 3-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 4-Nitroaniline                         | ND     | 20        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Nitrobenzene                           | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 4-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Pentachlorophenol                      | ND     | 20        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Phenanthrene                           | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Phenol                                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Pyrene                                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Pyridine                               | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2,4,5-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| 2,4,6-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:45:43 PM |
| Surr: 2,4,6-Tribromophenol             | 61.9   | 44.2-126  |      | %REC  | 1  | 7/25/2012 2:45:43 PM |
| Surr: 2-Fluorobiphenyl                 | 84.9   | 37-114    |      | %REC  | 1  | 7/25/2012 2:45:43 PM |
| Surr: 2-Fluorophenol                   | 44.2   | 23.4-98   |      | %REC  | 1  | 7/25/2012 2:45:43 PM |
| Surr: 4-Terphenyl-d14                  | 81.7   | 41.3-116  |      | %REC  | 1  | 7/25/2012 2:45:43 PM |
| Surr: Nitrobenzene-d5                  | 85.3   | 39.5-118  |      | %REC  | 1  | 7/25/2012 2:45:43 PM |
| Surr: Phenol-d5                        | 44.5   | 20.9-95.9 |      | %REC  | 1  | 7/25/2012 2:45:43 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |           |      |       |    | Analyst: RAA         |
| Benzene                                | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Toluene                                | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Ethylbenzene                           | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Naphthalene                            | ND     | 2.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 2-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Acetone                                | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Bromobenzene                           | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Bromodichloromethane                   | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Bromoform                              | ND     | 1.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Bromomethane                           | ND     | 3.0       |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 2-Butanone                             | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Carbon disulfide                       | ND     | 10        |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1207940

Date Reported: 8/21/2012

**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** EB071912**Project:** SWMU NO.14**Collection Date:** 7/19/2012 6:15:00 PM**Lab ID:** 1207940-031**Matrix:** AQUEOUS**Received Date:** 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Carbon Tetrachloride               | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Chlorobenzene                      | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Chloroethane                       | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Chloroform                         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Chloromethane                      | ND     | 3.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| cis-1,2-DCE                        | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Dibromochloromethane               | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Dibromomethane                     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,1-Dichloroethane                 | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,1-Dichloropropene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Hexachlorobutadiene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 2-Hexanone                         | ND     | 10  |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Isopropylbenzene                   | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 4-Isopropyltoluene                 | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 4-Methyl-2-pentanone               | ND     | 10  |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Methylene Chloride                 | ND     | 3.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| n-Butylbenzene                     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| n-Propylbenzene                    | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| sec-Butylbenzene                   | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Styrene                            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| tert-Butylbenzene                  | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| Tetrachloroethene (PCE)            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| trans-1,2-DCE                      | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| trans-1,3-Dichloropropene          | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2,3-Trichlorobenzene             | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,1,1-Trichloroethane              | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |
| 1,1,2-Trichloroethane              | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 2:47:19 AM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL



**Analytical Report**Lab Order **1207940**Date Reported: **8/21/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** EB071912**Project:** SWMU NO.14**Collection Date:** 7/19/2012 6:15:00 PM**Lab ID:** 1207940-031**Matrix:** AQUEOUS**Received Date:** 7/20/2012 2:26:00 PM

| <b>Analyses</b>                    | <b>Result</b> | <b>RL</b> | <b>Qual</b> | <b>Units</b> | <b>DF</b> | <b>Date Analyzed</b> |
|------------------------------------|---------------|-----------|-------------|--------------|-----------|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |               |           |             |              |           | <b>Analyst: RAA</b>  |
| Trichloroethene (TCE)              | ND            | 1.0       |             | µg/L         | 1         | 7/25/2012 2:47:19 AM |
| Trichlorofluoromethane             | ND            | 1.0       |             | µg/L         | 1         | 7/25/2012 2:47:19 AM |
| 1,2,3-Trichloropropane             | ND            | 2.0       |             | µg/L         | 1         | 7/25/2012 2:47:19 AM |
| Vinyl chloride                     | ND            | 1.0       |             | µg/L         | 1         | 7/25/2012 2:47:19 AM |
| Xylenes, Total                     | ND            | 1.5       |             | µg/L         | 1         | 7/25/2012 2:47:19 AM |
| Surr: 1,2-Dichloroethane-d4        | 92.5          | 70-130    |             | %REC         | 1         | 7/25/2012 2:47:19 AM |
| Surr: 4-Bromofluorobenzene         | 107           | 70-130    |             | %REC         | 1         | 7/25/2012 2:47:19 AM |
| Surr: Dibromofluoromethane         | 102           | 70-130    |             | %REC         | 1         | 7/25/2012 2:47:19 AM |
| Surr: Toluene-d8                   | 106           | 70-130    |             | %REC         | 1         | 7/25/2012 2:47:19 AM |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

                  B    Analyte detected in the associated Method Blank  
                  H    Holding times for preparation or analysis exceeded  
                  ND   Not Detected at the Reporting Limit  
                  RL   Reporting Detection Limit  
                  U    Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: SWMU NO.14

Collection Date:

Lab ID: 1207940-032

Matrix: TRIP BLANK

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-----|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: RAA         |
| Benzene                            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Toluene                            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Ethylbenzene                       | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Methyl tert-butyl ether (MTBE)     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2,4-Trimethylbenzene             | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,3,5-Trimethylbenzene             | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2-Dichloroethane (EDC)           | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2-Dibromoethane (EDB)            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Naphthalene                        | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1-Methylnaphthalene                | ND     | 4.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 2-Methylnaphthalene                | ND     | 4.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Acetone                            | ND     | 10  |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Bromobenzene                       | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Bromodichloromethane               | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Bromoform                          | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Bromomethane                       | ND     | 3.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 2-Butanone                         | ND     | 10  |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Carbon disulfide                   | ND     | 10  |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Carbon Tetrachloride               | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Chlorobenzene                      | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Chloroethane                       | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Chloroform                         | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Chloromethane                      | ND     | 3.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| cis-1,2-DCE                        | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Dibromochloromethane               | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Dibromomethane                     | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,1-Dichloroethane                 | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,1-Dichloropropene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Hexachlorobutadiene                | ND     | 1.0 |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 2-Hexanone                         | ND     | 10  |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |

**Qualifiers:** \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: TRIP BLANK

Project: SWMU NO.14

Collection Date:

Lab ID: 1207940-032

Matrix: TRIP BLANK

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA         |
| Isopropylbenzene                   | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 4-Isopropyltoluene                 | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 4-Methyl-2-pentanone               | ND     | 10     |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Methylene Chloride                 | ND     | 3.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| n-Butylbenzene                     | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| n-Propylbenzene                    | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| sec-Butylbenzene                   | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Styrene                            | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| tert-Butylbenzene                  | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Tetrachloroethene (PCE)            | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| trans-1,2-DCE                      | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| trans-1,3-Dichloropropene          | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2,3-Trichlorobenzene             | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,1,1-Trichloroethane              | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,1,2-Trichloroethane              | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Trichloroethene (TCE)              | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Trichlorofluoromethane             | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| 1,2,3-Trichloropropane             | ND     | 2.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Vinyl chloride                     | ND     | 1.0    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Xylenes, Total                     | ND     | 1.5    |      | µg/L  | 1  | 7/25/2012 3:15:33 AM |
| Surr: 1,2-Dichloroethane-d4        | 92.8   | 70-130 |      | %REC  | 1  | 7/25/2012 3:15:33 AM |
| Surr: 4-Bromofluorobenzene         | 107    | 70-130 |      | %REC  | 1  | 7/25/2012 3:15:33 AM |
| Surr: Dibromofluoromethane         | 105    | 70-130 |      | %REC  | 1  | 7/25/2012 3:15:33 AM |
| Surr: Toluene-d8                   | 104    | 70-130 |      | %REC  | 1  | 7/25/2012 3:15:33 AM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit
- U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MEOH BLANK

Project: SWMU NO.14

Collection Date:

Lab ID: 1207940-033

Matrix: MEOH BLAN

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                | Result | RL     | Qual | Units | DF | Date Analyzed        |
|-----------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8015B: GASOLINE RANGE</b> |        |        |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)           | ND     | 5.0    |      | mg/Kg | 1  | 7/30/2012 7:35:12 PM |
| Surr: BFB                               | 99.3   | 84-116 |      | %REC  | 1  | 7/30/2012 7:35:12 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |        |      |       |    | Analyst: DJF         |
| Benzene                                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Toluene                                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Ethylbenzene                            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Methyl tert-butyl ether (MTBE)          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2,4-Trimethylbenzene                  | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,3,5-Trimethylbenzene                  | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2-Dichloroethane (EDC)                | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2-Dibromoethane (EDB)                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Naphthalene                             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1-Methylnaphthalene                     | ND     | 0.20   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 2-Methylnaphthalene                     | ND     | 0.20   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Acetone                                 | ND     | 0.75   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Bromobenzene                            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Bromodichloromethane                    | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Bromoform                               | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Bromomethane                            | ND     | 0.15   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 2-Butanone                              | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Carbon disulfide                        | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Carbon tetrachloride                    | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Chlorobenzene                           | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Chloroethane                            | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Chloroform                              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Chloromethane                           | ND     | 0.15   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 2-Chlorotoluene                         | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 4-Chlorotoluene                         | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| cis-1,2-DCE                             | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| cis-1,3-Dichloropropene                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2-Dibromo-3-chloropropane             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Dibromochloromethane                    | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Dibromomethane                          | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2-Dichlorobenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,3-Dichlorobenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,4-Dichlorobenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Dichlorodifluoromethane                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,1-Dichloroethane                      | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,1-Dichloroethene                      | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2-Dichloropropane                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,3-Dichloropropane                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MEOH BLANK

Project: SWMU NO.14

Collection Date:

Lab ID: 1207940-033

Matrix: MEOH BLAN

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: DJF         |
| 2,2-Dichloropropane                | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,1-Dichloropropene                | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Hexachlorobutadiene                | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 2-Hexanone                         | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Isopropylbenzene                   | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 4-Isopropyltoluene                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 4-Methyl-2-pentanone               | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Methylene chloride                 | ND     | 0.15   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| n-Butylbenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| n-Propylbenzene                    | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| sec-Butylbenzene                   | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Styrene                            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| tert-Butylbenzene                  | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Tetrachloroethene (PCE)            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| trans-1,2-DCE                      | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| trans-1,3-Dichloropropene          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2,3-Trichlorobenzene             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2,4-Trichlorobenzene             | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,1,1-Trichloroethane              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,1,2-Trichloroethane              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Trichloroethene (TCE)              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Trichlorofluoromethane             | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| 1,2,3-Trichloropropane             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Vinyl chloride                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Xylenes, Total                     | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:43:17 PM |
| Surr: 1,2-Dichloroethane-d4        | 95.1   | 70-130 |      | %REC  | 1  | 7/30/2012 4:43:17 PM |
| Surr: 4-Bromofluorobenzene         | 100    | 70-130 |      | %REC  | 1  | 7/30/2012 4:43:17 PM |
| Surr: Dibromofluoromethane         | 94.0   | 70-130 |      | %REC  | 1  | 7/30/2012 4:43:17 PM |
| Surr: Toluene-d8                   | 104    | 70-130 |      | %REC  | 1  | 7/30/2012 4:43:17 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MeOH Blank

Project: SWMU NO.14

Collection Date:

Lab ID: 1207940-034

Matrix: MEOH BLAN

Received Date: 7/20/2012 2:26:00 PM

| Analyses                                | Result | RL     | Qual | Units | DF | Date Analyzed        |
|-----------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8015B: GASOLINE RANGE</b> |        |        |      |       |    | Analyst: NSB         |
| Gasoline Range Organics (GRO)           | ND     | 5.0    |      | mg/Kg | 1  | 8/2/2012 2:26:44 AM  |
| Surr: BFB                               | 98.7   | 84-116 |      | %REC  | 1  | 8/2/2012 2:26:44 AM  |
| <b>EPA METHOD 8260B: VOLATILES</b>      |        |        |      |       |    | Analyst: DJF         |
| Benzene                                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Toluene                                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Ethylbenzene                            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Methyl tert-butyl ether (MTBE)          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2,4-Trimethylbenzene                  | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,3,5-Trimethylbenzene                  | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2-Dichloroethane (EDC)                | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2-Dibromoethane (EDB)                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Naphthalene                             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1-Methylnaphthalene                     | ND     | 0.20   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 2-Methylnaphthalene                     | ND     | 0.20   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Acetone                                 | ND     | 0.75   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Bromobenzene                            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Bromodichloromethane                    | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Bromoform                               | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Bromomethane                            | ND     | 0.15   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 2-Butanone                              | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Carbon disulfide                        | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Carbon tetrachloride                    | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Chlorobenzene                           | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Chloroethane                            | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Chloroform                              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Chloromethane                           | ND     | 0.15   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 2-Chlorotoluene                         | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 4-Chlorotoluene                         | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| cis-1,2-DCE                             | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| cis-1,3-Dichloropropene                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2-Dibromo-3-chloropropane             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Dibromochloromethane                    | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Dibromomethane                          | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2-Dichlorobenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,3-Dichlorobenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,4-Dichlorobenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Dichlorodifluoromethane                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,1-Dichloroethane                      | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,1-Dichloroethene                      | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2-Dichloropropane                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,3-Dichloropropane                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit  
 U Samples with CalcVal < MDL

# Analytical Report

Lab Order 1207940

Date Reported: 8/21/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: MeOH Blank

Project: SWMU NO.14

Collection Date:

Lab ID: 1207940-034

Matrix: MEOH BLAN

Received Date: 7/20/2012 2:26:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: DJF         |
| 2,2-Dichloropropane                | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,1-Dichloropropene                | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Hexachlorobutadiene                | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 2-Hexanone                         | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Isopropylbenzene                   | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 4-Isopropyltoluene                 | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 4-Methyl-2-pentanone               | ND     | 0.50   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Methylene chloride                 | ND     | 0.15   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| n-Butylbenzene                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| n-Propylbenzene                    | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| sec-Butylbenzene                   | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Styrene                            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| tert-Butylbenzene                  | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Tetrachloroethene (PCE)            | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| trans-1,2-DCE                      | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| trans-1,3-Dichloropropene          | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2,3-Trichlorobenzene             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2,4-Trichlorobenzene             | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,1,1-Trichloroethane              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,1,2-Trichloroethane              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Trichloroethene (TCE)              | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Trichlorofluoromethane             | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| 1,2,3-Trichloropropane             | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Vinyl chloride                     | ND     | 0.050  |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Xylenes, Total                     | ND     | 0.10   |      | mg/Kg | 1  | 7/30/2012 4:14:49 PM |
| Surr: 1,2-Dichloroethane-d4        | 92.9   | 70-130 |      | %REC  | 1  | 7/30/2012 4:14:49 PM |
| Surr: 4-Bromofluorobenzene         | 102    | 70-130 |      | %REC  | 1  | 7/30/2012 4:14:49 PM |
| Surr: Dibromofluoromethane         | 92.1   | 70-130 |      | %REC  | 1  | 7/30/2012 4:14:49 PM |
| Surr: Toluene-d8                   | 97.2   | 70-130 |      | %REC  | 1  | 7/30/2012 4:14:49 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit  
U Samples with CalcVal < MDL

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com  
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB  
**Address:** 4901 HAWKINS NE SUITE D  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

**Batch #:** 120725001  
**Project Name:** 1207940

## Analytical Results Report

|                         |                                   |                        |           |                           |                    |
|-------------------------|-----------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-001                     | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-001D / SWMU 14-10 (0-0.5) |                        |           | <b>Sampling Time</b>      | 11:00 AM           |
| <b>Matrix</b>           | Soil                              | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                   |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

|                         |                                     |                        |           |                           |                    |
|-------------------------|-------------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-002                       | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-002D / SWMU 14-10 (1.5-2.0) |                        |           | <b>Sampling Time</b>      | 11:05 AM           |
| <b>Matrix</b>           | Soil                                | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                     |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

|                         |                                  |                        |           |                           |                    |
|-------------------------|----------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-003                    | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-003D / SWMU 14-8 (0-0.5) |                        |           | <b>Sampling Time</b>      | 11:27 AM           |
| <b>Matrix</b>           | Soil                             | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                  |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |



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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

**Sample Number** 120725001-004 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-004D / SWMU 14-8 (1.5-2.0) **Sampling Time** 11:40 AM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

**Sample Number** 120725001-005 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-005D / SWMU 14-8 (1.5-2.0) DUP **Sampling Time** 11:40 AM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

**Sample Number** 120725001-006 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-006D / SWMU 14-12 (0-0.5) **Sampling Time** 12:05 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

**Sample Number** 120725001-007 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-007D / SWMU 14-12 (1.5-2.0) **Sampling Time** 12:12 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

**Sample Number** 120725001-008 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-008D / SWMU 14-13 (0-0.5) **Sampling Time** 12:36 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

**Sample Number** 120725001-009 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-009D / SWMU 14-13 (1.5-2.0) **Sampling Time** 12:45 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

|                         |                                   |                        |           |                           |                    |
|-------------------------|-----------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-010                     | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-010D / SWMU 14-14 (0-0.5) |                        |           | <b>Sampling Time</b>      | 1:07 PM            |
| <b>Matrix</b>           | Soil                              | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                   |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

|                         |                                     |                        |           |                           |                    |
|-------------------------|-------------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-011                       | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-011D / SWMU 14-14 (1.5-2.0) |                        |           | <b>Sampling Time</b>      | 1:12 PM            |
| <b>Matrix</b>           | Soil                                | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                     |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

|                         |                                   |                        |           |                           |                    |
|-------------------------|-----------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-012                     | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-012D / SWMU 14-11 (0-0.5) |                        |           | <b>Sampling Time</b>      | 1:33 PM            |
| <b>Matrix</b>           | Soil                              | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                   |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 7/31/2012     | CRW     | EPA 335.4 |           |

Certifications held by Anatek Labs ID: EPA-ID00013; AZ-0701; CO-ID00013; FL(NELAP):E87893; ID-ID00013; IN-C-ID-01; KY-90142; MT-CERT0028; NM-ID00013; OR-ID200001-002; WA-C595  
Certifications held by Anatek Labs WA: EPA-WA00169; ID-WA00169; WA-C585; MT-Cert0065

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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

**Sample Number** 120725001-013 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-013D / SWMU 14-11 (1.5-2.0) **Sampling Time** 1:38 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

**Sample Number** 120725001-014 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-014D / SWMU 14-18 (0-0.5) **Sampling Time** 2:08 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | 1.22   | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

**Sample Number** 120725001-015 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-015D / SWMU 14-18 (1.5-2.0) **Sampling Time** 2:15 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | 1.50   | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

|                         |                                  |                        |           |                           |                    |
|-------------------------|----------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-016                    | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-016D / SWMU 14-5 (0-0.5) |                        |           | <b>Sampling Time</b>      | 3:00 PM            |
| <b>Matrix</b>           | Soil                             | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                  |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | 0.600  | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

|                         |                                      |                        |           |                           |                    |
|-------------------------|--------------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-017                        | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-017D / SWMU 14-5 (0-0.5) DUP |                        |           | <b>Sampling Time</b>      | 3:00 PM            |
| <b>Matrix</b>           | Soil                                 | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                      |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

|                         |                                    |                        |           |                           |                    |
|-------------------------|------------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-018                      | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-018D / SWMU 14-5 (1.5-2.0) |                        |           | <b>Sampling Time</b>      | 3:06 PM            |
| <b>Matrix</b>           | Soil                               | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                    |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

|                         |                                   |                        |           |                           |                    |
|-------------------------|-----------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-019                     | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-019D / SWMU 14-19 (0-0.5) |                        |           | <b>Sampling Time</b>      | 3:26 PM            |
| <b>Matrix</b>           | Soil                              | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                   |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

|                         |                                     |                        |           |                           |                    |
|-------------------------|-------------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-020                       | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-020D / SWMU 14-19 (1.5-2.0) |                        |           | <b>Sampling Time</b>      | 3:33 PM            |
| <b>Matrix</b>           | Soil                                | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                     |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

|                         |                                   |                        |           |                           |                    |
|-------------------------|-----------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-021                     | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-021D / SWMU 14-17 (0-0.5) |                        |           | <b>Sampling Time</b>      | 4:11 PM            |
| <b>Matrix</b>           | Soil                              | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                   |                        |           |                           |                    |

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | 1.33   | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

**Sample Number** 120725001-022 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-022D / SWMU 14-17 (1.5-2.0) **Sampling Time** 4:18 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

**Sample Number** 120725001-023 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-023D / SWMU 14-16 (0-0.5) **Sampling Time** 4:45 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

**Sample Number** 120725001-024 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-024D / SWMU 14-16 (1.5-2.0) **Sampling Time** 4:51 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

|                  |                                   |                 |           |                    |           |           |           |
|------------------|-----------------------------------|-----------------|-----------|--------------------|-----------|-----------|-----------|
| Sample Number    | 120725001-025                     | Sampling Date   | 7/19/2012 | Date/Time Received | 7/24/2012 | 12:50 PM  |           |
| Client Sample ID | 1207940-025D / SWMU 14-15 (0-0.5) |                 |           | Sampling Time      | 5:14 PM   |           |           |
| Matrix           | Soil                              | Sample Location |           |                    |           |           |           |
| Comments         |                                   |                 |           |                    |           |           |           |
| Parameter        | Result                            | Units           | PQL       | Analysis Date      | Analyst   | Method    | Qualifier |
| Cyanide          | ND                                | mg/Kg           | 0.5       | 8/1/2012           | JTT       | EPA 335.4 |           |

|                  |                                     |                 |           |                    |           |           |           |
|------------------|-------------------------------------|-----------------|-----------|--------------------|-----------|-----------|-----------|
| Sample Number    | 120725001-026                       | Sampling Date   | 7/19/2012 | Date/Time Received | 7/24/2012 | 12:50 PM  |           |
| Client Sample ID | 1207940-026D / SWMU 14-15 (1.5-2.0) |                 |           | Sampling Time      | 5:19 PM   |           |           |
| Matrix           | Soil                                | Sample Location |           |                    |           |           |           |
| Comments         |                                     |                 |           |                    |           |           |           |
| Parameter        | Result                              | Units           | PQL       | Analysis Date      | Analyst   | Method    | Qualifier |
| Cyanide          | ND                                  | mg/Kg           | 0.5       | 8/1/2012           | JTT       | EPA 335.4 |           |

|                  |                                   |                 |           |                    |           |           |           |
|------------------|-----------------------------------|-----------------|-----------|--------------------|-----------|-----------|-----------|
| Sample Number    | 120725001-027                     | Sampling Date   | 7/19/2012 | Date/Time Received | 7/24/2012 | 12:50 PM  |           |
| Client Sample ID | 1207940-027D / SWMU 14-20 (0-0.5) |                 |           | Sampling Time      | 5:50 PM   |           |           |
| Matrix           | Soil                              | Sample Location |           |                    |           |           |           |
| Comments         |                                   |                 |           |                    |           |           |           |
| Parameter        | Result                            | Units           | PQL       | Analysis Date      | Analyst   | Method    | Qualifier |
| Cyanide          | ND                                | mg/Kg           | 0.5       | 8/1/2012           | JTT       | EPA 335.4 |           |



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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

## Analytical Results Report

**Sample Number** 120725001-028 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-028D / SWMU 14-20 (0-0.5) DUP **Sampling Time** 5:50 PM  
**Matrix** Soil **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|-----|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/Kg | 0.5 | 8/1/2012      | JTT     | EPA 335.4 |           |

**Sample Number** 120725001-029 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-029F / SWMU 14-2 GW **Sampling Time** 10:00 AM  
**Matrix** Water **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL  | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|------|---------------|---------|-----------|-----------|
| Cyanide   | 0.216  | mg/L  | 0.01 | 7/31/2012     | CRW     | EPA 335.4 |           |

**Sample Number** 120725001-030 **Sampling Date** 7/19/2012 **Date/Time Received** 7/24/2012 12:50 PM  
**Client Sample ID** 1207940-030F / FB071912 **Sampling Time** 6:00 PM  
**Matrix** Water **Sample Location**  
**Comments**

| Parameter | Result | Units | PQL  | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|------|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/L  | 0.01 | 8/1/2012      | JTT     | EPA 335.4 |           |

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**Client:** HALL ENVIRONMENTAL ANALYSIS LAB **Batch #:** 120725001  
**Address:** 4901 HAWKINS NE SUITE D **Project Name:** 1207940  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

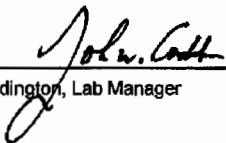
## Analytical Results Report

|                         |                         |                        |           |                           |                    |
|-------------------------|-------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120725001-031           | <b>Sampling Date</b>   | 7/19/2012 | <b>Date/Time Received</b> | 7/24/2012 12:50 PM |
| <b>Client Sample ID</b> | 1207940-031F / EB071912 |                        |           | <b>Sampling Time</b>      | 6:15 PM            |
| <b>Matrix</b>           | Water                   | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                         |                        |           |                           |                    |

| Parameter | Result | Units | PQL  | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|------|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/L  | 0.01 | 7/31/2012     | CRW     | EPA 335.4 |           |

Authorized Signature

  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.  
The results reported relate only to the samples indicated.  
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                  |        |                |                  |      |           |                                 |      |                    |      |
|------------|------------------|--------|----------------|------------------|------|-----------|---------------------------------|------|--------------------|------|
| Sample ID  | <b>MB-2992</b>   |        | SampType:      | <b>MBLK</b>      |      | TestCode: | <b>EPA Method 200.7: Metals</b> |      |                    |      |
| Client ID: | <b>PBW</b>       |        | Batch ID:      | <b>2992</b>      |      | RunNo:    | <b>4442</b>                     |      |                    |      |
| Prep Date: | <b>7/24/2012</b> |        | Analysis Date: | <b>7/26/2012</b> |      | SeqNo:    | <b>124085</b>                   |      | Units: <b>mg/L</b> |      |
| Analyte    | Result           | PQL    | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit           | Qual |
| Barium     | ND               | 0.0020 |                |                  |      |           |                                 |      |                    |      |
| Cadmium    | ND               | 0.0020 |                |                  |      |           |                                 |      |                    |      |
| Chromium   | ND               | 0.0060 |                |                  |      |           |                                 |      |                    |      |
| Manganese  | ND               | 0.0020 |                |                  |      |           |                                 |      |                    |      |
| Zinc       | ND               | 0.010  |                |                  |      |           |                                 |      |                    |      |

|            |                  |        |                |                  |      |           |                                 |      |                    |      |
|------------|------------------|--------|----------------|------------------|------|-----------|---------------------------------|------|--------------------|------|
| Sample ID  | <b>LCS-2992</b>  |        | SampType:      | <b>LCS</b>       |      | TestCode: | <b>EPA Method 200.7: Metals</b> |      |                    |      |
| Client ID: | <b>LCSW</b>      |        | Batch ID:      | <b>2992</b>      |      | RunNo:    | <b>4442</b>                     |      |                    |      |
| Prep Date: | <b>7/24/2012</b> |        | Analysis Date: | <b>7/26/2012</b> |      | SeqNo:    | <b>124086</b>                   |      | Units: <b>mg/L</b> |      |
| Analyte    | Result           | PQL    | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit           | Qual |
| Barium     | 0.49             | 0.0020 | 0.5000         | 0                | 98.6 | 85        | 115                             |      |                    |      |
| Cadmium    | 0.50             | 0.0020 | 0.5000         | 0                | 101  | 85        | 115                             |      |                    |      |
| Chromium   | 0.49             | 0.0060 | 0.5000         | 0                | 97.3 | 85        | 115                             |      |                    |      |
| Manganese  | 0.49             | 0.0020 | 0.5000         | 0                | 97.3 | 85        | 115                             |      |                    |      |
| Zinc       | 0.48             | 0.010  | 0.5000         | 0                | 95.8 | 85        | 115                             |      |                    |      |

|            |                  |        |                |                 |      |           |                                 |      |                    |      |
|------------|------------------|--------|----------------|-----------------|------|-----------|---------------------------------|------|--------------------|------|
| Sample ID  | <b>MB-2992</b>   |        | SampType:      | <b>MBLK</b>     |      | TestCode: | <b>EPA Method 200.7: Metals</b> |      |                    |      |
| Client ID: | <b>PBW</b>       |        | Batch ID:      | <b>2992</b>     |      | RunNo:    | <b>4694</b>                     |      |                    |      |
| Prep Date: | <b>7/24/2012</b> |        | Analysis Date: | <b>8/7/2012</b> |      | SeqNo:    | <b>131946</b>                   |      | Units: <b>mg/L</b> |      |
| Analyte    | Result           | PQL    | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit           | Qual |
| Barium     | ND               | 0.0020 |                |                 |      |           |                                 |      |                    |      |
| Beryllium  | ND               | 0.0020 |                |                 |      |           |                                 |      |                    |      |
| Cadmium    | ND               | 0.0020 |                |                 |      |           |                                 |      |                    |      |
| Chromium   | ND               | 0.0060 |                |                 |      |           |                                 |      |                    |      |
| Cobalt     | ND               | 0.0060 |                |                 |      |           |                                 |      |                    |      |
| Iron       | ND               | 0.020  |                |                 |      |           |                                 |      |                    |      |
| Manganese  | ND               | 0.0020 |                |                 |      |           |                                 |      |                    |      |
| Nickel     | ND               | 0.010  |                |                 |      |           |                                 |      |                    |      |
| Silver     | ND               | 0.0050 |                |                 |      |           |                                 |      |                    |      |
| Vanadium   | ND               | 0.050  |                |                 |      |           |                                 |      |                    |      |
| Zinc       | ND               | 0.010  |                |                 |      |           |                                 |      |                    |      |

|            |                  |        |                |                 |      |           |                                 |      |                    |      |
|------------|------------------|--------|----------------|-----------------|------|-----------|---------------------------------|------|--------------------|------|
| Sample ID  | <b>LCS-2992</b>  |        | SampType:      | <b>LCS</b>      |      | TestCode: | <b>EPA Method 200.7: Metals</b> |      |                    |      |
| Client ID: | <b>LCSW</b>      |        | Batch ID:      | <b>2992</b>     |      | RunNo:    | <b>4694</b>                     |      |                    |      |
| Prep Date: | <b>7/24/2012</b> |        | Analysis Date: | <b>8/7/2012</b> |      | SeqNo:    | <b>131947</b>                   |      | Units: <b>mg/L</b> |      |
| Analyte    | Result           | PQL    | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit           | Qual |
| Barium     | 0.49             | 0.0020 | 0.5000         | 0               | 98.0 | 85        | 115                             |      |                    |      |
| Beryllium  | 0.51             | 0.0020 | 0.5000         | 0               | 102  | 85        | 115                             |      |                    |      |
| Cadmium    | 0.50             | 0.0020 | 0.5000         | 0               | 99.9 | 85        | 115                             |      |                    |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |        |                |             |      |           |                          |      |             |      |
|------------|-----------|--------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | LCS-2992  |        | SampType:      | LCS         |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | LCSW      |        | Batch ID:      | 2992        |      | RunNo:    | 4694                     |      |             |      |
| Prep Date: | 7/24/2012 |        | Analysis Date: | 8/7/2012    |      | SeqNo:    | 131947                   |      | Units: mg/L |      |
| Analyte    | Result    | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Chromium   | 0.49      | 0.0060 | 0.5000         | 0           | 97.9 | 85        | 115                      |      |             |      |
| Cobalt     | 0.48      | 0.0060 | 0.5000         | 0           | 96.4 | 85        | 115                      |      |             |      |
| Iron       | 0.49      | 0.020  | 0.5000         | 0           | 98.4 | 85        | 115                      |      |             |      |
| Manganese  | 0.49      | 0.0020 | 0.5000         | 0           | 97.1 | 85        | 115                      |      |             |      |
| Nickel     | 0.47      | 0.010  | 0.5000         | 0           | 93.7 | 85        | 115                      |      |             |      |
| Silver     | 0.10      | 0.0050 | 0.1000         | 0           | 101  | 85        | 115                      |      |             |      |
| Vanadium   | 0.51      | 0.050  | 0.5000         | 0           | 101  | 85        | 115                      |      |             |      |
| Zinc       | 0.47      | 0.010  | 0.5000         | 0           | 93.9 | 85        | 115                      |      |             |      |

|            |        |        |                |             |      |           |                          |      |             |      |
|------------|--------|--------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | MB     |        | SampType:      | MBLK        |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | PBW    |        | Batch ID:      | R4694       |      | RunNo:    | 4694                     |      |             |      |
| Prep Date: |        |        | Analysis Date: | 8/7/2012    |      | SeqNo:    | 131952                   |      | Units: mg/L |      |
| Analyte    | Result | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Barium     | ND     | 0.0020 |                |             |      |           |                          |      |             |      |
| Beryllium  | ND     | 0.0020 |                |             |      |           |                          |      |             |      |
| Cadmium    | ND     | 0.0020 |                |             |      |           |                          |      |             |      |
| Chromium   | ND     | 0.0060 |                |             |      |           |                          |      |             |      |
| Cobalt     | ND     | 0.0060 |                |             |      |           |                          |      |             |      |
| Iron       | ND     | 0.020  |                |             |      |           |                          |      |             |      |
| Manganese  | ND     | 0.0020 |                |             |      |           |                          |      |             |      |
| Nickel     | ND     | 0.010  |                |             |      |           |                          |      |             |      |
| Silver     | ND     | 0.0050 |                |             |      |           |                          |      |             |      |
| Vanadium   | ND     | 0.050  |                |             |      |           |                          |      |             |      |
| Zinc       | ND     | 0.010  |                |             |      |           |                          |      |             |      |

|            |        |        |                |             |      |           |                          |      |             |      |
|------------|--------|--------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | LCS    |        | SampType:      | LCS         |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | LCSW   |        | Batch ID:      | R4694       |      | RunNo:    | 4694                     |      |             |      |
| Prep Date: |        |        | Analysis Date: | 8/7/2012    |      | SeqNo:    | 131953                   |      | Units: mg/L |      |
| Analyte    | Result | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Barium     | 0.49   | 0.0020 | 0.5000         | 0           | 97.9 | 85        | 115                      |      |             |      |
| Beryllium  | 0.51   | 0.0020 | 0.5000         | 0           | 102  | 85        | 115                      |      |             |      |
| Cadmium    | 0.50   | 0.0020 | 0.5000         | 0.0005300   | 99.7 | 85        | 115                      |      |             |      |
| Chromium   | 0.49   | 0.0060 | 0.5000         | 0           | 98.4 | 85        | 115                      |      |             |      |
| Cobalt     | 0.48   | 0.0060 | 0.5000         | 0           | 96.2 | 85        | 115                      |      |             |      |
| Iron       | 0.49   | 0.020  | 0.5000         | 0           | 97.3 | 85        | 115                      |      |             |      |
| Manganese  | 0.49   | 0.0020 | 0.5000         | 0           | 97.1 | 85        | 115                      |      |             |      |
| Nickel     | 0.46   | 0.010  | 0.5000         | 0.001850    | 92.5 | 85        | 115                      |      |             |      |
| Silver     | 0.10   | 0.0050 | 0.1000         | 0           | 100  | 85        | 115                      |      |             |      |
| Vanadium   | 0.51   | 0.050  | 0.5000         | 0           | 101  | 85        | 115                      |      |             |      |
| Zinc       | 0.47   | 0.010  | 0.5000         | 0           | 93.2 | 85        | 115                      |      |             |      |

### Qualifiers:

X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                |        |                |             |      |           |                          |      |             |      |
|------------|----------------|--------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | 1207605-004AMS |        | SampType:      | MS          |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | BatchQC        |        | Batch ID:      | R4694       |      | RunNo:    | 4694                     |      |             |      |
| Prep Date: |                |        | Analysis Date: | 8/7/2012    |      | SeqNo:    | 131960                   |      | Units: mg/L |      |
| Analyte    | Result         | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Barium     | 0.63           | 0.0020 | 0.5000         | 0.09631     | 106  | 70        | 130                      |      |             |      |
| Beryllium  | 0.55           | 0.0020 | 0.5000         | 0           | 110  | 70        | 130                      |      |             |      |
| Cadmium    | 0.55           | 0.0020 | 0.5000         | 0           | 110  | 70        | 130                      |      |             |      |
| Chromium   | 0.53           | 0.0060 | 0.5000         | 0           | 105  | 70        | 130                      |      |             |      |
| Nickel     | 0.49           | 0.010  | 0.5000         | 0           | 97.7 | 70        | 130                      |      |             |      |
| Zinc       | 0.51           | 0.010  | 0.5000         | 0.006940    | 100  | 70        | 130                      |      |             |      |

|            |                 |        |                |             |      |           |                          |      |             |      |
|------------|-----------------|--------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | 1207605-004AMSD |        | SampType:      | MSD         |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | BatchQC         |        | Batch ID:      | R4694       |      | RunNo:    | 4694                     |      |             |      |
| Prep Date: |                 |        | Analysis Date: | 8/7/2012    |      | SeqNo:    | 131961                   |      | Units: mg/L |      |
| Analyte    | Result          | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Barium     | 0.61            | 0.0020 | 0.5000         | 0.09631     | 103  | 70        | 130                      | 2.89 | 20          |      |
| Beryllium  | 0.53            | 0.0020 | 0.5000         | 0           | 105  | 70        | 130                      | 4.73 | 20          |      |
| Cadmium    | 0.53            | 0.0020 | 0.5000         | 0           | 106  | 70        | 130                      | 4.00 | 20          |      |
| Chromium   | 0.51            | 0.0060 | 0.5000         | 0           | 102  | 70        | 130                      | 2.90 | 20          |      |
| Nickel     | 0.48            | 0.010  | 0.5000         | 0           | 95.1 | 70        | 130                      | 2.65 | 20          |      |
| Zinc       | 0.50            | 0.010  | 0.5000         | 0.006940    | 97.9 | 70        | 130                      | 2.60 | 20          |      |

|            |        |        |                |             |      |           |                          |      |             |      |
|------------|--------|--------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | MB     |        | SampType:      | MBLK        |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | PBW    |        | Batch ID:      | R4878       |      | RunNo:    | 4878                     |      |             |      |
| Prep Date: |        |        | Analysis Date: | 8/15/2012   |      | SeqNo:    | 137839                   |      | Units: mg/L |      |
| Analyte    | Result | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Barium     | ND     | 0.0020 |                |             |      |           |                          |      |             |      |

|            |        |        |                |             |      |           |                          |      |             |      |
|------------|--------|--------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | LCS    |        | SampType:      | LCS         |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | LCSW   |        | Batch ID:      | R4878       |      | RunNo:    | 4878                     |      |             |      |
| Prep Date: |        |        | Analysis Date: | 8/15/2012   |      | SeqNo:    | 137840                   |      | Units: mg/L |      |
| Analyte    | Result | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Barium     | 0.51   | 0.0020 | 0.5000         | 0           | 102  | 85        | 115                      |      |             |      |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |        |                |           |             |                                    |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK      | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4793     | RunNo:      | 4793                               |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 8/10/2012 | SeqNo:      | 135124                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|           |    |        |  |  |  |  |  |  |  |  |
|-----------|----|--------|--|--|--|--|--|--|--|--|
| Beryllium | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Cadmium   | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Chromium  | ND | 0.0060 |  |  |  |  |  |  |  |  |
| Cobalt    | ND | 0.0060 |  |  |  |  |  |  |  |  |
| Iron      | ND | 0.020  |  |  |  |  |  |  |  |  |
| Manganese | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Nickel    | ND | 0.010  |  |  |  |  |  |  |  |  |
| Silver    | ND | 0.0050 |  |  |  |  |  |  |  |  |
| Vanadium  | ND | 0.050  |  |  |  |  |  |  |  |  |
| Zinc      | ND | 0.010  |  |  |  |  |  |  |  |  |

|            |        |                |           |             |                                    |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS    | SampType:      | LCS       | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | LCSW   | Batch ID:      | R4793     | RunNo:      | 4793                               |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 8/10/2012 | SeqNo:      | 135125                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|           |      |        |        |          |      |    |     |  |  |  |
|-----------|------|--------|--------|----------|------|----|-----|--|--|--|
| Beryllium | 0.52 | 0.0020 | 0.5000 | 0        | 103  | 85 | 115 |  |  |  |
| Cadmium   | 0.50 | 0.0020 | 0.5000 | 0        | 99.5 | 85 | 115 |  |  |  |
| Chromium  | 0.50 | 0.0060 | 0.5000 | 0.001100 | 99.1 | 85 | 115 |  |  |  |
| Cobalt    | 0.48 | 0.0060 | 0.5000 | 0        | 96.5 | 85 | 115 |  |  |  |
| Iron      | 0.49 | 0.020  | 0.5000 | 0.006750 | 97.3 | 85 | 115 |  |  |  |
| Manganese | 0.49 | 0.0020 | 0.5000 | 0        | 97.8 | 85 | 115 |  |  |  |
| Nickel    | 0.47 | 0.010  | 0.5000 | 0        | 94.1 | 85 | 115 |  |  |  |
| Silver    | 0.10 | 0.0050 | 0.1000 | 0        | 99.8 | 85 | 115 |  |  |  |
| Vanadium  | 0.52 | 0.050  | 0.5000 | 0        | 104  | 85 | 115 |  |  |  |
| Zinc      | 0.49 | 0.010  | 0.5000 | 0.002400 | 97.3 | 85 | 115 |  |  |  |

|            |                |                |           |             |                                    |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1206C11-001IMS | SampType:      | MS        | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | R4793     | RunNo:      | 4793                               |          |           |      |          |      |
| Prep Date: |                | Analysis Date: | 8/10/2012 | SeqNo:      | 135154                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|          |      |        |        |          |      |    |     |  |  |  |
|----------|------|--------|--------|----------|------|----|-----|--|--|--|
| Chromium | 0.50 | 0.0060 | 0.5000 | 0.003510 | 99.1 | 70 | 130 |  |  |  |
|----------|------|--------|--------|----------|------|----|-----|--|--|--|

|            |                 |                |           |             |                                    |          |           |      |          |      |
|------------|-----------------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1206C11-001IMSD | SampType:      | MSD       | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | R4793     | RunNo:      | 4793                               |          |           |      |          |      |
| Prep Date: |                 | Analysis Date: | 8/10/2012 | SeqNo:      | 135155                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|          |      |        |        |          |      |    |     |      |    |  |
|----------|------|--------|--------|----------|------|----|-----|------|----|--|
| Chromium | 0.49 | 0.0060 | 0.5000 | 0.003510 | 97.9 | 70 | 130 | 1.15 | 20 |  |
|----------|------|--------|--------|----------|------|----|-----|------|----|--|

## Qualifiers:

- X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |        |                |           |             |                                    |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK      | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4878     | RunNo:      | 4878                               |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 8/15/2012 | SeqNo:      | 137837                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|        |    |        |  |  |  |  |  |  |  |  |
|--------|----|--------|--|--|--|--|--|--|--|--|
| Barium | ND | 0.0020 |  |  |  |  |  |  |  |  |
|--------|----|--------|--|--|--|--|--|--|--|--|

|            |        |                |           |             |                                    |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS    | SampType:      | LCS       | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | LCSW   | Batch ID:      | R4878     | RunNo:      | 4878                               |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 8/15/2012 | SeqNo:      | 137838                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|        |      |        |        |   |      |    |     |  |  |  |
|--------|------|--------|--------|---|------|----|-----|--|--|--|
| Barium | 0.50 | 0.0020 | 0.5000 | 0 | 99.9 | 85 | 115 |  |  |  |
|--------|------|--------|--------|---|------|----|-----|--|--|--|

|            |                |                |           |             |                                    |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207385-012AMS | SampType:      | MS        | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | R4878     | RunNo:      | 4878                               |          |           |      |          |      |
| Prep Date: |                | Analysis Date: | 8/15/2012 | SeqNo:      | 137908                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|        |      |        |        |         |     |    |     |  |  |  |
|--------|------|--------|--------|---------|-----|----|-----|--|--|--|
| Barium | 0.54 | 0.0020 | 0.5000 | 0.02608 | 103 | 70 | 130 |  |  |  |
|--------|------|--------|--------|---------|-----|----|-----|--|--|--|

|            |                 |                |           |             |                                    |          |           |      |          |      |
|------------|-----------------|----------------|-----------|-------------|------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207385-012AMSD | SampType:      | MSD       | TestCode:   | EPA Method 200.7: Dissolved Metals |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | R4878     | RunNo:      | 4878                               |          |           |      |          |      |
| Prep Date: |                 | Analysis Date: | 8/15/2012 | SeqNo:      | 137909                             | Units:   | mg/L      |      |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|        |      |        |        |         |     |    |     |       |    |  |
|--------|------|--------|--------|---------|-----|----|-----|-------|----|--|
| Barium | 0.54 | 0.0020 | 0.5000 | 0.02608 | 102 | 70 | 130 | 0.846 | 20 |  |
|--------|------|--------|--------|---------|-----|----|-----|-------|----|--|

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |        |        |                          |             |                             |          |             |      |          |      |
|------------|--------|--------|--------------------------|-------------|-----------------------------|----------|-------------|------|----------|------|
| Sample ID  | LCS    |        | SampType: LCS            |             | TestCode: EPA 200.8: Metals |          |             |      |          |      |
| Client ID: | LCSW   |        | Batch ID: R4467          |             | RunNo: 4467                 |          |             |      |          |      |
| Prep Date: |        |        | Analysis Date: 7/26/2012 |             | SeqNo: 124866               |          | Units: mg/L |      |          |      |
| Analyte    | Result | PQL    | SPK value                | SPK Ref Val | %REC                        | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Antimony   | 0.025  | 0.0010 | 0.02500                  | 0           | 98.9                        | 85       | 115         |      |          |      |
| Arsenic    | 0.026  | 0.0010 | 0.02500                  | 0           | 104                         | 85       | 115         |      |          |      |
| Lead       | 0.025  | 0.0010 | 0.02500                  | 0           | 98.1                        | 85       | 115         |      |          |      |
| Selenium   | 0.028  | 0.0010 | 0.02500                  | 0           | 110                         | 85       | 115         |      |          |      |

|            |        |                          |           |                             |      |             |           |      |          |      |
|------------|--------|--------------------------|-----------|-----------------------------|------|-------------|-----------|------|----------|------|
| Sample ID  | MB     | SampType: MBLK           |           | TestCode: EPA 200.8: Metals |      |             |           |      |          |      |
| Client ID: | PBW    | Batch ID: R4467          |           | RunNo: 4467                 |      |             |           |      |          |      |
| Prep Date: |        | Analysis Date: 7/26/2012 |           | SeqNo: 124867               |      | Units: mg/L |           |      |          |      |
| Analyte    | Result | PQL                      | SPK value | SPK Ref Val                 | %REC | LowLimit    | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | ND     | 0.0010                   |           |                             |      |             |           |      |          |      |
| Arsenic    | ND     | 0.0010                   |           |                             |      |             |           |      |          |      |
| Lead       | ND     | 0.0010                   |           |                             |      |             |           |      |          |      |
| Selenium   | ND     | 0.0010                   |           |                             |      |             |           |      |          |      |

|            |                |        |           |                |           |          |           |                   |          |        |      |
|------------|----------------|--------|-----------|----------------|-----------|----------|-----------|-------------------|----------|--------|------|
| Sample ID  | 1207221-005AMS |        |           | SampType:      | MS        |          | TestCode: | EPA 200.8: Metals |          |        |      |
| Client ID: | BatchQC        |        |           | Batch ID:      | R4467     |          | RunNo:    | 4467              |          |        |      |
| Prep Date: |                |        |           | Analysis Date: | 7/26/2012 |          | SeqNo:    | 124875            |          | Units: | mg/L |
| Analyte    | Result         | PQL    | SPK value | SPK Ref Val    | %REC      | LowLimit | HighLimit | %RPD              | RPDLimit | Qual   |      |
| Lead       | 0.025          | 0.0010 | 0.02500   | 0.0004564      | 98.5      | 70       | 130       |                   |          |        |      |

|            |                |        |                |             |      |           |                   |      |             |      |  |
|------------|----------------|--------|----------------|-------------|------|-----------|-------------------|------|-------------|------|--|
| Sample ID  | 1207238-010AMS |        | SampType:      | MS          |      | TestCode: | EPA 200.8: Metals |      |             |      |  |
| Client ID: | BatchQC        |        | Batch ID:      | R4467       |      | RunNo:    | 4467              |      |             |      |  |
| Prep Date: |                |        | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124890            |      | Units: mg/L |      |  |
| Analyte    | Result         | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit         | %RPD | RPDLimit    | Qual |  |
| Lead       | 0.025          | 0.0010 | 0.02500        | 0.0005791   | 96.5 | 70        | 130               |      |             |      |  |

|            |        |        |                |             |      |           |                   |      |             |      |  |
|------------|--------|--------|----------------|-------------|------|-----------|-------------------|------|-------------|------|--|
| Sample ID  | LCS    |        | SampType:      | LCS         |      | TestCode: | EPA 200.8: Metals |      |             |      |  |
| Client ID: | LCSW   |        | Batch ID:      | R4467       |      | RunNo:    | 4467              |      |             |      |  |
| Prep Date: |        |        | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124891            |      | Units: mg/L |      |  |
| Analyte    | Result | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit         | %RPD | RPDLimit    | Qual |  |
| Lead       | 0.024  | 0.0010 | 0.02500        | 0           | 95.5 | 85        | 115               |      |             |      |  |

|            |        |                |           |             |                   |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK      | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4467     | RunNo:      | 4467              |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 7/26/2012 | SeqNo:      | 124892            | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Lead       | ND     | 0.0010         |           |             |                   |          |           |      |          |      |

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |                |           |             |                   |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-2992   | SampType:      | MBLK      | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | PBW       | Batch ID:      | 2992      | RunNo:      | 4529              |          |           |      |          |      |
| Prep Date: | 7/24/2012 | Analysis Date: | 7/30/2012 | SeqNo:      | 127013            | Units:   | mg/L      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Antimony ND 0.0025

Arsenic ND 0.0025

Lead ND 0.0025

|            |           |                |           |             |                   |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-2992   | SampType:      | MBLK      | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | PBW       | Batch ID:      | 2992      | RunNo:      | 4564              |          |           |      |          |      |
| Prep Date: | 7/24/2012 | Analysis Date: | 7/31/2012 | SeqNo:      | 128124            | Units:   | mg/L      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Selenium ND 0.0025

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

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|            |                |        |                |             |      |           |                             |      |             |      |  |
|------------|----------------|--------|----------------|-------------|------|-----------|-----------------------------|------|-------------|------|--|
| Sample ID  | 1207285-002AMS |        | SampType:      | MS          |      | TestCode: | EPA 200.8: Dissolved Metals |      |             |      |  |
| Client ID: | BatchQC        |        | Batch ID:      | R4467       |      | RunNo:    | 4467                        |      |             |      |  |
| Prep Date: |                |        | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124796                      |      | Units: mg/L |      |  |
| Analyte    | Result         | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit    | Qual |  |
| Arsenic    | 0.025          | 0.0010 | 0.02500        | 0.0004413   | 99.7 | 70        | 130                         |      |             |      |  |
| Selenium   | 0.034          | 0.0010 | 0.02500        | 0.008055    | 106  | 70        | 130                         |      |             |      |  |

|            |        |        |                          |             |                                       |          |             |      |          |      |
|------------|--------|--------|--------------------------|-------------|---------------------------------------|----------|-------------|------|----------|------|
| Sample ID  | LCS    |        | SampType: LCS            |             | TestCode: EPA 200.8: Dissolved Metals |          |             |      |          |      |
| Client ID: | LCSW   |        | Batch ID: R4467          |             | RunNo: 4467                           |          |             |      |          |      |
| Prep Date: |        |        | Analysis Date: 7/26/2012 |             | SeqNo: 124807                         |          | Units: mg/L |      |          |      |
| Analyte    | Result | PQL    | SPK value                | SPK Ref Val | %REC                                  | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Antimony   | 0.025  | 0.0010 | 0.02500                  | 0           | 100                                   | 85       | 115         |      |          |      |
| Arsenic    | 0.026  | 0.0010 | 0.02500                  | 0           | 105                                   | 85       | 115         |      |          |      |
| Selenium   | 0.028  | 0.0010 | 0.02500                  | 0           | 111                                   | 85       | 115         |      |          |      |

|            |        |                |           |             |           |                             |           |      |          |      |
|------------|--------|----------------|-----------|-------------|-----------|-----------------------------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK      |             | TestCode: | EPA 200.8: Dissolved Metals |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4467     |             | RunNo:    | 4467                        |           |      |          |      |
| Prep Date: |        | Analysis Date: | 7/26/2012 |             | SeqNo:    | 124809                      | Units:    | mg/L |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC      | LowLimit                    | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | ND     | 0.0010         |           |             |           |                             |           |      |          |      |
| Arsenic    | ND     | 0.0010         |           |             |           |                             |           |      |          |      |
| Selenium   | ND     | 0.0010         |           |             |           |                             |           |      |          |      |

|            |                |        |                |             |      |           |                             |      |             |      |  |
|------------|----------------|--------|----------------|-------------|------|-----------|-----------------------------|------|-------------|------|--|
| Sample ID  | 1207385-012AMS |        | SampType:      | MS          |      | TestCode: | EPA 200.8: Dissolved Metals |      |             |      |  |
| Client ID: | BatchQC        |        | Batch ID:      | R4467       |      | RunNo:    | 4467                        |      |             |      |  |
| Prep Date: |                |        | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124832                      |      | Units: mg/L |      |  |
| Analyte    | Result         | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit    | Qual |  |
| Arsenic    | 0.026          | 0.0010 | 0.02500        | 0.0005215   | 101  | 70        | 130                         |      |             |      |  |
| Lead       | 0.024          | 0.0010 | 0.02500        | 0           | 97.4 | 70        | 130                         |      |             |      |  |
| Selenium   | 0.026          | 0.0010 | 0.02500        | 0           | 103  | 70        | 130                         |      |             |      |  |

|            |        |        |                          |             |                                       |          |             |      |          |      |
|------------|--------|--------|--------------------------|-------------|---------------------------------------|----------|-------------|------|----------|------|
| Sample ID  | LCS    |        | SampType: LCS            |             | TestCode: EPA 200.8: Dissolved Metals |          |             |      |          |      |
| Client ID: | LCSW   |        | Batch ID: R4467          |             | RunNo: 4467                           |          |             |      |          |      |
| Prep Date: |        |        | Analysis Date: 7/26/2012 |             | SeqNo: 124858                         |          | Units: mg/L |      |          |      |
| Analyte    | Result | PQL    | SPK value                | SPK Ref Val | %REC                                  | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Antimony   | 0.025  | 0.0010 | 0.02500                  | 0           | 98.9                                  | 85       | 115         |      |          |      |
| Arsenic    | 0.026  | 0.0010 | 0.02500                  | 0           | 104                                   | 85       | 115         |      |          |      |
| Lead       | 0.025  | 0.0010 | 0.02500                  | 0           | 98.1                                  | 85       | 115         |      |          |      |
| Selenium   | 0.028  | 0.0010 | 0.02500                  | 0           | 110                                   | 85       | 115         |      |          |      |

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |        |        |                |             |      |           |                             |      |             |      |  |
|------------|--------|--------|----------------|-------------|------|-----------|-----------------------------|------|-------------|------|--|
| Sample ID  | LCS    |        | SampType:      | LCS         |      | TestCode: | EPA 200.8: Dissolved Metals |      |             |      |  |
| Client ID: | LCSW   |        | Batch ID:      | R4467       |      | RunNo:    | 4467                        |      |             |      |  |
| Prep Date: |        |        | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124859                      |      | Units: mg/L |      |  |
| Analyte    | Result | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit    | Qual |  |
| Lead       | 0.024  | 0.0010 | 0.02500        | 0           | 95.5 | 85        | 115                         |      |             |      |  |

|            |        |                |           |             |                             |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK      | TestCode:   | EPA 200.8: Dissolved Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4467     | RunNo:      | 4467                        |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 7/26/2012 | SeqNo:      | 124861                      | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | ND     | 0.0010         |           |             |                             |          |           |      |          |      |
| Arsenic    | ND     | 0.0010         |           |             |                             |          |           |      |          |      |
| Lead       | ND     | 0.0010         |           |             |                             |          |           |      |          |      |
| Selenium   | ND     | 0.0010         |           |             |                             |          |           |      |          |      |

|            |        |                |           |             |                             |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK      | TestCode:   | EPA 200.8: Dissolved Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4467     | RunNo:      | 4467                        |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 7/26/2012 | SeqNo:      | 124862                      | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Lead       | ND     | 0.0010         |           |             |                             |          |           |      |          |      |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |                |           |             |                           |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|---------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-2979   | SampType:      | MBLK      | TestCode:   | EPA Method 245.1: Mercury |          |           |      |          |      |
| Client ID: | PBW       | Batch ID:      | 2979      | RunNo:      | 4384                      |          |           |      |          |      |
| Prep Date: | 7/23/2012 | Analysis Date: | 7/24/2012 | SeqNo:      | 122185                    | Units:   | mg/L      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                      | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | ND        | 0.00020        |           |             |                           |          |           |      |          |      |

|            |           |         |           |                |           |          |           |                           |          |        |      |
|------------|-----------|---------|-----------|----------------|-----------|----------|-----------|---------------------------|----------|--------|------|
| Sample ID  | LCS-2979  |         |           | SampType:      | LCS       |          | TestCode: | EPA Method 245.1: Mercury |          |        |      |
| Client ID: | LCSW      |         |           | Batch ID:      | 2979      |          | RunNo:    | 4384                      |          |        |      |
| Prep Date: | 7/23/2012 |         |           | Analysis Date: | 7/24/2012 |          | SeqNo:    | 122186                    |          | Units: | mg/L |
| Analyte    | Result    | PQL     | SPK value | SPK Ref Val    | %REC      | LowLimit | HighLimit | %RPD                      | RPDLimit | Qual   |      |
| Mercury    | 0.0048    | 0.00020 | 0.005000  | 0              | 96.7      | 80       | 120       |                           |          |        |      |

|            |                |         |                |             |           |          |           |                           |          |        |      |
|------------|----------------|---------|----------------|-------------|-----------|----------|-----------|---------------------------|----------|--------|------|
| Sample ID  | 1207546-001BMS |         |                | SampType:   | MS        |          | TestCode: | EPA Method 245.1: Mercury |          |        |      |
| Client ID: | BatchQC        |         | Batch ID:      |             | 2979      |          | RunNo:    | 4384                      |          |        |      |
| Prep Date: | 7/23/2012      |         | Analysis Date: |             | 7/24/2012 |          | SeqNo:    | 122188                    |          | Units: | mg/L |
| Analyte    | Result         | PQL     | SPK value      | SPK Ref Val | %REC      | LowLimit | HighLimit | %RPD                      | RPDLimit | Qual   |      |
| Mercury    | 0.0042         | 0.00020 | 0.005000       | 0           | 84.4      | 75       | 125       |                           |          |        |      |

|            |                 |         |                |             |           |          |           |                           |          |        |      |
|------------|-----------------|---------|----------------|-------------|-----------|----------|-----------|---------------------------|----------|--------|------|
| Sample ID  | 1207546-001BMSD |         |                | SampType:   | MSD       |          | TestCode: | EPA Method 245.1: Mercury |          |        |      |
| Client ID: | BatchQC         |         | Batch ID:      |             | 2979      |          | RunNo:    | 4384                      |          |        |      |
| Prep Date: | 7/23/2012       |         | Analysis Date: |             | 7/24/2012 |          | SeqNo:    | 122191                    |          | Units: | mg/L |
| Analyte    | Result          | PQL     | SPK value      | SPK Ref Val | %REC      | LowLimit | HighLimit | %RPD                      | RPDLimit | Qual   |      |
| Mercury    | 0.0040          | 0.00020 | 0.005000       | 0           | 79.7      | 75       | 125       | 5.66                      | 20       |        |      |

### Qualifiers:

- K Value exceeds Maximum Contaminant Level.
- L Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |                |           |             |                                         |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-2946   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 2946      | RunNo:      | 4221                                    |          |           |      |          |      |
| Prep Date: | 7/21/2012 | Analysis Date: | 7/22/2012 | SeqNo:      | 120621                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                                |    |    |       |  |     |      |     |  |  |  |
|--------------------------------|----|----|-------|--|-----|------|-----|--|--|--|
| Diesel Range Organics (DRO)    | ND | 10 |       |  |     |      |     |  |  |  |
| Motor Oil Range Organics (MRO) | ND | 50 |       |  |     |      |     |  |  |  |
| Surr: DNOP                     | 11 |    | 10.00 |  | 110 | 77.6 | 140 |  |  |  |

|            |           |                |           |             |                                         |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-2947   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 2947      | RunNo:      | 4221                                    |          |           |      |          |      |
| Prep Date: | 7/21/2012 | Analysis Date: | 7/22/2012 | SeqNo:      | 120622                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                                |    |    |       |  |     |      |     |  |  |  |
|--------------------------------|----|----|-------|--|-----|------|-----|--|--|--|
| Diesel Range Organics (DRO)    | ND | 10 |       |  |     |      |     |  |  |  |
| Motor Oil Range Organics (MRO) | ND | 50 |       |  |     |      |     |  |  |  |
| Surr: DNOP                     | 11 |    | 10.00 |  | 111 | 77.6 | 140 |  |  |  |

|            |           |                |           |             |                                         |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-2946  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 2946      | RunNo:      | 4221                                    |          |           |      |          |      |
| Prep Date: | 7/21/2012 | Analysis Date: | 7/22/2012 | SeqNo:      | 120623                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                             |     |    |       |   |      |      |     |  |  |  |
|-----------------------------|-----|----|-------|---|------|------|-----|--|--|--|
| Diesel Range Organics (DRO) | 38  | 10 | 50.00 | 0 | 76.3 | 52.6 | 130 |  |  |  |
| Surr: DNOP                  | 4.5 |    | 5.000 |   | 90.5 | 77.6 | 140 |  |  |  |

|            |           |                |           |             |                                         |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-2947  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 2947      | RunNo:      | 4221                                    |          |           |      |          |      |
| Prep Date: | 7/21/2012 | Analysis Date: | 7/22/2012 | SeqNo:      | 120624                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                             |     |    |       |   |      |      |     |  |  |  |
|-----------------------------|-----|----|-------|---|------|------|-----|--|--|--|
| Diesel Range Organics (DRO) | 37  | 10 | 50.00 | 0 | 74.6 | 52.6 | 130 |  |  |  |
| Surr: DNOP                  | 4.4 |    | 5.000 |   | 87.1 | 77.6 | 140 |  |  |  |

|            |                |                |           |             |                                         |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207838-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 2946      | RunNo:      | 4221                                    |          |           |      |          |      |
| Prep Date: | 7/21/2012      | Analysis Date: | 7/22/2012 | SeqNo:      | 120626                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                             |     |     |       |   |      |      |     |  |  |  |
|-----------------------------|-----|-----|-------|---|------|------|-----|--|--|--|
| Diesel Range Organics (DRO) | 38  | 9.7 | 48.73 | 0 | 78.1 | 57.2 | 146 |  |  |  |
| Surr: DNOP                  | 4.4 |     | 4.873 |   | 89.6 | 77.6 | 140 |  |  |  |

|            |                 |                |           |             |                                         |          |           |      |          |      |
|------------|-----------------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207838-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | 2946      | RunNo:      | 4221                                    |          |           |      |          |      |
| Prep Date: | 7/21/2012       | Analysis Date: | 7/22/2012 | SeqNo:      | 120627                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |                 |                |           |             |                                         |          |           |      |          |      |
|-----------------------------|-----------------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1207838-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                  | BatchQC         | Batch ID:      | 2946      | RunNo:      | 4221                                    |          |           |      |          |      |
| Prep Date:                  | 7/21/2012       | Analysis Date: | 7/22/2012 | SeqNo:      | 120627                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result          | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 36              | 9.9            | 49.55     | 0           | 71.7                                    | 57.2     | 146       | 6.92 | 24.5     |      |
| Surr: DNOP                  | 4.4             |                | 4.955     |             | 88.1                                    | 77.6     | 140       | 0    | 0        |      |

|                                |           |                |           |             |                                         |          |           |      |          |      |
|--------------------------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                      | MB-2983   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                     | PBS       | Batch ID:      | 2983      | RunNo:      | 4371                                    |          |           |      |          |      |
| Prep Date:                     | 7/23/2012 | Analysis Date: | 7/24/2012 | SeqNo:      | 121772                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                        | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND        | 10             |           |             |                                         |          |           |      |          |      |
| Motor Oil Range Organics (MRO) | ND        | 50             |           |             |                                         |          |           |      |          |      |
| Surr: DNOP                     | 10        |                | 10.00     |             | 105                                     | 77.6     | 140       |      |          |      |

|                             |           |                |           |             |                                         |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | LCS-2983  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                  | LCSS      | Batch ID:      | 2983      | RunNo:      | 4371                                    |          |           |      |          |      |
| Prep Date:                  | 7/23/2012 | Analysis Date: | 7/24/2012 | SeqNo:      | 121845                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 40        | 10             | 50.00     | 0           | 80.5                                    | 52.6     | 130       |      |          |      |
| Surr: DNOP                  | 4.0       |                | 5.000     |             | 79.7                                    | 77.6     | 140       |      |          |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |                |           |             |                                |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-2965   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Diesel Range |          |           |      |          |      |
| Client ID: | PBW       | Batch ID:      | 2965      | RunNo:      | 4229                           |          |           |      |          |      |
| Prep Date: | 7/23/2012 | Analysis Date: | 7/23/2012 | SeqNo:      | 121391                         | Units:   | mg/L      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                                |     |     |       |  |     |      |     |  |  |  |
|--------------------------------|-----|-----|-------|--|-----|------|-----|--|--|--|
| Diesel Range Organics (DRO)    | ND  | 1.0 |       |  |     |      |     |  |  |  |
| Motor Oil Range Organics (MRO) | ND  | 5.0 |       |  |     |      |     |  |  |  |
| Surr: DNOP                     | 1.2 |     | 1.000 |  | 123 | 79.5 | 166 |  |  |  |

|            |           |                |           |             |                                |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-2965  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Diesel Range |          |           |      |          |      |
| Client ID: | LCSW      | Batch ID:      | 2965      | RunNo:      | 4229                           |          |           |      |          |      |
| Prep Date: | 7/23/2012 | Analysis Date: | 7/23/2012 | SeqNo:      | 121392                         | Units:   | mg/L      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                             |      |     |        |   |      |      |     |  |  |  |
|-----------------------------|------|-----|--------|---|------|------|-----|--|--|--|
| Diesel Range Organics (DRO) | 5.0  | 1.0 | 5.000  | 0 | 99.0 | 74   | 157 |  |  |  |
| Surr: DNOP                  | 0.51 |     | 0.5000 |   | 102  | 79.5 | 166 |  |  |  |

|            |           |                |           |             |                                |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCSD-2965 | SampType:      | LCSD      | TestCode:   | EPA Method 8015B: Diesel Range |          |           |      |          |      |
| Client ID: | LCSS02    | Batch ID:      | 2965      | RunNo:      | 4229                           |          |           |      |          |      |
| Prep Date: | 7/23/2012 | Analysis Date: | 7/23/2012 | SeqNo:      | 121393                         | Units:   | mg/L      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                             |      |     |        |   |      |      |     |       |    |  |
|-----------------------------|------|-----|--------|---|------|------|-----|-------|----|--|
| Diesel Range Organics (DRO) | 5.0  | 1.0 | 5.000  | 0 | 99.9 | 74   | 157 | 0.931 | 23 |  |
| Surr: DNOP                  | 0.53 |     | 0.5000 |   | 106  | 79.5 | 166 | 0     | 0  |  |

### Qualifiers:

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E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                               |           |     |                |             |      |           |                                  |      |              |      |  |
|-------------------------------|-----------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID                     | MB-3010   |     | SampType:      | MBLK        |      | TestCode: | EPA Method 8015B: Gasoline Range |      |              |      |  |
| Client ID:                    | PBS       |     | Batch ID:      | 3010        |      | RunNo:    | 4444                             |      |              |      |  |
| Prep Date:                    | 7/24/2012 |     | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124694                           |      | Units: mg/Kg |      |  |
| Analyte                       | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                        | %RPD | RPDLimit     | Qual |  |
| Gasoline Range Organics (GRO) | ND        | 5.0 |                |             |      |           |                                  |      |              |      |  |
| Surr: BFB                     | 1000      |     | 1000           |             | 99.6 | 84        | 116                              |      |              |      |  |

|                               |           |     |                |             |      |           |                                  |      |              |      |  |
|-------------------------------|-----------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID                     | LCS-3010  |     | SampType:      | LCS         |      | TestCode: | EPA Method 8015B: Gasoline Range |      |              |      |  |
| Client ID:                    | LCSS      |     | Batch ID:      | 3010        |      | RunNo:    | 4444                             |      |              |      |  |
| Prep Date:                    | 7/24/2012 |     | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124695                           |      | Units: mg/Kg |      |  |
| Analyte                       | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                        | %RPD | RPDLimit     | Qual |  |
| Gasoline Range Organics (GRO) | 26        | 5.0 | 25.00          | 0           | 103  | 85        | 115                              |      |              |      |  |
| Surr: BFB                     | 1100      |     | 1000           |             | 108  | 84        | 116                              |      |              |      |  |

|                               |                |     |                |             |      |           |                                  |      |              |      |  |
|-------------------------------|----------------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID                     | 1207A15-001AMS |     | SampType:      | MS          |      | TestCode: | EPA Method 8015B: Gasoline Range |      |              |      |  |
| Client ID:                    | BatchQC        |     | Batch ID:      | 3010        |      | RunNo:    | 4444                             |      |              |      |  |
| Prep Date:                    | 7/24/2012      |     | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124697                           |      | Units: mg/Kg |      |  |
| Analyte                       | Result         | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                        | %RPD | RPDLimit     | Qual |  |
| Gasoline Range Organics (GRO) | 24             | 4.7 | 23.61          | 3.490       | 84.9 | 70        | 130                              |      |              |      |  |
| Surr: BFB                     | 1100           |     | 944.3          |             | 112  | 84        | 116                              |      |              |      |  |

|                               |                 |     |                |             |      |           |                                  |      |              |      |  |
|-------------------------------|-----------------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID                     | 1207A15-001AMSD |     | SampType:      | MSD         |      | TestCode: | EPA Method 8015B: Gasoline Range |      |              |      |  |
| Client ID:                    | BatchQC         |     | Batch ID:      | 3010        |      | RunNo:    | 4444                             |      |              |      |  |
| Prep Date:                    | 7/24/2012       |     | Analysis Date: | 7/26/2012   |      | SeqNo:    | 124698                           |      | Units: mg/Kg |      |  |
| Analyte                       | Result          | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                        | %RPD | RPDLimit     | Qual |  |
| Gasoline Range Organics (GRO) | 23              | 4.7 | 23.58          | 3.490       | 83.3 | 70        | 130                              | 1.63 | 22.1         |      |  |
| Surr: BFB                     | 1100            |     | 943.4          |             | 113  | 84        | 116                              | 0    | 0            |      |  |

|                               |           |     |                |             |      |           |                                  |      |              |      |  |
|-------------------------------|-----------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID                     | MB-3054   |     | SampType:      | MBLK        |      | TestCode: | EPA Method 8015B: Gasoline Range |      |              |      |  |
| Client ID:                    | PBS       |     | Batch ID:      | 3054        |      | RunNo:    | 4572                             |      |              |      |  |
| Prep Date:                    | 7/26/2012 |     | Analysis Date: | 7/30/2012   |      | SeqNo:    | 128276                           |      | Units: mg/Kg |      |  |
| Analyte                       | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                        | %RPD | RPDLimit     | Qual |  |
| Gasoline Range Organics (GRO) | ND        | 5.0 |                |             |      |           |                                  |      |              |      |  |
| Surr: BFB                     | 990       |     | 1000           |             | 98.8 | 84        | 116                              |      |              |      |  |

|                               |           |     |                |             |      |           |                                  |      |              |      |  |
|-------------------------------|-----------|-----|----------------|-------------|------|-----------|----------------------------------|------|--------------|------|--|
| Sample ID                     | LCS-3054  |     | SampType:      | LCS         |      | TestCode: | EPA Method 8015B: Gasoline Range |      |              |      |  |
| Client ID:                    | LCSS      |     | Batch ID:      | 3054        |      | RunNo:    | 4572                             |      |              |      |  |
| Prep Date:                    | 7/26/2012 |     | Analysis Date: | 7/30/2012   |      | SeqNo:    | 128277                           |      | Units: mg/Kg |      |  |
| Analyte                       | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                        | %RPD | RPDLimit     | Qual |  |
| Gasoline Range Organics (GRO) | 21        | 5.0 | 25.00          | 0           | 85.5 | 85        | 115                              |      |              |      |  |
| Surr: BFB                     | 1000      |     | 1000           |             | 102  | 84        | 116                              |      |              |      |  |

## Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| < | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| > | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R | RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                               |                |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1207B18-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC        | Batch ID:      | 3054      | RunNo:      | 4572                             |          |           |      |          |      |
| Prep Date:                    | 7/26/2012      | Analysis Date: | 7/30/2012 | SeqNo:      | 128295                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result         | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 41             | 4.9            | 24.58     | 20.18       | 85.5                             | 70       | 130       |      |          |      |
| Surr: BFB                     | 1100           |                | 983.3     |             | 110                              | 84       | 116       |      |          |      |

|                               |                 |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1207B18-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC         | Batch ID:      | 3054      | RunNo:      | 4572                             |          |           |      |          |      |
| Prep Date:                    | 7/26/2012       | Analysis Date: | 7/31/2012 | SeqNo:      | 128296                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result          | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 43              | 4.9            | 24.44     | 20.18       | 91.6                             | 70       | 130       | 3.25 | 22.1     |      |
| Surr: BFB                     | 1100            |                | 977.5     |             | 111                              | 84       | 116       | 0    | 0        |      |

|                               |           |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | MB-3071   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | PBS       | Batch ID:      | 3071      | RunNo:      | 4513                             |          |           |      |          |      |
| Prep Date:                    | 7/27/2012 | Analysis Date: | 7/30/2012 | SeqNo:      | 128374                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND        | 5.0            |           |             |                                  |          |           |      |          |      |
| Surr: BFB                     | 1200      |                | 1000      |             | 121                              | 84       | 116       |      |          | S    |

|                               |           |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | LCS-3071  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | LCSS      | Batch ID:      | 3071      | RunNo:      | 4513                             |          |           |      |          |      |
| Prep Date:                    | 7/27/2012 | Analysis Date: | 7/30/2012 | SeqNo:      | 128375                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 23        | 5.0            | 25.00     | 0           | 93.0                             | 85       | 115       |      |          |      |
| Surr: BFB                     | 1000      |                | 1000      |             | 102                              | 84       | 116       |      |          |      |

|                               |                 |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1207C50-001A MS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC         | Batch ID:      | 3071      | RunNo:      | 4513                             |          |           |      |          |      |
| Prep Date:                    |                 | Analysis Date: | 7/30/2012 | SeqNo:      | 128377                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result          | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 25              | 5.0            | 25.00     | 2.487       | 91.3                             | 70       | 130       |      |          |      |
| Surr: BFB                     | 900             |                | 1000      |             | 90.5                             | 84       | 116       |      |          |      |

|                               |                  |     |                |             |           |          |           |                                  |          |        |       |
|-------------------------------|------------------|-----|----------------|-------------|-----------|----------|-----------|----------------------------------|----------|--------|-------|
| Sample ID                     | 1207C50-001A MSD |     |                | SampType:   | MSD       |          | TestCode: | EPA Method 8015B: Gasoline Range |          |        |       |
| Client ID:                    | BatchQC          |     | Batch ID:      |             | 3071      |          | RunNo:    | 4513                             |          |        |       |
| Prep Date:                    |                  |     | Analysis Date: |             | 7/30/2012 |          | SeqNo:    | 128378                           |          | Units: | mg/Kg |
| Analyte                       | Result           | PQL | SPK value      | SPK Ref Val | %REC      | LowLimit | HighLimit | %RPD                             | RPDLimit | Qual   |       |
| Gasoline Range Organics (GRO) | 26               | 5.0 | 25.00          | 2.487       | 92.2      | 70       | 130       | 0.826                            | 22.1     |        |       |
| Surr: BFB                     | 1100             |     | 1000           |             | 114       | 84       | 116       | 0                                | 0        |        |       |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                               |                |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1207B91-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC        | Batch ID:      | 3071      | RunNo:      | 4576                             |          |           |      |          |      |
| Prep Date:                    | 7/27/2012      | Analysis Date: | 8/1/2012  | SeqNo:      | 128410                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result         | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 18             | 12             | 24.20     | 0           | 74.6                             | 70       | 130       |      |          |      |
| Surr: BFB                     | 5500           |                | 4840      |             | 115                              | 84       | 116       |      |          |      |

|                               |                 |                |           |             |                                  |          |           |       |          |      |
|-------------------------------|-----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|-------|----------|------|
| Sample ID                     | 1207B91-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |       |          |      |
| Client ID:                    | BatchQC         | Batch ID:      | 3071      | RunNo:      | 4576                             |          |           |       |          |      |
| Prep Date:                    | 7/27/2012       | Analysis Date: | 8/1/2012  | SeqNo:      | 128411                           | Units:   | mg/Kg     |       |          |      |
| Analyte                       | Result          | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 18              | 11             | 22.83     | 0           | 78.8                             | 70       | 130       | 0.351 | 22.1     |      |
| Surr: BFB                     | 4700            |                | 4566      |             | 103                              | 84       | 116       | 0     | 0        |      |

|                               |           |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | MB-3118   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | PBS       | Batch ID:      | 3118      | RunNo:      | 4574                             |          |           |      |          |      |
| Prep Date:                    | 7/31/2012 | Analysis Date: | 8/1/2012  | SeqNo:      | 129323                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND        | 5.0            |           |             |                                  |          |           |      |          |      |
| Surr: BFB                     | 980       |                | 1000      |             | 98.4                             | 84       | 116       |      |          |      |

|                               |           |     |                         |             |                                            |          |              |      |          |      |
|-------------------------------|-----------|-----|-------------------------|-------------|--------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                     | LCS-3118  |     | SampType: LCS           |             | TestCode: EPA Method 8015B: Gasoline Range |          |              |      |          |      |
| Client ID:                    | LCSS      |     | Batch ID: 3118          |             | RunNo: 4574                                |          |              |      |          |      |
| Prep Date:                    | 7/31/2012 |     | Analysis Date: 8/1/2012 |             | SeqNo: 129324                              |          | Units: mg/Kg |      |          |      |
| Analyte                       | Result    | PQL | SPK value               | SPK Ref Val | %REC                                       | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 23        | 5.0 | 25.00                   | 0           | 93.6                                       | 85       | 115          |      |          |      |
| Surr: BFB                     | 1000      |     | 1000                    |             | 101                                        | 84       | 116          |      |          |      |

|                               |                |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1207D19-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC        | Batch ID:      | 3118      | RunNo:      | 4574                             |          |           |      |          |      |
| Prep Date:                    | 7/31/2012      | Analysis Date: | 8/1/2012  | SeqNo:      | 129332                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result         | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 37             | 4.7            | 23.74     | 14.95       | 93.6                             | 70       | 130       |      |          |      |
| Surr: BFB                     | 1500           |                | 949.7     |             | 160                              | 84       | 116       |      |          | S    |

|                               |                 |     |                |             |          |          |           |                                  |          |        |       |
|-------------------------------|-----------------|-----|----------------|-------------|----------|----------|-----------|----------------------------------|----------|--------|-------|
| Sample ID                     | 1207D19-001AMSD |     |                | SampType:   | MSD      |          | TestCode: | EPA Method 8015B: Gasoline Range |          |        |       |
| Client ID:                    | BatchQC         |     | Batch ID:      |             | 3118     |          | RunNo:    | 4574                             |          |        |       |
| Prep Date:                    | 7/31/2012       |     | Analysis Date: |             | 8/1/2012 |          | SeqNo:    | 129333                           |          | Units: | mg/Kg |
| Analyte                       | Result          | PQL | SPK value      | SPK Ref Val | %REC     | LowLimit | HighLimit | %RPD                             | RPDLimit | Qual   |       |
| Gasoline Range Organics (GRO) | 37              | 4.8 | 24.15          | 14.95       | 91.3     | 70       | 130       | 0.497                            | 22.1     |        |       |
| Surr: BFB                     | 1600            |     | 966.2          |             | 167      | 84       | 116       | 0                                | 0        | S      |       |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |        |                |           |             |                                  |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 5ML RB | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4409     | RunNo:      | 4409                             |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 7/24/2012 | SeqNo:      | 122827                           | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Gasoline Range Organics (GRO)

ND

0.050

Surr: BFB

18

20.00

88.5

69.8

119

|            |               |                |           |             |                                  |          |           |      |          |      |
|------------|---------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 2.5UG GRO LCS | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | LCSW          | Batch ID:      | R4409     | RunNo:      | 4409                             |          |           |      |          |      |
| Prep Date: |               | Analysis Date: | 7/24/2012 | SeqNo:      | 122828                           | Units:   | mg/L      |      |          |      |
| Analyte    | Result        | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Gasoline Range Organics (GRO)

0.51

0.050

0.5000

0

101

75.9

119

Surr: BFB

21

20.00

103

69.8

119

|            |                |                |           |             |                                  |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207819-004AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | R4409     | RunNo:      | 4409                             |          |           |      |          |      |
| Prep Date: |                | Analysis Date: | 7/24/2012 | SeqNo:      | 122835                           | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Gasoline Range Organics (GRO)

4.7

0.25

2.500

2.307

94.7

75.4

121

Surr: BFB

100

100.0

103

69.8

119

|            |                 |                |           |             |                                  |          |           |      |          |      |
|------------|-----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207819-004AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | R4409     | RunNo:      | 4409                             |          |           |      |          |      |
| Prep Date: |                 | Analysis Date: | 7/24/2012 | SeqNo:      | 122836                           | Units:   | mg/L      |      |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Gasoline Range Organics (GRO)

4.1

0.25

2.500

2.307

71.5

75.4

121

13.2

10.5

SR

Surr: BFB

96

100.0

96.5

69.8

119

0

0

|            |        |                |           |             |                                  |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 5ML RB | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R4435     | RunNo:      | 4435                             |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 7/25/2012 | SeqNo:      | 123768                           | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Gasoline Range Organics (GRO)

ND

0.050

Surr: BFB

17

20.00

86.4

69.8

119

|            |               |                |           |             |                                  |          |           |      |          |      |
|------------|---------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 2.5UG GRO LCS | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | LCSW          | Batch ID:      | R4435     | RunNo:      | 4435                             |          |           |      |          |      |
| Prep Date: |               | Analysis Date: | 7/25/2012 | SeqNo:      | 123769                           | Units:   | mg/L      |      |          |      |
| Analyte    | Result        | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Gasoline Range Organics (GRO)

0.50

0.050

0.5000

0

99.0

75.9

119

Surr: BFB

18

20.00

90.7

69.8

119

### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

| Sample ID: <b>b5</b>           | SampType: <b>MBLK</b>           |       |           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |      |          |                     |      |          |      |
|--------------------------------|---------------------------------|-------|-----------|----------------------------------------------|------|----------|---------------------|------|----------|------|
| Client ID: <b>PBS</b>          | Batch ID: <b>R4233</b>          |       |           | RunNo: <b>4233</b>                           |      |          |                     |      |          |      |
| Prep Date:                     | Analysis Date: <b>7/21/2012</b> |       |           | SeqNo: <b>121267</b>                         |      |          | Units: <b>mg/Kg</b> |      |          |      |
| Analyte                        | Result                          | PQL   | SPK value | SPK Ref Val                                  | %REC | LowLimit | HighLimit           | %RPD | RPDLimit | Qual |
| Benzene                        | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Toluene                        | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Ethylbenzene                   | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,2,4-Trimethylbenzene         | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,3,5-Trimethylbenzene         | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,2-Dichloroethane (EDC)       | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,2-Dibromoethane (EDB)        | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Naphthalene                    | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| 1-Methylnaphthalene            | ND                              | 0.20  |           |                                              |      |          |                     |      |          |      |
| 2-Methylnaphthalene            | ND                              | 0.20  |           |                                              |      |          |                     |      |          |      |
| Acetone                        | ND                              | 0.75  |           |                                              |      |          |                     |      |          |      |
| Bromobenzene                   | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Bromodichloromethane           | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Bromoform                      | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Bromomethane                   | ND                              | 0.15  |           |                                              |      |          |                     |      |          |      |
| 2-Butanone                     | ND                              | 0.50  |           |                                              |      |          |                     |      |          |      |
| on disulfide                   | ND                              | 0.50  |           |                                              |      |          |                     |      |          |      |
| Carbon tetrachloride           | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| Chlorobenzene                  | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Chloroethane                   | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| Chloroform                     | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Chloromethane                  | ND                              | 0.15  |           |                                              |      |          |                     |      |          |      |
| 2-Chlorotoluene                | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 4-Chlorotoluene                | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| cis-1,2-DCE                    | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| cis-1,3-Dichloropropene        | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,2-Dibromo-3-chloropropane    | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| Dibromochloromethane           | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Dibromomethane                 | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| 1,2-Dichlorobenzene            | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,3-Dichlorobenzene            | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,4-Dichlorobenzene            | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| Dichlorodifluoromethane        | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,1-Dichloroethane             | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| 1,1-Dichloroethene             | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,2-Dichloropropane            | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 1,3-Dichloropropane            | ND                              | 0.050 |           |                                              |      |          |                     |      |          |      |
| 2,2-Dichloropropane            | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| 1,1-Dichloropropene            | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |
| Hexachlorobutadiene            | ND                              | 0.10  |           |                                              |      |          |                     |      |          |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | b5     | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBS    | Batch ID:      | R4233     | RunNo:      | 4233                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/21/2012 | SeqNo:      | 121267                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2-Hexanone                  | ND     | 0.50           |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 0.50           |           |             |                             |          |           |      |          |      |
| Methylene chloride          | ND     | 0.15           |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Vinyl chloride              | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.46   |                | 0.5000    |             | 92.1                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.54   |                | 0.5000    |             | 107                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.45   |                | 0.5000    |             | 89.1                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.53   |                | 0.5000    |             | 105                         | 70       | 130       |      |          |      |

|                             |            |                |           |             |                             |          |           |      |          |      |
|-----------------------------|------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcs2 | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSS       | Batch ID:      | R4233     | RunNo:      | 4233                        |          |           |      |          |      |
| Prep Date:                  |            | Analysis Date: | 7/21/2012 | SeqNo:      | 121268                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result     | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 1.1        | 0.050          | 1.000     | 0           | 107                         | 70.7     | 123       |      |          |      |
| Toluene                     | 1.1        | 0.050          | 1.000     | 0           | 107                         | 80       | 120       |      |          |      |
| Chlorobenzene               | 1.0        | 0.050          | 1.000     | 0           | 102                         | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 0.99       | 0.050          | 1.000     | 0           | 99.0                        | 63.1     | 148       |      |          |      |
| Trichloroethene (TCE)       | 0.89       | 0.050          | 1.000     | 0           | 88.8                        | 63.2     | 114       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.46       |                | 0.5000    |             | 92.1                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.60       |                | 0.5000    |             | 121                         | 70       | 130       |      |          |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |            |     |                |             |      |           |                             |      |              |      |
|----------------------------|------------|-----|----------------|-------------|------|-----------|-----------------------------|------|--------------|------|
| Sample ID                  | 100ng lcs2 |     | SampType:      | LCS         |      | TestCode: | EPA Method 8260B: VOLATILES |      |              |      |
| Client ID:                 | LCSS       |     | Batch ID:      | R4233       |      | RunNo:    | 4233                        |      |              |      |
| Prep Date:                 |            |     | Analysis Date: | 7/21/2012   |      | SeqNo:    | 121268                      |      | Units: mg/Kg |      |
| Analyte                    | Result     | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit     | Qual |
| Surr: Dibromofluoromethane | 0.45       |     | 0.5000         |             | 89.3 | 70        | 130                         |      |              |      |
| Surr: Toluene-d8           | 0.51       |     | 0.5000         |             | 103  | 70        | 130                         |      |              |      |

|                             |                 |       |                |             |      |           |                             |      |              |      |
|-----------------------------|-----------------|-------|----------------|-------------|------|-----------|-----------------------------|------|--------------|------|
| Sample ID                   | 1207900-002b ms |       | SampType:      | MS          |      | TestCode: | EPA Method 8260B: VOLATILES |      |              |      |
| Client ID:                  | BatchQC         |       | Batch ID:      | R4233       |      | RunNo:    | 4233                        |      |              |      |
| Prep Date:                  |                 |       | Analysis Date: | 7/21/2012   |      | SeqNo:    | 121269                      |      | Units: mg/Kg |      |
| Analyte                     | Result          | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit     | Qual |
| Benzene                     | 0.70            | 0.050 | 0.6439         | 0.006767    | 108  | 81.3      | 119                         |      |              |      |
| Toluene                     | 0.65            | 0.050 | 0.6439         | 0           | 100  | 75        | 121                         |      |              |      |
| Chlorobenzene               | 0.64            | 0.050 | 0.6439         | 0           | 99.6 | 78.5      | 120                         |      |              |      |
| 1,1-Dichloroethene          | 0.68            | 0.050 | 0.6439         | 0           | 106  | 75.3      | 115                         |      |              |      |
| Trichloroethene (TCE)       | 0.61            | 0.050 | 0.6439         | 0           | 94.7 | 67.8      | 119                         |      |              |      |
| Surr: 1,2-Dichloroethane-d4 | 0.31            |       | 0.3220         |             | 97.6 | 70        | 130                         |      |              |      |
| Surr: 4-Bromofluorobenzene  | 0.32            |       | 0.3220         |             | 97.9 | 70        | 130                         |      |              |      |
| Surr: Dibromofluoromethane  | 0.32            |       | 0.3220         |             | 98.8 | 70        | 130                         |      |              |      |
| Surr: Toluene-d8            | 0.32            |       | 0.3220         |             | 101  | 70        | 130                         |      |              |      |

|                             |                  |       |                |             |      |           |                             |      |              |      |
|-----------------------------|------------------|-------|----------------|-------------|------|-----------|-----------------------------|------|--------------|------|
| Sample ID                   | 1207900-002b msd |       | SampType:      | MSD         |      | TestCode: | EPA Method 8260B: VOLATILES |      |              |      |
| Client ID:                  | BatchQC          |       | Batch ID:      | R4233       |      | RunNo:    | 4233                        |      |              |      |
| Prep Date:                  |                  |       | Analysis Date: | 7/21/2012   |      | SeqNo:    | 121270                      |      | Units: mg/Kg |      |
| Analyte                     | Result           | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit     | Qual |
| Benzene                     | 0.67             | 0.050 | 0.6439         | 0.006767    | 103  | 81.3      | 119                         | 4.25 | 15.7         |      |
| Toluene                     | 0.63             | 0.050 | 0.6439         | 0           | 98.3 | 75        | 121                         | 2.14 | 16.2         |      |
| Chlorobenzene               | 0.65             | 0.050 | 0.6439         | 0           | 101  | 78.5      | 120                         | 1.27 | 14.9         |      |
| 1,1-Dichloroethene          | 0.60             | 0.050 | 0.6439         | 0           | 93.7 | 75.3      | 115                         | 12.0 | 31.8         |      |
| Trichloroethene (TCE)       | 0.55             | 0.050 | 0.6439         | 0           | 85.7 | 67.8      | 119                         | 10.0 | 16.5         |      |
| Surr: 1,2-Dichloroethane-d4 | 0.31             |       | 0.3220         |             | 95.8 | 70        | 130                         | 0    | 0            |      |
| Surr: 4-Bromofluorobenzene  | 0.31             |       | 0.3220         |             | 97.7 | 70        | 130                         | 0    | 0            |      |
| Surr: Dibromofluoromethane  | 0.30             |       | 0.3220         |             | 92.3 | 70        | 130                         | 0    | 0            |      |
| Surr: Toluene-d8            | 0.32             |       | 0.3220         |             | 100  | 70        | 130                         | 0    | 0            |      |

|                                |        |       |                |             |      |           |                             |      |              |      |
|--------------------------------|--------|-------|----------------|-------------|------|-----------|-----------------------------|------|--------------|------|
| Sample ID                      | 5ml-rb |       | SampType:      | MBLK        |      | TestCode: | EPA Method 8260B: VOLATILES |      |              |      |
| Client ID:                     | PBS    |       | Batch ID:      | R4379       |      | RunNo:    | 4379                        |      |              |      |
| Prep Date:                     |        |       | Analysis Date: | 7/23/2012   |      | SeqNo:    | 122014                      |      | Units: mg/Kg |      |
| Analyte                        | Result | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit     | Qual |
| Benzene                        | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Toluene                        | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Ethylbenzene                   | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Methyl tert-butyl ether (MTBE) | ND     | 0.050 |                |             |      |           |                             |      |              |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- ~ Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBS    | Batch ID:      | R4379     | RunNo:      | 4379                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/23/2012 | SeqNo:      | 122014                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2,4-Trimethylbenzene      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3,5-Trimethylbenzene      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dichloroethane (EDC)    | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dibromoethane (EDB)     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Naphthalene                 | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1-Methylnaphthalene         | ND     | 0.20           |           |             |                             |          |           |      |          |      |
| 2-Methylnaphthalene         | ND     | 0.20           |           |             |                             |          |           |      |          |      |
| Acetone                     | ND     | 0.75           |           |             |                             |          |           |      |          |      |
| Bromobenzene                | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Bromodichloromethane        | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Bromoform                   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Bromomethane                | ND     | 0.15           |           |             |                             |          |           |      |          |      |
| 2-Butanone                  | ND     | 0.50           |           |             |                             |          |           |      |          |      |
| Carbon disulfide            | ND     | 0.50           |           |             |                             |          |           |      |          |      |
| Carbon tetrachloride        | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Chlorobenzene               | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Chloroethane                | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Chloroform                  | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Chloromethane               | ND     | 0.15           |           |             |                             |          |           |      |          |      |
| 2-Chlorotoluene             | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Chlorotoluene             | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                 | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Dibromochloromethane        | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Dibromomethane              | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane          | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene          | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane         | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene         | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene         | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 2-Hexanone                  | ND     | 0.50           |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 0.50           |           |             |                             |          |           |      |          |      |

## Qualifiers:

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E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBS    | Batch ID:      | R4379     | RunNo:      | 4379                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/23/2012 | SeqNo:      | 122014                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methylene chloride          | ND     | 0.15           |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| -Trichloropropane           | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Vinyl chloride              | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.47   |                | 0.5000    |             | 93.6                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.53   |                | 0.5000    |             | 105                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.52   |                | 0.5000    |             | 104                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.53   |                | 0.5000    |             | 105                         | 70       | 130       |      |          |      |

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcs | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSS      | Batch ID:      | R4379     | RunNo:      | 4379                        |          |           |      |          |      |
| Prep Date:                  |           | Analysis Date: | 7/23/2012 | SeqNo:      | 122015                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 1.0       | 0.050          | 1.000     | 0           | 105                         | 70.7     | 123       |      |          |      |
| Toluene                     | 0.96      | 0.050          | 1.000     | 0           | 95.5                        | 80       | 120       |      |          |      |
| Chlorobenzene               | 0.98      | 0.050          | 1.000     | 0           | 97.9                        | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 0.93      | 0.050          | 1.000     | 0           | 92.5                        | 63.1     | 148       |      |          |      |
| Trichloroethene (TCE)       | 0.88      | 0.050          | 1.000     | 0           | 88.4                        | 63.2     | 114       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.47      |                | 0.5000    |             | 93.5                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.52      |                | 0.5000    |             | 103                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.51      |                | 0.5000    |             | 103                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.49      |                | 0.5000    |             | 97.5                        | 70       | 130       |      |          |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |                           |     |                |                  |      |           |                                    |      |                     |      |
|-----------------------------|---------------------------|-----|----------------|------------------|------|-----------|------------------------------------|------|---------------------|------|
| Sample ID                   | <b>1207940-007b ms</b>    |     | SampType:      | <b>MS</b>        |      | TestCode: | <b>EPA Method 8260B: VOLATILES</b> |      |                     |      |
| Client ID:                  | <b>SWMU 14-12 (1.5-2.</b> |     | Batch ID:      | <b>R4379</b>     |      | RunNo:    | <b>4379</b>                        |      |                     |      |
| Prep Date:                  |                           |     | Analysis Date: | <b>7/24/2012</b> |      | SeqNo:    | <b>122016</b>                      |      | Units: <b>mg/Kg</b> |      |
| Analyte                     | Result                    | PQL | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD | RPDLimit            | Qual |
| Benzene                     | 44                        | 2.5 | 42.92          | 2.856            | 95.9 | 81.3      | 119                                |      |                     |      |
| Toluene                     | 56                        | 2.5 | 42.92          | 14.08            | 97.1 | 75        | 121                                |      |                     |      |
| Chlorobenzene               | 42                        | 2.5 | 42.92          | 0                | 97.1 | 78.5      | 120                                |      |                     |      |
| 1,1-Dichloroethene          | 39                        | 2.5 | 42.92          | 0                | 91.6 | 75.3      | 115                                |      |                     |      |
| Trichloroethene (TCE)       | 37                        | 2.5 | 42.92          | 0                | 85.1 | 67.8      | 119                                |      |                     |      |
| Surr: 1,2-Dichloroethane-d4 | 20                        |     | 21.46          |                  | 92.0 | 70        | 130                                |      |                     |      |
| Surr: 4-Bromofluorobenzene  | 20                        |     | 21.46          |                  | 93.8 | 70        | 130                                |      |                     |      |
| Surr: Dibromofluoromethane  | 22                        |     | 21.46          |                  | 101  | 70        | 130                                |      |                     |      |
| Surr: Toluene-d8            | 22                        |     | 21.46          |                  | 102  | 70        | 130                                |      |                     |      |

|                             |                           |     |                |                  |      |           |                                    |        |                     |      |
|-----------------------------|---------------------------|-----|----------------|------------------|------|-----------|------------------------------------|--------|---------------------|------|
| Sample ID                   | <b>1207940-007b msd</b>   |     | SampType:      | <b>MSD</b>       |      | TestCode: | <b>EPA Method 8260B: VOLATILES</b> |        |                     |      |
| Client ID:                  | <b>SWMU 14-12 (1.5-2.</b> |     | Batch ID:      | <b>R4379</b>     |      | RunNo:    | <b>4379</b>                        |        |                     |      |
| Prep Date:                  |                           |     | Analysis Date: | <b>7/24/2012</b> |      | SeqNo:    | <b>122017</b>                      |        | Units: <b>mg/Kg</b> |      |
| Analyte                     | Result                    | PQL | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD   | RPDLimit            | Qual |
| Benzene                     | 43                        | 2.5 | 42.92          | 2.856            | 93.9 | 81.3      | 119                                | 1.96   | 15.7                |      |
| Toluene                     | 54                        | 2.5 | 42.92          | 14.08            | 92.6 | 75        | 121                                | 3.49   | 16.2                |      |
| Chlorobenzene               | 42                        | 2.5 | 42.92          | 0                | 97.0 | 78.5      | 120                                | 0.0484 | 14.9                |      |
| 1,1-Dichloroethene          | 37                        | 2.5 | 42.92          | 0                | 85.4 | 75.3      | 115                                | 7.02   | 31.8                |      |
| Trichloroethene (TCE)       | 36                        | 2.5 | 42.92          | 0                | 84.2 | 67.8      | 119                                | 1.08   | 16.5                |      |
| Surr: 1,2-Dichloroethane-d4 | 20                        |     | 21.46          |                  | 94.1 | 70        | 130                                | 0      | 0                   |      |
| Surr: 4-Bromofluorobenzene  | 20                        |     | 21.46          |                  | 92.2 | 70        | 130                                | 0      | 0                   |      |
| Surr: Dibromofluoromethane  | 23                        |     | 21.46          |                  | 106  | 70        | 130                                | 0      | 0                   |      |
| Surr: Toluene-d8            | 21                        |     | 21.46          |                  | 99.9 | 70        | 130                                | 0      | 0                   |      |

|                             |                  |     |                |                  |      |           |                                    |      |                    |      |
|-----------------------------|------------------|-----|----------------|------------------|------|-----------|------------------------------------|------|--------------------|------|
| Sample ID                   | <b>mb-3010</b>   |     | SampType:      | <b>MBLK</b>      |      | TestCode: | <b>EPA Method 8260B: VOLATILES</b> |      |                    |      |
| Client ID:                  | <b>PBS</b>       |     | Batch ID:      | <b>3010</b>      |      | RunNo:    | <b>4468</b>                        |      |                    |      |
| Prep Date:                  | <b>7/24/2012</b> |     | Analysis Date: | <b>7/25/2012</b> |      | SeqNo:    | <b>125366</b>                      |      | Units: <b>%REC</b> |      |
| Analyte                     | Result           | PQL | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD | RPDLimit           | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.46             |     | 0.5000         |                  | 92.0 | 70        | 130                                |      |                    |      |
| Surr: 4-Bromofluorobenzene  | 0.51             |     | 0.5000         |                  | 101  | 70        | 130                                |      |                    |      |
| Surr: Dibromofluoromethane  | 0.51             |     | 0.5000         |                  | 102  | 70        | 130                                |      |                    |      |
| Surr: Toluene-d8            | 0.50             |     | 0.5000         |                  | 101  | 70        | 130                                |      |                    |      |

|                             |                  |     |                |                  |      |           |                                    |      |                    |      |
|-----------------------------|------------------|-----|----------------|------------------|------|-----------|------------------------------------|------|--------------------|------|
| Sample ID                   | <b>lcs-3010</b>  |     | SampType:      | <b>LCS</b>       |      | TestCode: | <b>EPA Method 8260B: VOLATILES</b> |      |                    |      |
| Client ID:                  | <b>LCSS</b>      |     | Batch ID:      | <b>3010</b>      |      | RunNo:    | <b>4468</b>                        |      |                    |      |
| Prep Date:                  | <b>7/24/2012</b> |     | Analysis Date: | <b>7/25/2012</b> |      | SeqNo:    | <b>125367</b>                      |      | Units: <b>%REC</b> |      |
| Analyte                     | Result           | PQL | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD | RPDLimit           | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.46             |     | 0.5000         |                  | 92.2 | 70        | 130                                |      |                    |      |
| Surr: 4-Bromofluorobenzene  | 0.54             |     | 0.5000         |                  | 108  | 70        | 130                                |      |                    |      |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |           |     |                |             |      |           |                             |      |             |      |
|----------------------------|-----------|-----|----------------|-------------|------|-----------|-----------------------------|------|-------------|------|
| Sample ID                  | Ics-3010  |     | SampType:      | LCS         |      | TestCode: | EPA Method 8260B: VOLATILES |      |             |      |
| Client ID:                 | LCSS      |     | Batch ID:      | 3010        |      | RunNo:    | 4468                        |      |             |      |
| Prep Date:                 | 7/24/2012 |     | Analysis Date: | 7/25/2012   |      | SeqNo:    | 125367                      |      | Units: %REC |      |
| Analyte                    | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit    | Qual |
| Surr: Dibromofluoromethane | 0.52      |     | 0.5000         |             | 104  | 70        | 130                         |      |             |      |
| Surr: Toluene-d8           | 0.50      |     | 0.5000         |             | 100  | 70        | 130                         |      |             |      |

|                             |           |     |                |             |      |           |                             |      |             |      |
|-----------------------------|-----------|-----|----------------|-------------|------|-----------|-----------------------------|------|-------------|------|
| Sample ID                   | mb-3010   |     | SampType:      | MBLK        |      | TestCode: | EPA Method 8260B: VOLATILES |      |             |      |
| Client ID:                  | PBS       |     | Batch ID:      | 3010        |      | RunNo:    | 4498                        |      |             |      |
| Prep Date:                  | 7/24/2012 |     | Analysis Date: | 7/27/2012   |      | SeqNo:    | 126123                      |      | Units: %REC |      |
| Analyte                     | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit    | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.45      |     | 0.5000         |             | 90.7 | 70        | 130                         |      |             |      |
| Surr: 4-Bromofluorobenzene  | 0.59      |     | 0.5000         |             | 118  | 70        | 130                         |      |             |      |
| Surr: Dibromofluoromethane  | 0.51      |     | 0.5000         |             | 102  | 70        | 130                         |      |             |      |
| Surr: Toluene-d8            | 0.50      |     | 0.5000         |             | 99.3 | 70        | 130                         |      |             |      |

|                                |        |       |                |             |      |           |                             |      |              |      |
|--------------------------------|--------|-------|----------------|-------------|------|-----------|-----------------------------|------|--------------|------|
| Sample ID                      | 5ml rb |       | SampType:      | MBLK        |      | TestCode: | EPA Method 8260B: VOLATILES |      |              |      |
| Client ID:                     | PBS    |       | Batch ID:      | R4537       |      | RunNo:    | 4537                        |      |              |      |
| Prep Date:                     |        |       | Analysis Date: | 7/30/2012   |      | SeqNo:    | 127461                      |      | Units: mg/Kg |      |
| alyte                          | Result | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit     | Qual |
| zene                           | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Toluene                        | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Ethylbenzene                   | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Methyl tert-butyl ether (MTBE) | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| 1,2,4-Trimethylbenzene         | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| 1,3,5-Trimethylbenzene         | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| 1,2-Dichloroethane (EDC)       | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| 1,2-Dibromoethane (EDB)        | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Naphthalene                    | ND     | 0.10  |                |             |      |           |                             |      |              |      |
| 1-Methylnaphthalene            | ND     | 0.20  |                |             |      |           |                             |      |              |      |
| 2-Methylnaphthalene            | ND     | 0.20  |                |             |      |           |                             |      |              |      |
| Acetone                        | ND     | 0.75  |                |             |      |           |                             |      |              |      |
| Bromobenzene                   | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Bromodichloromethane           | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Bromoform                      | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Bromomethane                   | ND     | 0.15  |                |             |      |           |                             |      |              |      |
| 2-Butanone                     | ND     | 0.50  |                |             |      |           |                             |      |              |      |
| Carbon disulfide               | ND     | 0.50  |                |             |      |           |                             |      |              |      |
| Carbon tetrachloride           | ND     | 0.10  |                |             |      |           |                             |      |              |      |
| Chlorobenzene                  | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Chloroethane                   | ND     | 0.10  |                |             |      |           |                             |      |              |      |
| Chloroform                     | ND     | 0.050 |                |             |      |           |                             |      |              |      |
| Chloromethane                  | ND     | 0.15  |                |             |      |           |                             |      |              |      |
| 2-Chlorotoluene                | ND     | 0.050 |                |             |      |           |                             |      |              |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBS    | Batch ID:      | R4537     | RunNo:      | 4537                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/30/2012 | SeqNo:      | 127461                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 4-Chlorotoluene             | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                 | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Dibromochloromethane        | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Dibromomethane              | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane          | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene          | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane         | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane         | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene         | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene         | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 2-Hexanone                  | ND     | 0.50           |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 0.50           |           |             |                             |          |           |      |          |      |
| Methylene chloride          | ND     | 0.15           |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND     | 0.10           |           |             |                             |          |           |      |          |      |
| Vinyl chloride              | ND     | 0.050          |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND     | 0.10           |           |             |                             |          |           |      |          |      |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                          |           |             |                                       |          |              |      |          |      |
|-----------------------------|--------|--------------------------|-----------|-------------|---------------------------------------|----------|--------------|------|----------|------|
| Sample ID                   | 5ml rb | SampType: MBLK           |           |             | TestCode: EPA Method 8260B: VOLATILES |          |              |      |          |      |
| Client ID:                  | PBS    | Batch ID: R4537          |           |             | RunNo: 4537                           |          |              |      |          |      |
| Prep Date:                  |        | Analysis Date: 7/30/2012 |           |             | SeqNo: 127461                         |          | Units: mg/Kg |      |          |      |
| Analyte                     | Result | PQL                      | SPK value | SPK Ref Val | %REC                                  | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.46   |                          | 0.5000    |             | 91.6                                  | 70       | 130          |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.52   |                          | 0.5000    |             | 104                                   | 70       | 130          |      |          |      |
| Surr: Dibromofluoromethane  | 0.44   |                          | 0.5000    |             | 89.0                                  | 70       | 130          |      |          |      |
| Surr: Toluene-d8            | 0.51   |                          | 0.5000    |             | 102                                   | 70       | 130          |      |          |      |

|                             |           |                          |           |             |                                       |          |              |      |          |      |
|-----------------------------|-----------|--------------------------|-----------|-------------|---------------------------------------|----------|--------------|------|----------|------|
| Sample ID                   | 100ng lcs | SampType: LCS            |           |             | TestCode: EPA Method 8260B: VOLATILES |          |              |      |          |      |
| Client ID:                  | LCSS      | Batch ID: R4537          |           |             | RunNo: 4537                           |          |              |      |          |      |
| Prep Date:                  |           | Analysis Date: 7/30/2012 |           |             | SeqNo: 127466                         |          | Units: mg/Kg |      |          |      |
| Analyte                     | Result    | PQL                      | SPK value | SPK Ref Val | %REC                                  | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Benzene                     | 0.91      | 0.050                    | 1.000     | 0           | 91.1                                  | 70.7     | 123          |      |          |      |
| Toluene                     | 0.98      | 0.050                    | 1.000     | 0           | 98.4                                  | 80       | 120          |      |          |      |
| Chlorobenzene               | 0.99      | 0.050                    | 1.000     | 0           | 99.3                                  | 70       | 130          |      |          |      |
| 1,1-Dichloroethene          | 0.83      | 0.050                    | 1.000     | 0           | 83.3                                  | 63.1     | 148          |      |          |      |
| Trichloroethene (TCE)       | 0.79      | 0.050                    | 1.000     | 0           | 79.3                                  | 63.2     | 114          |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.44      |                          | 0.5000    |             | 88.3                                  | 70       | 130          |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.56      |                          | 0.5000    |             | 112                                   | 70       | 130          |      |          |      |
| Surr: Dibromofluoromethane  | 0.44      |                          | 0.5000    |             | 87.9                                  | 70       | 130          |      |          |      |
| Surr: Toluene-d8            | 0.52      |                          | 0.5000    |             | 105                                   | 70       | 130          |      |          |      |

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | mb-3118   | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBS       | Batch ID:      | 3118      | RunNo:      | 4594                        |          |           |      |          |      |
| Prep Date:                  | 7/31/2012 | Analysis Date: | 8/1/2012  | SeqNo:      | 129277                      | Units:   | %REC      |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.39      |                | 0.5000    |             | 77.6                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.37      |                | 0.5000    |             | 73.3                        | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.37      |                | 0.5000    |             | 73.3                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.40      |                | 0.5000    |             | 80.6                        | 70       | 130       |      |          |      |

|                             |           |                |           |             |                             |             |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|-------------|-----------|------|----------|------|
| Sample ID                   | lcs-3118  | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |             |           |      |          |      |
| Client ID:                  | LCSS      | Batch ID:      | 3118      | RunNo:      | 4594                        |             |           |      |          |      |
| Prep Date:                  | 7/31/2012 | Analysis Date: | 8/1/2012  | SeqNo:      | 129278                      | Units: %REC |           |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit    | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 0.43      |                | 0.5000    |             | 85.4                        | 70          | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.36      |                | 0.5000    |             | 71.6                        | 70          | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.41      |                | 0.5000    |             | 82.0                        | 70          | 130       |      |          |      |
| Surr: Toluene-d8            | 0.41      |                | 0.5000    |             | 81.9                        | 70          | 130       |      |          |      |

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                                |        |                |           |             |                             |          |           |      |          |      |
|--------------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                      | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                     | PBW    | Batch ID:      | R4233     | RunNo:      | 4233                        |          |           |      |          |      |
| Prep Date:                     |        | Analysis Date: | 7/20/2012 | SeqNo:      | 120975                      | Units:   | µg/L      |      |          |      |
| Analyte                        | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Toluene                        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Ethylbenzene                   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,4-Trimethylbenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3,5-Trimethylbenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichloroethane (EDC)       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dibromoethane (EDB)        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Naphthalene                    | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| 1-Methylnaphthalene            | ND     | 4.0            |           |             |                             |          |           |      |          |      |
| 2-Methylnaphthalene            | ND     | 4.0            |           |             |                             |          |           |      |          |      |
| Acetone                        | ND     | 10             |           |             |                             |          |           |      |          |      |
| Bromobenzene                   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromodichloromethane           | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromoform                      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromomethane                   | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| 2-Butanone                     | ND     | 10             |           |             |                             |          |           |      |          |      |
| Carbon disulfide               | ND     | 10             |           |             |                             |          |           |      |          |      |
| Carbon tetrachloride           | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chlorobenzene                  | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chloroethane                   | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Chloroform                     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chloromethane                  | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| 2-Chlorotoluene                | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Chlorotoluene                | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane    | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Dibromochloromethane           | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dibromomethane                 | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane            | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

| Sample ID: <b>5ml-rb</b>    | SampType: <b>MBLK</b>           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |                    |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Client ID: <b>PBW</b>       | Batch ID: <b>R4233</b>          | RunNo: <b>4233</b>                           |           |                    |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/20/2012</b> | SeqNo: <b>120975</b>                         |           | Units: <b>µg/L</b> |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2-Hexanone                  | ND                              | 10                                           |           |                    |      |          |           |      |          |      |
| Isopropylbenzene            | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 4-Isopropyltoluene          | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND                              | 10                                           |           |                    |      |          |           |      |          |      |
| Methylene chloride          | ND                              | 3.0                                          |           |                    |      |          |           |      |          |      |
| n-Butylbenzene              | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| n-Propylbenzene             | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| sec-Butylbenzene            | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| Styrene                     | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| tert-Butylbenzene           | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND                              | 2.0                                          |           |                    |      |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| trans-1,2-DCE               | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| -Trichloroethane            | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| Trichloroethene (TCE)       | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| Trichlorofluoromethane      | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND                              | 2.0                                          |           |                    |      |          |           |      |          |      |
| Vinyl chloride              | ND                              | 1.0                                          |           |                    |      |          |           |      |          |      |
| Xylenes, Total              | ND                              | 1.5                                          |           |                    |      |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.3                             |                                              | 10.00     |                    | 93.1 | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 12                              |                                              | 10.00     |                    | 117  | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 8.7                             |                                              | 10.00     |                    | 87.0 | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10                              |                                              | 10.00     |                    | 105  | 70       | 130       |      |          |      |

| Sample ID: <b>100ng lcs</b> | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8260B: VOLATILES</b> |           |                    |      |          |           |      |          |      |
|-----------------------------|---------------------------------|----------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>R4233</b>          | RunNo: <b>4233</b>                           |           |                    |      |          |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/20/2012</b> | SeqNo: <b>120980</b>                         |           | Units: <b>µg/L</b> |      |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                          | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 20                              | 1.0                                          | 20.00     | 0                  | 102  | 84.1     | 126       |      |          |      |
| Toluene                     | 22                              | 1.0                                          | 20.00     | 0                  | 109  | 80       | 120       |      |          |      |
| Chlorobenzene               | 21                              | 1.0                                          | 20.00     | 0                  | 107  | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 20                              | 1.0                                          | 20.00     | 0                  | 98.6 | 83       | 130       |      |          |      |
| Trichloroethene (TCE)       | 18                              | 1.0                                          | 20.00     | 0                  | 89.5 | 76.2     | 119       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.1                             |                                              | 10.00     |                    | 90.7 | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 11                              |                                              | 10.00     |                    | 111  | 70       | 130       |      |          |      |

### Qualifiers:

- |                                            |    |                                                    |
|--------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 100ng lcs | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                 | LCSW      | Batch ID:      | R4233     | RunNo:      | 4233                        |          |           |      |          |      |
| Prep Date:                 |           | Analysis Date: | 7/20/2012 | SeqNo:      | 120980                      | Units:   | µg/L      |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: Dibromofluoromethane | 8.9       |                | 10.00     |             | 88.5                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8           | 10        |                | 10.00     |             | 103                         | 70       | 130       |      |          |      |

|                             |                 |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1207711-001a ms | SampType:      | MS        | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | BatchQC         | Batch ID:      | R4233     | RunNo:      | 4233                        |          |           |      |          |      |
| Prep Date:                  |                 | Analysis Date: | 7/20/2012 | SeqNo:      | 120981                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result          | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 21              | 1.0            | 20.00     | 0           | 104                         | 66.8     | 128       |      |          |      |
| Toluene                     | 23              | 1.0            | 20.00     | 0           | 116                         | 70       | 130       |      |          |      |
| Chlorobenzene               | 21              | 1.0            | 20.00     | 0           | 104                         | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 20              | 1.0            | 20.00     | 0           | 97.9                        | 70       | 130       |      |          |      |
| Trichloroethene (TCE)       | 18              | 1.0            | 20.00     | 0           | 92.2                        | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.7             |                | 10.00     |             | 97.1                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 11              |                | 10.00     |             | 113                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 9.5             |                | 10.00     |             | 95.0                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 11              |                | 10.00     |             | 108                         | 70       | 130       |      |          |      |

|                             |                  |                |           |             |                             |          |           |        |          |      |
|-----------------------------|------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|--------|----------|------|
| Sample ID                   | 1207711-001a msd | SampType:      | MSD       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |        |          |      |
| Client ID:                  | BatchQC          | Batch ID:      | R4233     | RunNo:      | 4233                        |          |           |        |          |      |
| Prep Date:                  |                  | Analysis Date: | 7/20/2012 | SeqNo:      | 120982                      | Units:   | µg/L      |        |          |      |
| Analyte                     | Result           | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD   | RPDLimit | Qual |
| Benzene                     | 21               | 1.0            | 20.00     | 0           | 105                         | 66.8     | 128       | 0.0297 | 16.7     |      |
| Toluene                     | 22               | 1.0            | 20.00     | 0           | 110                         | 70       | 130       | 4.99   | 18.7     |      |
| Chlorobenzene               | 21               | 1.0            | 20.00     | 0           | 104                         | 70       | 130       | 0.103  | 19.5     |      |
| 1,1-Dichloroethene          | 18               | 1.0            | 20.00     | 0           | 91.2                        | 70       | 130       | 7.04   | 16.7     |      |
| Trichloroethene (TCE)       | 19               | 1.0            | 20.00     | 0           | 94.3                        | 70       | 130       | 2.25   | 17.5     |      |
| Surr: 1,2-Dichloroethane-d4 | 9.8              |                | 10.00     |             | 97.9                        | 70       | 130       | 0      | 0        |      |
| Surr: 4-Bromofluorobenzene  | 12               |                | 10.00     |             | 119                         | 70       | 130       | 0      | 0        |      |
| Surr: Dibromofluoromethane  | 9.3              |                | 10.00     |             | 92.6                        | 70       | 130       | 0      | 0        |      |
| Surr: Toluene-d8            | 10               |                | 10.00     |             | 104                         | 70       | 130       | 0      | 0        |      |

|                                |        |                |           |             |                             |          |           |      |          |      |
|--------------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                      | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                     | PBW    | Batch ID:      | R4379     | RunNo:      | 4379                        |          |           |      |          |      |
| Prep Date:                     |        | Analysis Date: | 7/23/2012 | SeqNo:      | 122005                      | Units:   | µg/L      |      |          |      |
| Analyte                        | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Toluene                        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Ethylbenzene                   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND     | 1.0            |           |             |                             |          |           |      |          |      |

## Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBW    | Batch ID:      | R4379     | RunNo:      | 4379                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/23/2012 | SeqNo:      | 122005                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2,4-Trimethylbenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3,5-Trimethylbenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichloroethane (EDC)    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dibromoethane (EDB)     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Naphthalene                 | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| 1-Methylnaphthalene         | ND     | 4.0            |           |             |                             |          |           |      |          |      |
| 2-Methylnaphthalene         | ND     | 4.0            |           |             |                             |          |           |      |          |      |
| Acetone                     | ND     | 10             |           |             |                             |          |           |      |          |      |
| Bromobenzene                | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromodichloromethane        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromoform                   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromomethane                | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| 2-Butanone                  | ND     | 10             |           |             |                             |          |           |      |          |      |
| Carbon disulfide            | ND     | 10             |           |             |                             |          |           |      |          |      |
| Carbon tetrachloride        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chlorobenzene               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chloroethane                | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Chloroform                  | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chloromethane               | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| 2-Chlorotoluene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Chlorotoluene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                 | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Dibromochloromethane        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dibromomethane              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane         | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 2-Hexanone                  | ND     | 10             |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 10             |           |             |                             |          |           |      |          |      |

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBW    | Batch ID:      | R4379     | RunNo:      | 4379                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/23/2012 | SeqNo:      | 122005                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methylene chloride          | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Vinyl chloride              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND     | 1.5            |           |             |                             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.4    |                | 10.00     |             | 93.6                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 11     |                | 10.00     |             | 105                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10     |                | 10.00     |             | 104                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 11     |                | 10.00     |             | 105                         | 70       | 130       |      |          |      |

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcs | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSW      | Batch ID:      | R4379     | RunNo:      | 4379                        |          |           |      |          |      |
| Prep Date:                  |           | Analysis Date: | 7/23/2012 | SeqNo:      | 122008                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 21        | 1.0            | 20.00     | 0           | 105                         | 84.1     | 126       |      |          |      |
| Toluene                     | 19        | 1.0            | 20.00     | 0           | 95.5                        | 80       | 120       |      |          |      |
| Chlorobenzene               | 20        | 1.0            | 20.00     | 0           | 97.9                        | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 19        | 1.0            | 20.00     | 0           | 92.5                        | 83       | 130       |      |          |      |
| Trichloroethene (TCE)       | 18        | 1.0            | 20.00     | 0           | 88.4                        | 76.2     | 119       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.4       |                | 10.00     |             | 93.5                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10        |                | 10.00     |             | 103                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10        |                | 10.00     |             | 103                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 9.8       |                | 10.00     |             | 97.5                        | 70       | 130       |      |          |      |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                                |                          |     |           |                                       |      |             |           |      |          |      |
|--------------------------------|--------------------------|-----|-----------|---------------------------------------|------|-------------|-----------|------|----------|------|
| Sample ID: 5ml-rb              | SampType: MBLK           |     |           | TestCode: EPA Method 8260B: VOLATILES |      |             |           |      |          |      |
| Client ID: PBW                 | Batch ID: R4402          |     |           | RunNo: 4402                           |      |             |           |      |          |      |
| Prep Date:                     | Analysis Date: 7/24/2012 |     |           | SeqNo: 122636                         |      | Units: µg/L |           |      |          |      |
| Analyte                        | Result                   | PQL | SPK value | SPK Ref Val                           | %REC | LowLimit    | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                        | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Toluene                        | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Ethylbenzene                   | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,2,4-Trimethylbenzene         | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,3,5-Trimethylbenzene         | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,2-Dichloroethane (EDC)       | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,2-Dibromoethane (EDB)        | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Naphthalene                    | ND                       | 2.0 |           |                                       |      |             |           |      |          |      |
| 1-Methylnaphthalene            | ND                       | 4.0 |           |                                       |      |             |           |      |          |      |
| 2-Methylnaphthalene            | ND                       | 4.0 |           |                                       |      |             |           |      |          |      |
| Acetone                        | ND                       | 10  |           |                                       |      |             |           |      |          |      |
| Bromobenzene                   | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Bromodichloromethane           | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Bromoform                      | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Bromomethane                   | ND                       | 3.0 |           |                                       |      |             |           |      |          |      |
| 2-Butanone                     | ND                       | 10  |           |                                       |      |             |           |      |          |      |
| on disulfide                   | ND                       | 10  |           |                                       |      |             |           |      |          |      |
| Carbon tetrachloride           | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Chlorobenzene                  | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Chloroethane                   | ND                       | 2.0 |           |                                       |      |             |           |      |          |      |
| Chloroform                     | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Chloromethane                  | ND                       | 3.0 |           |                                       |      |             |           |      |          |      |
| 2-Chlorotoluene                | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 4-Chlorotoluene                | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| cis-1,2-DCE                    | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| cis-1,3-Dichloropropene        | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,2-Dibromo-3-chloropropane    | ND                       | 2.0 |           |                                       |      |             |           |      |          |      |
| Dibromochloromethane           | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Dibromomethane                 | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,2-Dichlorobenzene            | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,3-Dichlorobenzene            | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,4-Dichlorobenzene            | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Dichlorodifluoromethane        | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,1-Dichloroethane             | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,1-Dichloroethene             | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,2-Dichloropropane            | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 1,3-Dichloropropane            | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| 2,2-Dichloropropane            | ND                       | 2.0 |           |                                       |      |             |           |      |          |      |
| 1,1-Dichloropropene            | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |
| Hexachlorobutadiene            | ND                       | 1.0 |           |                                       |      |             |           |      |          |      |

### Qualifiers:

- X Value exceeds Maximum Contaminant Level.
- U Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBW    | Batch ID:      | R4402     | RunNo:      | 4402                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/24/2012 | SeqNo:      | 122636                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2-Hexanone                  | ND     | 10             |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 10             |           |             |                             |          |           |      |          |      |
| Methylene Chloride          | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Vinyl chloride              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND     | 1.5            |           |             |                             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.4    |                | 10.00     |             | 93.7                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10     |                | 10.00     |             | 101                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10     |                | 10.00     |             | 101                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10     |                | 10.00     |             | 100                         | 70       | 130       |      |          |      |

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcs | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSW      | Batch ID:      | R4402     | RunNo:      | 4402                        |          |           |      |          |      |
| Prep Date:                  |           | Analysis Date: | 7/24/2012 | SeqNo:      | 122639                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 20        | 1.0            | 20.00     | 0           | 98.2                        | 84.1     | 126       |      |          |      |
| Toluene                     | 20        | 1.0            | 20.00     | 0           | 102                         | 80       | 120       |      |          |      |
| Chlorobenzene               | 20        | 1.0            | 20.00     | 0           | 101                         | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 18        | 1.0            | 20.00     | 0           | 90.6                        | 83       | 130       |      |          |      |
| Trichloroethene (TCE)       | 17        | 1.0            | 20.00     | 0           | 84.4                        | 76.2     | 119       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.0       |                | 10.00     |             | 90.4                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10        |                | 10.00     |             | 101                         | 70       | 130       |      |          |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 100ng lcs | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                 | LCSW      | Batch ID:      | R4402     | RunNo:      | 4402                        |          |           |      |          |      |
| Prep Date:                 |           | Analysis Date: | 7/24/2012 | SeqNo:      | 122639                      | Units:   | µg/L      |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: Dibromofluoromethane | 10        |                | 10.00     |             | 102                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8           | 10        |                | 10.00     |             | 104                         | 70       | 130       |      |          |      |

|                             |                 |     |           |                |           |          |           |                             |          |        |      |
|-----------------------------|-----------------|-----|-----------|----------------|-----------|----------|-----------|-----------------------------|----------|--------|------|
| Sample ID                   | 1207922-010a ms |     |           | SampType:      | MS        |          | TestCode: | EPA Method 8260B: VOLATILES |          |        |      |
| Client ID:                  | BatchQC         |     |           | Batch ID:      | R4402     |          | RunNo:    | 4402                        |          |        |      |
| Prep Date:                  |                 |     |           | Analysis Date: | 7/25/2012 |          | SeqNo:    | 122640                      |          | Units: | µg/L |
| Analyte                     | Result          | PQL | SPK value | SPK Ref Val    | %REC      | LowLimit | HighLimit | %RPD                        | RPDLimit | Qual   |      |
| Benzene                     | 20              | 1.0 | 20.00     | 0              | 102       | 66.8     | 128       |                             |          |        |      |
| Toluene                     | 21              | 1.0 | 20.00     | 0.7840         | 103       | 70       | 130       |                             |          |        |      |
| Chlorobenzene               | 20              | 1.0 | 20.00     | 0              | 102       | 70       | 130       |                             |          |        |      |
| 1,1-Dichloroethene          | 19              | 1.0 | 20.00     | 0              | 95.6      | 70       | 130       |                             |          |        |      |
| Trichloroethene (TCE)       | 17              | 1.0 | 20.00     | 0              | 86.0      | 70       | 130       |                             |          |        |      |
| Surr: 1,2-Dichloroethane-d4 | 9.4             |     | 10.00     |                | 94.2      | 70       | 130       |                             |          |        |      |
| Surr: 4-Bromofluorobenzene  | 11              |     | 10.00     |                | 111       | 70       | 130       |                             |          |        |      |
| Surr: Dibromofluoromethane  | 10              |     | 10.00     |                | 102       | 70       | 130       |                             |          |        |      |
| Surr: Toluene-d8            | 10              |     | 10.00     |                | 104       | 70       | 130       |                             |          |        |      |

|                             |                  |     |                |             |           |          |           |                             |          |        |      |
|-----------------------------|------------------|-----|----------------|-------------|-----------|----------|-----------|-----------------------------|----------|--------|------|
| Sample ID                   | 1207922-010a msd |     |                | SampType:   | MSD       |          | TestCode: | EPA Method 8260B: VOLATILES |          |        |      |
| Client ID:                  | BatchQC          |     | Batch ID:      |             | R4402     |          | RunNo:    | 4402                        |          |        |      |
| Prep Date:                  |                  |     | Analysis Date: |             | 7/25/2012 |          | SeqNo:    | 122641                      |          | Units: | µg/L |
| Analyte                     | Result           | PQL | SPK value      | SPK Ref Val | %REC      | LowLimit | HighLimit | %RPD                        | RPDLimit | Qual   |      |
| Benzene                     | 20               | 1.0 | 20.00          | 0           | 102       | 66.8     | 128       | 0.357                       | 16.7     |        |      |
| Toluene                     | 20               | 1.0 | 20.00          | 0.7840      | 97.4      | 70       | 130       | 4.94                        | 18.7     |        |      |
| Chlorobenzene               | 19               | 1.0 | 20.00          | 0           | 96.4      | 70       | 130       | 5.90                        | 19.5     |        |      |
| 1,1-Dichloroethene          | 18               | 1.0 | 20.00          | 0           | 90.7      | 70       | 130       | 5.30                        | 16.7     |        |      |
| Trichloroethene (TCE)       | 17               | 1.0 | 20.00          | 0           | 86.6      | 70       | 130       | 0.772                       | 17.5     |        |      |
| Surr: 1,2-Dichloroethane-d4 | 9.2              |     | 10.00          |             | 92.5      | 70       | 130       | 0                           | 0        |        |      |
| Surr: 4-Bromofluorobenzene  | 11               |     | 10.00          |             | 107       | 70       | 130       | 0                           | 0        |        |      |
| Surr: Dibromofluoromethane  | 10               |     | 10.00          |             | 103       | 70       | 130       | 0                           | 0        |        |      |
| Surr: Toluene-d8            | 10               |     | 10.00          |             | 102       | 70       | 130       | 0                           | 0        |        |      |

|                                |        |                |           |             |                             |          |           |      |          |      |
|--------------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                      | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                     | PBW    | Batch ID:      | R4468     | RunNo:      | 4468                        |          |           |      |          |      |
| Prep Date:                     |        | Analysis Date: | 7/25/2012 | SeqNo:      | 125370                      | Units:   | µg/L      |      |          |      |
| Analyte                        | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Toluene                        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Ethylbenzene                   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND     | 1.0            |           |             |                             |          |           |      |          |      |

### Qualifiers:

- X Value exceeds Maximum Contaminant Level.
- Δ Value above quantitation range
- J Analyte detected below quantitation limits
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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBW    | Batch ID:      | R4468     | RunNo:      | 4468                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/25/2012 | SeqNo:      | 125370                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2,4-Trimethylbenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3,5-Trimethylbenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichloroethane (EDC)    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dibromoethane (EDB)     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Naphthalene                 | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| 1-Methylnaphthalene         | ND     | 4.0            |           |             |                             |          |           |      |          |      |
| 2-Methylnaphthalene         | ND     | 4.0            |           |             |                             |          |           |      |          |      |
| Acetone                     | ND     | 10             |           |             |                             |          |           |      |          |      |
| Bromobenzene                | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromodichloromethane        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromoform                   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Bromomethane                | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| 2-Butanone                  | ND     | 10             |           |             |                             |          |           |      |          |      |
| Carbon disulfide            | ND     | 10             |           |             |                             |          |           |      |          |      |
| Carbon tetrachloride        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chlorobenzene               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chloroethane                | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Chloroform                  | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chloromethane               | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| 2-Chlorotoluene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Chlorotoluene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                 | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Dibromochloromethane        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dibromomethane              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane         | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 2-Hexanone                  | ND     | 10             |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 10             |           |             |                             |          |           |      |          |      |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBW    | Batch ID:      | R4468     | RunNo:      | 4468                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/25/2012 | SeqNo:      | 125370                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Methylene chloride          | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 3-Trichloropropane          | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| vinyl chloride              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND     | 1.5            |           |             |                             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.8    |                | 10.00     |             | 97.9                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 9.9    |                | 10.00     |             | 99.5                        | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10     |                | 10.00     |             | 104                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10     |                | 10.00     |             | 104                         | 70       | 130       |      |          |      |

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcs | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSW      | Batch ID:      | R4468     | RunNo:      | 4468                        |          |           |      |          |      |
| Prep Date:                  |           | Analysis Date: | 7/25/2012 | SeqNo:      | 125371                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 20        | 1.0            | 20.00     | 0           | 102                         | 84.1     | 126       |      |          |      |
| Toluene                     | 21        | 1.0            | 20.00     | 0           | 106                         | 80       | 120       |      |          |      |
| Chlorobenzene               | 20        | 1.0            | 20.00     | 0           | 103                         | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 19        | 1.0            | 20.00     | 0           | 94.8                        | 83       | 130       |      |          |      |
| Trichloroethene (TCE)       | 17        | 1.0            | 20.00     | 0           | 86.4                        | 76.2     | 119       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.4       |                | 10.00     |             | 94.2                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 11        |                | 10.00     |             | 110                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10        |                | 10.00     |             | 99.7                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10        |                | 10.00     |             | 105                         | 70       | 130       |      |          |      |

### Qualifiers:

- X Value exceeds Maximum Contaminant Level.
- U Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |            |                          |           |             |                                       |          |             |      |          |      |
|-----------------------------|------------|--------------------------|-----------|-------------|---------------------------------------|----------|-------------|------|----------|------|
| Sample ID                   | 100ng lcs2 | SampType: LCS            |           |             | TestCode: EPA Method 8260B: VOLATILES |          |             |      |          |      |
| Client ID:                  | LCSW       | Batch ID: R4468          |           |             | RunNo: 4468                           |          |             |      |          |      |
| Prep Date:                  |            | Analysis Date: 7/25/2012 |           |             | SeqNo: 125372                         |          | Units: µg/L |      |          |      |
| Analyte                     | Result     | PQL                      | SPK value | SPK Ref Val | %REC                                  | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Benzene                     | 20         | 1.0                      | 20.00     | 0           | 101                                   | 84.1     | 126         |      |          |      |
| Toluene                     | 20         | 1.0                      | 20.00     | 0           | 99.6                                  | 80       | 120         |      |          |      |
| Chlorobenzene               | 20         | 1.0                      | 20.00     | 0           | 98.3                                  | 70       | 130         |      |          |      |
| 1,1-Dichloroethene          | 18         | 1.0                      | 20.00     | 0           | 88.2                                  | 83       | 130         |      |          |      |
| Trichloroethene (TCE)       | 17         | 1.0                      | 20.00     | 0           | 82.9                                  | 76.2     | 119         |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.3        |                          | 10.00     |             | 92.9                                  | 70       | 130         |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10         |                          | 10.00     |             | 102                                   | 70       | 130         |      |          |      |
| Surr: Dibromofluoromethane  | 10         |                          | 10.00     |             | 99.6                                  | 70       | 130         |      |          |      |
| Surr: Toluene-d8            | 10         |                          | 10.00     |             | 101                                   | 70       | 130         |      |          |      |

|                             |                 |     |                |             |      |           |                             |      |          |      |  |
|-----------------------------|-----------------|-----|----------------|-------------|------|-----------|-----------------------------|------|----------|------|--|
| Sample ID                   | 1207949-001a ms |     | SampType:      | MS          |      | TestCode: | EPA Method 8260B: VOLATILES |      |          |      |  |
| Client ID:                  | BatchQC         |     | Batch ID:      | R4468       |      | RunNo:    | 4468                        |      |          |      |  |
| Prep Date:                  |                 |     | Analysis Date: | 7/25/2012   |      | SeqNo:    | 125377                      |      | Units:   | µg/L |  |
| Analyte                     | Result          | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit | Qual |  |
| Benzene                     | 20              | 1.0 | 20.00          | 0.7848      | 97.9 | 66.8      | 128                         |      |          |      |  |
| Toluene                     | 21              | 1.0 | 20.00          | 0.7920      | 102  | 70        | 130                         |      |          |      |  |
| Chlorobenzene               | 21              | 1.0 | 20.00          | 0           | 104  | 70        | 130                         |      |          |      |  |
| 1,1-Dichloroethene          | 18              | 1.0 | 20.00          | 0           | 91.2 | 70        | 130                         |      |          |      |  |
| Trichloroethene (TCE)       | 17              | 1.0 | 20.00          | 0           | 85.2 | 70        | 130                         |      |          |      |  |
| Surr: 1,2-Dichloroethane-d4 | 9.5             |     | 10.00          |             | 94.7 | 70        | 130                         |      |          |      |  |
| Surr: 4-Bromofluorobenzene  | 10              |     | 10.00          |             | 100  | 70        | 130                         |      |          |      |  |
| Surr: Dibromofluoromethane  | 11              |     | 10.00          |             | 108  | 70        | 130                         |      |          |      |  |
| Surr: Toluene-d8            | 11              |     | 10.00          |             | 107  | 70        | 130                         |      |          |      |  |

|                             |                |     |                |             |      |           |                             |      |          |      |  |
|-----------------------------|----------------|-----|----------------|-------------|------|-----------|-----------------------------|------|----------|------|--|
| Sample ID                   | 1207a22-002ams |     | SampType:      | MS          |      | TestCode: | EPA Method 8260B: VOLATILES |      |          |      |  |
| Client ID:                  | BatchQC        |     | Batch ID:      | R4468       |      | RunNo:    | 4468                        |      |          |      |  |
| Prep Date:                  |                |     | Analysis Date: | 7/26/2012   |      | SeqNo:    | 125378                      |      | Units:   | µg/L |  |
| Analyte                     | Result         | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit | Qual |  |
| Chlorobenzene               | 990            | 50  | 1000           | 0           | 99.1 | 70        | 130                         |      |          |      |  |
| 1,1-Dichloroethene          | 910            | 50  | 1000           | 0           | 91.0 | 70        | 130                         |      |          |      |  |
| Trichloroethene (TCE)       | 870            | 50  | 1000           | 0           | 86.7 | 70        | 130                         |      |          |      |  |
| Surr: 1,2-Dichloroethane-d4 | 460            |     | 500.0          |             | 92.4 | 70        | 130                         |      |          |      |  |
| Surr: 4-Bromofluorobenzene  | 490            |     | 500.0          |             | 98.8 | 70        | 130                         |      |          |      |  |
| Surr: Dibromofluoromethane  | 510            |     | 500.0          |             | 102  | 70        | 130                         |      |          |      |  |
| Surr: Toluene-d8            | 500            |     | 500.0          |             | 101  | 70        | 130                         |      |          |      |  |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
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R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |                 |     |           |             |      |          |           |                             |             |      |  |
|-----------------------------|-----------------|-----|-----------|-------------|------|----------|-----------|-----------------------------|-------------|------|--|
| Sample ID                   | 1207a22-002amsd |     |           | SampType:   | MSD  |          | TestCode: | EPA Method 8260B: VOLATILES |             |      |  |
| Client ID:                  | BatchQC         |     | Batch ID: | R4468       |      | RunNo:   | 4468      |                             |             |      |  |
| Prep Date:                  | Analysis Date:  |     |           | 7/26/2012   |      | SeqNo:   | 125380    |                             | Units: µg/L |      |  |
| Analyte                     | Result          | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD                        | RPDLimit    | Qual |  |
| Chlorobenzene               | 1000            | 50  | 1000      | 0           | 101  | 70       | 130       | 1.54                        | 19.5        |      |  |
| 1,1-Dichloroethene          | 870             | 50  | 1000      | 0           | 86.5 | 70       | 130       | 4.99                        | 16.7        |      |  |
| Trichloroethene (TCE)       | 850             | 50  | 1000      | 0           | 85.2 | 70       | 130       | 1.72                        | 17.5        |      |  |
| Surr: 1,2-Dichloroethane-d4 | 470             |     | 500.0     |             | 93.1 | 70       | 130       | 0                           | 0           |      |  |
| Surr: 4-Bromofluorobenzene  | 480             |     | 500.0     |             | 96.2 | 70       | 130       | 0                           | 0           |      |  |
| Surr: Dibromofluoromethane  | 520             |     | 500.0     |             | 104  | 70       | 130       | 0                           | 0           |      |  |
| Surr: Toluene-d8            | 520             |     | 500.0     |             | 105  | 70       | 130       | 0                           | 0           |      |  |

|                             |                  |     |           |             |        |          |           |                             |          |      |
|-----------------------------|------------------|-----|-----------|-------------|--------|----------|-----------|-----------------------------|----------|------|
| Sample ID                   | 1207949-001a msd |     |           | SampType:   | MSD    |          | TestCode: | EPA Method 8260B: VOLATILES |          |      |
| Client ID:                  | BatchQC          |     | Batch ID: | R4468       |        | RunNo:   | 4468      |                             |          |      |
| Prep Date:                  | Analysis Date:   |     | 7/25/2012 |             | SeqNo: | 125381   |           | Units:                      | µg/L     |      |
| Analyte                     | Result           | PQL | SPK value | SPK Ref Val | %REC   | LowLimit | HighLimit | %RPD                        | RPDLimit | Qual |
| Benzene                     | 20               | 1.0 | 20.00     | 0.7848      | 97.8   | 66.8     | 128       | 0.104                       | 16.7     |      |
| Toluene                     | 20               | 1.0 | 20.00     | 0.7920      | 96.9   | 70       | 130       | 4.87                        | 18.7     |      |
| Chlorobenzene               | 19               | 1.0 | 20.00     | 0           | 96.2   | 70       | 130       | 7.41                        | 19.5     |      |
| 1,1-Dichloroethene          | 18               | 1.0 | 20.00     | 0           | 87.7   | 70       | 130       | 3.88                        | 16.7     |      |
| loroethene (TCE)            | 17               | 1.0 | 20.00     | 0           | 83.0   | 70       | 130       | 2.51                        | 17.5     |      |
| Surr: 1,2-Dichloroethane-d4 | 9.4              |     | 10.00     |             | 94.5   | 70       | 130       | 0                           | 0        |      |
| Surr: 4-Bromofluorobenzene  | 9.5              |     | 10.00     |             | 95.0   | 70       | 130       | 0                           | 0        |      |
| Surr: Dibromofluoromethane  | 11               |     | 10.00     |             | 107    | 70       | 130       | 0                           | 0        |      |
| Surr: Toluene-d8            | 10               |     | 10.00     |             | 102    | 70       | 130       | 0                           | 0        |      |

|                                |        |                |           |             |           |                             |           |      |          |      |
|--------------------------------|--------|----------------|-----------|-------------|-----------|-----------------------------|-----------|------|----------|------|
| Sample ID                      | b15    | SampType:      | MBLK      |             | TestCode: | EPA Method 8260B: VOLATILES |           |      |          |      |
| Client ID:                     | PBW    | Batch ID:      | R4468     |             | RunNo:    | 4468                        |           |      |          |      |
| Prep Date:                     |        | Analysis Date: | 7/26/2012 |             | SeqNo:    | 125426                      | Units:    | µg/L |          |      |
| Analyte                        | Result | PQL            | SPK value | SPK Ref Val | %REC      | LowLimit                    | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                        | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| Toluene                        | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| Ethylbenzene                   | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| 1,2,4-Trimethylbenzene         | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| 1,3,5-Trimethylbenzene         | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| 1,2-Dichloroethane (EDC)       | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| 1,2-Dibromoethane (EDB)        | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| Naphthalene                    | ND     | 2.0            |           |             |           |                             |           |      |          |      |
| 1-Methylnaphthalene            | ND     | 4.0            |           |             |           |                             |           |      |          |      |
| 2-Methylnaphthalene            | ND     | 4.0            |           |             |           |                             |           |      |          |      |
| Acetone                        | ND     | 10             |           |             |           |                             |           |      |          |      |
| Bromobenzene                   | ND     | 1.0            |           |             |           |                             |           |      |          |      |
| Bromodichloromethane           | ND     | 1.0            |           |             |           |                             |           |      |          |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |               |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|---------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | b15    | SampType      | MBLK      | TestCode    | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID                   | PBW    | Batch ID      | R4468     | RunNo       | 4468                        |          |           |      |          |      |
| Prep Date                   |        | Analysis Date | 7/26/2012 | SeqNo       | 125426                      | Units    | µg/L      |      |          |      |
| Analyte                     | Result | PQL           | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Bromoform                   | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Bromomethane                | ND     | 3.0           |           |             |                             |          |           |      |          |      |
| 2-Butanone                  | ND     | 10            |           |             |                             |          |           |      |          |      |
| Carbon disulfide            | ND     | 10            |           |             |                             |          |           |      |          |      |
| Carbon tetrachloride        | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Chlorobenzene               | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Chloroethane                | ND     | 2.0           |           |             |                             |          |           |      |          |      |
| Chloroform                  | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Chloromethane               | ND     | 3.0           |           |             |                             |          |           |      |          |      |
| 2-Chlorotoluene             | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 4-Chlorotoluene             | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                 | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene     | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane | ND     | 2.0           |           |             |                             |          |           |      |          |      |
| Dibromochloromethane        | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Dibromomethane              | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane     | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane          | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene          | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane         | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane         | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane         | ND     | 2.0           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene         | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene         | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 2-Hexanone                  | ND     | 10            |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 10            |           |             |                             |          |           |      |          |      |
| Methylene chloride          | ND     | 3.0           |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 2.0           |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 1.0           |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 1.0           |           |             |                             |          |           |      |          |      |

### Qualifiers:

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E Value above quantitation range  
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ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |                                 |     |           |                                              |      |                    |           |      |          |      |
|-----------------------------|---------------------------------|-----|-----------|----------------------------------------------|------|--------------------|-----------|------|----------|------|
| Sample ID: <b>b15</b>       | SampType: <b>MBLK</b>           |     |           | TestCode: <b>EPA Method 8260B: VOLATILES</b> |      |                    |           |      |          |      |
| Client ID: <b>PBW</b>       | Batch ID: <b>R4468</b>          |     |           | RunNo: <b>4468</b>                           |      |                    |           |      |          |      |
| Prep Date:                  | Analysis Date: <b>7/26/2012</b> |     |           | SeqNo: <b>125426</b>                         |      | Units: <b>µg/L</b> |           |      |          |      |
| Analyte                     | Result                          | PQL | SPK value | SPK Ref Val                                  | %REC | LowLimit           | HighLimit | %RPD | RPDLimit | Qual |
| trans-1,3-Dichloropropene   | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| 1,1,1-Trichloroethane       | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| 1,1,2-Trichloroethane       | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| Trichloroethene (TCE)       | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| Trichlorofluoromethane      | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| 1,2,3-Trichloropropane      | ND                              | 2.0 |           |                                              |      |                    |           |      |          |      |
| Vinyl chloride              | ND                              | 1.0 |           |                                              |      |                    |           |      |          |      |
| Xylenes, Total              | ND                              | 1.5 |           |                                              |      |                    |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.6                             |     | 10.00     |                                              | 95.9 | 70                 | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10                              |     | 10.00     |                                              | 104  | 70                 | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10                              |     | 10.00     |                                              | 102  | 70                 | 130       |      |          |      |
| Surr: Toluene-d8            | 10                              |     | 10.00     |                                              | 104  | 70                 | 130       |      |          |      |

|                                |        |                |           |             |           |                             |           |        |          |      |
|--------------------------------|--------|----------------|-----------|-------------|-----------|-----------------------------|-----------|--------|----------|------|
| Sample ID                      | 5ml rb | SampType:      | MBLK      |             | TestCode: | EPA Method 8260B: VOLATILES |           |        |          |      |
| Client ID:                     | PBW    | Batch ID:      | R4498     |             | RunNo:    | 4498                        |           |        |          |      |
| Prep Date:                     |        | Analysis Date: | 7/27/2012 |             | SeqNo:    | 126086                      |           | Units: | µg/L     |      |
| Analyte                        | Result | PQL            | SPK value | SPK Ref Val | %REC      | LowLimit                    | HighLimit | %RPD   | RPDLimit | Qual |
| Benzene                        | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Toluene                        | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Ethylbenzene                   | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Methyl tert-butyl ether (MTBE) | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| 1,2,4-Trimethylbenzene         | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| 1,3,5-Trimethylbenzene         | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| 1,2-Dichloroethane (EDC)       | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| 1,2-Dibromoethane (EDB)        | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Naphthalene                    | ND     | 2.0            |           |             |           |                             |           |        |          |      |
| 1-Methylnaphthalene            | ND     | 4.0            |           |             |           |                             |           |        |          |      |
| 2-Methylnaphthalene            | ND     | 4.0            |           |             |           |                             |           |        |          |      |
| Acetone                        | ND     | 10             |           |             |           |                             |           |        |          |      |
| Bromobenzene                   | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Bromodichloromethane           | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Bromoform                      | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Bromomethane                   | ND     | 3.0            |           |             |           |                             |           |        |          |      |
| 2-Butanone                     | ND     | 10             |           |             |           |                             |           |        |          |      |
| Carbon disulfide               | ND     | 10             |           |             |           |                             |           |        |          |      |
| Carbon Tetrachloride           | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Chlorobenzene                  | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Chloroethane                   | ND     | 2.0            |           |             |           |                             |           |        |          |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |                             |          |           |      |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 5ml rb | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBW    | Batch ID:      | R4498     | RunNo:      | 4498                        |          |           |      |          |      |
| Prep Date:                  |        | Analysis Date: | 7/27/2012 | SeqNo:      | 126086                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloroform                  | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Chloromethane               | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| 2-Chlorotoluene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Chlorotoluene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                 | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Dibromochloromethane        | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dibromomethane              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane         | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene         | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 2-Hexanone                  | ND     | 10             |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 10             |           |             |                             |          |           |      |          |      |
| Methylene Chloride          | ND     | 3.0            |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Styrene                     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND     | 1.0            |           |             |                             |          |           |      |          |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                |           |             |           |                             |           |        |          |      |
|-----------------------------|--------|----------------|-----------|-------------|-----------|-----------------------------|-----------|--------|----------|------|
| Sample ID                   | 5ml rb | SampType:      | MBLK      |             | TestCode: | EPA Method 8260B: VOLATILES |           |        |          |      |
| Client ID:                  | PBW    | Batch ID:      | R4498     |             | RunNo:    | 4498                        |           |        |          |      |
| Prep Date:                  |        | Analysis Date: | 7/27/2012 |             | SeqNo:    | 126086                      |           | Units: | µg/L     |      |
| Analyte                     | Result | PQL            | SPK value | SPK Ref Val | %REC      | LowLimit                    | HighLimit | %RPD   | RPDLimit | Qual |
| 1,2,3-Trichloropropane      | ND     | 2.0            |           |             |           |                             |           |        |          |      |
| Vinyl chloride              | ND     | 1.0            |           |             |           |                             |           |        |          |      |
| Xylenes, Total              | ND     | 1.5            |           |             |           |                             |           |        |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.4    |                | 10.00     |             | 93.8      | 70                          | 130       |        |          |      |
| Surr: 4-Bromofluorobenzene  | 12     |                | 10.00     |             | 117       | 70                          | 130       |        |          |      |
| Surr: Dibromofluoromethane  | 10     |                | 10.00     |             | 103       | 70                          | 130       |        |          |      |
| Surr: Toluene-d8            | 11     |                | 10.00     |             | 107       | 70                          | 130       |        |          |      |

|                             |            |                |           |             |                             |          |           |      |          |      |
|-----------------------------|------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcsb | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSW       | Batch ID:      | R4498     | RunNo:      | 4498                        |          |           |      |          |      |
| Prep Date:                  |            | Analysis Date: | 7/27/2012 | SeqNo:      | 126090                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result     | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 21         | 1.0            | 20.00     | 0           | 103                         | 84.1     | 126       |      |          |      |
| Toluene                     | 22         | 1.0            | 20.00     | 0           | 108                         | 80       | 120       |      |          |      |
| Chlorobenzene               | 20         | 1.0            | 20.00     | 0           | 102                         | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 18         | 1.0            | 20.00     | 0           | 91.7                        | 83       | 130       |      |          |      |
| loroethene (TCE)            | 17         | 1.0            | 20.00     | 0           | 87.3                        | 76.2     | 119       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.5        |                | 10.00     |             | 94.9                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10         |                | 10.00     |             | 105                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 10         |                | 10.00     |             | 104                         | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 11         |                | 10.00     |             | 106                         | 70       | 130       |      |          |      |

|                             |                |                |           |                                       |      |          |             |      |          |      |
|-----------------------------|----------------|----------------|-----------|---------------------------------------|------|----------|-------------|------|----------|------|
| Sample ID                   | 1207a57-001ams | SampType:      | MS        | TestCode: EPA Method 8260B: VOLATILES |      |          |             |      |          |      |
| Client ID:                  | BatchQC        | Batch ID:      | R4498     | RunNo: 4498                           |      |          |             |      |          |      |
| Prep Date:                  |                | Analysis Date: | 7/27/2012 | SeqNo: 126091                         |      |          | Units: µg/L |      |          |      |
| Analyte                     | Result         | PQL            | SPK value | SPK Ref Val                           | %REC | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Toluene                     | 1100           | 50             | 1000      | 147.3                                 | 97.1 | 70       | 130         |      |          |      |
| Chlorobenzene               | 1000           | 50             | 1000      | 0                                     | 100  | 70       | 130         |      |          |      |
| 1,1-Dichloroethene          | 870            | 50             | 1000      | 0                                     | 87.0 | 70       | 130         |      |          |      |
| Trichloroethene (TCE)       | 850            | 50             | 1000      | 0                                     | 85.3 | 70       | 130         |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 470            |                | 500.0     |                                       | 93.5 | 70       | 130         |      |          |      |
| Surr: 4-Bromofluorobenzene  | 490            |                | 500.0     |                                       | 98.0 | 70       | 130         |      |          |      |
| Surr: Dibromofluoromethane  | 530            |                | 500.0     |                                       | 106  | 70       | 130         |      |          |      |
| Surr: Toluene-d8            | 520            |                | 500.0     |                                       | 104  | 70       | 130         |      |          |      |

|            |                 |     |                |             |      |           |                             |      |          |      |  |
|------------|-----------------|-----|----------------|-------------|------|-----------|-----------------------------|------|----------|------|--|
| Sample ID  | 1207a57-001amsd |     | SampType:      | MSD         |      | TestCode: | EPA Method 8260B: VOLATILES |      |          |      |  |
| Client ID: | BatchQC         |     | Batch ID:      | R4498       |      | RunNo:    | 4498                        |      |          |      |  |
| Prep Date: |                 |     | Analysis Date: | 7/27/2012   |      | SeqNo:    | 126092                      |      | Units:   | µg/L |  |
| Analyte    | Result          | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                   | %RPD | RPDLimit | Qual |  |

### Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| ✓ | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| Λ | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R | RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |                 |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1207a57-001amsd | SampType:      | MSD       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | BatchQC         | Batch ID:      | R4498     | RunNo:      | 4498                        |          |           |      |          |      |
| Prep Date:                  |                 | Analysis Date: | 7/27/2012 | SeqNo:      | 126092                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result          | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Toluene                     | 1100            | 50             | 1000      | 147.3       | 95.6                        | 70       | 130       | 1.34 | 18.7     |      |
| Chlorobenzene               | 980             | 50             | 1000      | 0           | 98.4                        | 70       | 130       | 1.66 | 19.5     |      |
| 1,1-Dichloroethene          | 800             | 50             | 1000      | 0           | 80.4                        | 70       | 130       | 7.82 | 16.7     |      |
| Trichloroethene (TCE)       | 810             | 50             | 1000      | 0           | 80.6                        | 70       | 130       | 5.66 | 17.5     |      |
| Surr: 1,2-Dichloroethane-d4 | 460             |                | 500.0     |             | 91.9                        | 70       | 130       | 0    | 0        |      |
| Surr: 4-Bromofluorobenzene  | 500             |                | 500.0     |             | 99.5                        | 70       | 130       | 0    | 0        |      |
| Surr: Dibromofluoromethane  | 530             |                | 500.0     |             | 106                         | 70       | 130       | 0    | 0        |      |
| Surr: Toluene-d8            | 520             |                | 500.0     |             | 104                         | 70       | 130       | 0    | 0        |      |

|                                |        |                          |           |                                       |      |             |           |      |          |      |
|--------------------------------|--------|--------------------------|-----------|---------------------------------------|------|-------------|-----------|------|----------|------|
| Sample ID                      | 5ml rb | SampType: MBLK           |           | TestCode: EPA Method 8260B: VOLATILES |      |             |           |      |          |      |
| Client ID:                     | PBW    | Batch ID: R4537          |           | RunNo: 4537                           |      |             |           |      |          |      |
| Prep Date:                     |        | Analysis Date: 7/30/2012 |           | SeqNo: 127430                         |      | Units: µg/L |           |      |          |      |
| Analyte                        | Result | PQL                      | SPK value | SPK Ref Val                           | %REC | LowLimit    | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                        | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Toluene                        | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Ethylbenzene                   | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| 1,2,4-Trimethylbenzene         | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| 1,3,5-Trimethylbenzene         | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| 1,2-Dichloroethane (EDC)       | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| 1,2-Dibromoethane (EDB)        | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Naphthalene                    | ND     | 2.0                      |           |                                       |      |             |           |      |          |      |
| 1-Methylnaphthalene            | ND     | 4.0                      |           |                                       |      |             |           |      |          |      |
| 2-Methylnaphthalene            | ND     | 4.0                      |           |                                       |      |             |           |      |          |      |
| Acetone                        | ND     | 10                       |           |                                       |      |             |           |      |          |      |
| Bromobenzene                   | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Bromodichloromethane           | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Bromoform                      | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Bromomethane                   | ND     | 3.0                      |           |                                       |      |             |           |      |          |      |
| 2-Butanone                     | ND     | 10                       |           |                                       |      |             |           |      |          |      |
| Carbon disulfide               | ND     | 10                       |           |                                       |      |             |           |      |          |      |
| Carbon tetrachloride           | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Chlorobenzene                  | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Chloroethane                   | ND     | 2.0                      |           |                                       |      |             |           |      |          |      |
| Chloroform                     | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| Chloromethane                  | ND     | 3.0                      |           |                                       |      |             |           |      |          |      |
| 2-Chlorotoluene                | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| 4-Chlorotoluene                | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| cis-1,2-DCE                    | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |
| cis-1,3-Dichloropropene        | ND     | 1.0                      |           |                                       |      |             |           |      |          |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |                          |     |                                       |             |             |          |           |      |          |      |
|-----------------------------|--------------------------|-----|---------------------------------------|-------------|-------------|----------|-----------|------|----------|------|
| Sample ID: 5ml rb           | SampType: MBLK           |     | TestCode: EPA Method 8260B: VOLATILES |             |             |          |           |      |          |      |
| Client ID: PBW              | Batch ID: R4537          |     | RunNo: 4537                           |             |             |          |           |      |          |      |
| Prep Date:                  | Analysis Date: 7/30/2012 |     | SeqNo: 127430                         |             | Units: µg/L |          |           |      |          |      |
| Analyte:                    | Result                   | PQL | SPK value                             | SPK Ref Val | %REC        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2-Dibromo-3-chloropropane | ND                       | 2.0 |                                       |             |             |          |           |      |          |      |
| Dibromochloromethane        | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| Dibromomethane              | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| Dichlorodifluoromethane     | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,1-Dichloroethane          | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,1-Dichloroethene          | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,2-Dichloropropane         | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,3-Dichloropropane         | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 2,2-Dichloropropane         | ND                       | 2.0 |                                       |             |             |          |           |      |          |      |
| 1,1-Dichloropropene         | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| Hexachlorobutadiene         | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 2-Hexanone                  | ND                       | 10  |                                       |             |             |          |           |      |          |      |
| Isopropylbenzene            | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| thyl-2-pentanone            | ND                       | 10  |                                       |             |             |          |           |      |          |      |
| Methylene chloride          | ND                       | 3.0 |                                       |             |             |          |           |      |          |      |
| n-Butylbenzene              | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| n-Propylbenzene             | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| sec-Butylbenzene            | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| Styrene                     | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| tert-Butylbenzene           | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND                       | 2.0 |                                       |             |             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| trans-1,2-DCE               | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| Trichlorofluoromethane      | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND                       | 2.0 |                                       |             |             |          |           |      |          |      |
| Vinyl chloride              | ND                       | 1.0 |                                       |             |             |          |           |      |          |      |
| Xylenes, Total              | ND                       | 1.5 |                                       |             |             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.2                      |     | 10.00                                 |             | 91.6        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10                       |     | 10.00                                 |             | 104         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 8.9                      |     | 10.00                                 |             | 89.0        | 70       | 130       |      |          |      |

## Qualifiers:

- |                                            |    |                                                    |
|--------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                  |        |                |           |             |           |                             |           |      |          |      |
|------------------|--------|----------------|-----------|-------------|-----------|-----------------------------|-----------|------|----------|------|
| Sample ID        | 5ml rb | SampType:      | MBLK      |             | TestCode: | EPA Method 8260B: VOLATILES |           |      |          |      |
| Client ID:       | PBW    | Batch ID:      | R4537     |             | RunNo:    | 4537                        |           |      |          |      |
| Prep Date:       |        | Analysis Date: | 7/30/2012 |             | SeqNo:    | 127430                      | Units:    | µg/L |          |      |
| Analyte          | Result | PQL            | SPK value | SPK Ref Val | %REC      | LowLimit                    | HighLimit | %RPD | RPDLimit | Qual |
| Surr: Toluene-d8 | 10     |                | 10.00     |             | 102       | 70                          | 130       |      |          |      |

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcs | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSW      | Batch ID:      | R4537     | RunNo:      | 4537                        |          |           |      |          |      |
| Prep Date:                  |           | Analysis Date: | 7/30/2012 | SeqNo:      | 127433                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 18        | 1.0            | 20.00     | 0           | 91.1                        | 84.1     | 126       |      |          |      |
| Toluene                     | 20        | 1.0            | 20.00     | 0           | 98.4                        | 80       | 120       |      |          |      |
| Chlorobenzene               | 20        | 1.0            | 20.00     | 0           | 99.3                        | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 17        | 1.0            | 20.00     | 0           | 83.3                        | 83       | 130       |      |          |      |
| Trichloroethene (TCE)       | 16        | 1.0            | 20.00     | 0           | 79.3                        | 76.2     | 119       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 8.8       |                | 10.00     |             | 88.3                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 11        |                | 10.00     |             | 112                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 8.8       |                | 10.00     |             | 87.9                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 10        |                | 10.00     |             | 105                         | 70       | 130       |      |          |      |

|                             |                 |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1207b41-001a ms | SampType:      | MS        | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | BatchQC         | Batch ID:      | R4537     | RunNo:      | 4537                        |          |           |      |          |      |
| Prep Date:                  |                 | Analysis Date: | 7/30/2012 | SeqNo:      | 127434                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result          | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 56000           | 50             | 1000      | 57800       | -161                        | 66.8     | 128       |      |          | SE   |
| Toluene                     | 62000           | 50             | 1000      | 60240       | 223                         | 70       | 130       |      |          | SE   |
| Chlorobenzene               | 1000            | 50             | 1000      | 0           | 103                         | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 830             | 50             | 1000      | 0           | 83.4                        | 70       | 130       |      |          |      |
| Trichloroethene (TCE)       | 810             | 50             | 1000      | 0           | 80.8                        | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 430             |                | 500.0     |             | 87.0                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 500             |                | 500.0     |             | 100                         | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 440             |                | 500.0     |             | 87.4                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 540             |                | 500.0     |             | 108                         | 70       | 130       |      |          |      |

|                       |                  |           |           |             |                             |          |           |      |          |      |  |
|-----------------------|------------------|-----------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|--|
| Sample ID             | 1207b41-001a msd | SampType: | MSD       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |  |
| Client ID:            | BatchQC          | Batch ID: | R4537     | RunNo:      | 4537                        |          |           |      |          |      |  |
| Prep Date:            | Analysis Date:   |           |           | 7/30/2012   | SeqNo:                      | 127435   | Units:    | µg/L |          |      |  |
| Analyte               | Result           | PQL       | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |  |
| Benzene               | 57000            | 50        | 1000      | 57800       | -55.7                       | 66.8     | 128       | 1.86 | 16.7     | SE   |  |
| Toluene               | 59000            | 50        | 1000      | 60240       | -131                        | 70       | 130       | 5.82 | 18.7     | SE   |  |
| Chlorobenzene         | 990              | 50        | 1000      | 0           | 98.7                        | 70       | 130       | 4.19 | 19.5     |      |  |
| 1,1-Dichloroethene    | 790              | 50        | 1000      | 0           | 78.8                        | 70       | 130       | 5.63 | 16.7     |      |  |
| Trichloroethene (TCE) | 820              | 50        | 1000      | 0           | 82.2                        | 70       | 130       | 1.72 | 17.5     |      |  |

### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |                  |                |           |             |                             |          |           |      |          |      |
|-----------------------------|------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1207b41-001a msd | SampType:      | MSD       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | BatchQC          | Batch ID:      | R4537     | RunNo:      | 4537                        |          |           |      |          |      |
| Prep Date:                  |                  | Analysis Date: | 7/30/2012 | SeqNo:      | 127435                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result           | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 1,2-Dichloroethane-d4 | 450              |                | 500.0     |             | 89.6                        | 70       | 130       | 0    | 0        |      |
| Surr: 4-Bromofluorobenzene  | 490              |                | 500.0     |             | 98.0                        | 70       | 130       | 0    | 0        |      |
| Surr: Dibromofluoromethane  | 450              |                | 500.0     |             | 90.7                        | 70       | 130       | 0    | 0        |      |
| Surr: Toluene-d8            | 520              |                | 500.0     |             | 103                         | 70       | 130       | 0    | 0        |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |           |                |           |             |                                 |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | mb-3024   | SampType:      | MBLK      | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                  | PBS       | Batch ID:      | 3024      | RunNo:      | 4492                            |          |           |      |          |      |
| Prep Date:                  | 7/25/2012 | Analysis Date: | 7/27/2012 | SeqNo:      | 125905                          | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Acenaphthylene              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Aniline                     | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Anthracene                  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Azobenzene                  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benz(a)anthracene           | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(a)pyrene              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzoic acid                | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| Benzyl alcohol              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 4-Bromophenyl phenyl ether  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Butyl benzyl phthalate      | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Carbazole                   | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 4-Chloroaniline             | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2-Chloronaphthalene         | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| 2-Chlorophenol              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Chrysene                    | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Di-n-butyl phthalate        | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| Di-n-octyl phthalate        | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Dibenzofuran                | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| Diethyl phthalate           | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Dimethyl phthalate          | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND        | 0.40           |           |             |                                 |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND        | 0.30           |           |             |                                 |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND        | 0.40           |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrotoluene          | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND        | 0.50           |           |             |                                 |          |           |      |          |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |           |      |                          |             |                                           |          |              |      |          |      |
|----------------------------|-----------|------|--------------------------|-------------|-------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                  | mb-3024   |      | SampType: MBLK           |             | TestCode: EPA Method 8270C: Semivolatiles |          |              |      |          |      |
| Client ID:                 | PBS       |      | Batch ID: 3024           |             | RunNo: 4492                               |          |              |      |          |      |
| Prep Date:                 | 7/25/2012 |      | Analysis Date: 7/27/2012 |             | SeqNo: 125905                             |          | Units: mg/Kg |      |          |      |
| Analyte                    | Result    | PQL  | SPK value                | SPK Ref Val | %REC                                      | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Fluoranthene               | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Fluorene                   | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Hexachlorobenzene          | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Hexachlorobutadiene        | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Hexachlorocyclopentadiene  | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Hexachloroethane           | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Indeno(1,2,3-cd)pyrene     | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Isophorone                 | ND        | 0.50 |                          |             |                                           |          |              |      |          |      |
| 1-Methylnaphthalene        | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| 2-Methylnaphthalene        | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| 2-Methylphenol             | ND        | 0.50 |                          |             |                                           |          |              |      |          |      |
| 3+4-Methylphenol           | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| N-Nitrosodi-n-propylamine  | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| N-Nitrosodiphenylamine     | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Naphthalene                | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| 2-Nitroaniline             | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| 3-Nitroaniline             | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| o-aniline                  | ND        | 0.40 |                          |             |                                           |          |              |      |          |      |
| Nitrobenzene               | ND        | 0.50 |                          |             |                                           |          |              |      |          |      |
| 2-Nitrophenol              | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| 4-Nitrophenol              | ND        | 0.25 |                          |             |                                           |          |              |      |          |      |
| Pentachlorophenol          | ND        | 0.40 |                          |             |                                           |          |              |      |          |      |
| Phenanthrene               | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Phenol                     | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Pyrene                     | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Pyridine                   | ND        | 0.50 |                          |             |                                           |          |              |      |          |      |
| 1,2,4-Trichlorobenzene     | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| 2,4,5-Trichlorophenol      | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| 2,4,6-Trichlorophenol      | ND        | 0.20 |                          |             |                                           |          |              |      |          |      |
| Surr: 2,4,6-Tribromophenol | 2.9       |      | 3.330                    |             | 87.7                                      | 20.1     | 121          |      |          |      |
| Surr: 2-Fluorobiphenyl     | 1.3       |      | 1.670                    |             | 77.6                                      | 19       | 133          |      |          |      |
| Surr: 2-Fluorophenol       | 2.0       |      | 3.330                    |             | 60.2                                      | 20.2     | 108          |      |          |      |
| Surr: 4-Terphenyl-d14      | 1.3       |      | 1.670                    |             | 78.0                                      | 18.9     | 115          |      |          |      |
| Surr: Nitrobenzene-d5      | 1.1       |      | 1.670                    |             | 67.4                                      | 20.8     | 123          |      |          |      |
| Surr: Phenol-d5            | 2.4       |      | 3.330                    |             | 70.9                                      | 19.8     | 115          |      |          |      |

|            |           |     |                |             |      |           |                                 |      |          |       |  |
|------------|-----------|-----|----------------|-------------|------|-----------|---------------------------------|------|----------|-------|--|
| Sample ID  | ics-3024  |     | SampType:      | LCS         |      | TestCode: | EPA Method 8270C: Semivolatiles |      |          |       |  |
| Client ID: | LCSS      |     | Batch ID:      | 3024        |      | RunNo:    | 4492                            |      |          |       |  |
| Prep Date: | 7/25/2012 |     | Analysis Date: | 7/27/2012   |      | SeqNo:    | 125907                          |      | Units:   | mg/Kg |  |
| Analyte    | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit | Qual  |  |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

| Sample ID                  | lcs-3024  |      | SampType:      | LCS         |      | TestCode: | EPA Method 8270C: Semivolatiles |      |              |      |
|----------------------------|-----------|------|----------------|-------------|------|-----------|---------------------------------|------|--------------|------|
| Client ID:                 | LCSS      |      | Batch ID:      | 3024        |      | RunNo:    | 4492                            |      |              |      |
| Prep Date:                 | 7/25/2012 |      | Analysis Date: | 7/27/2012   |      | SeqNo:    | 125907                          |      | Units: mg/Kg |      |
| Analyte                    | Result    | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit     | Qual |
| Acenaphthene               | 1.2       | 0.20 | 1.670          | 0           | 70.7 | 49.7      | 98.1                            |      |              |      |
| 4-Chloro-3-methylphenol    | 2.3       | 0.50 | 3.330          | 0           | 70.3 | 43.8      | 89.1                            |      |              |      |
| 2-Chlorophenol             | 2.1       | 0.20 | 3.330          | 0           | 61.7 | 41.1      | 96.9                            |      |              |      |
| 1,4-Dichlorobenzene        | 1.1       | 0.20 | 1.670          | 0           | 63.5 | 41        | 97.4                            |      |              |      |
| 2,4-Dinitrotoluene         | 1.3       | 0.50 | 1.670          | 0           | 78.9 | 44.4      | 104                             |      |              |      |
| N-Nitrosodi-n-propylamine  | 1.2       | 0.20 | 1.670          | 0           | 72.4 | 39.1      | 86.9                            |      |              |      |
| 4-Nitrophenol              | 2.9       | 0.25 | 3.330          | 0           | 85.9 | 44.2      | 107                             |      |              |      |
| Pentachlorophenol          | 2.5       | 0.40 | 3.330          | 0           | 74.5 | 36.2      | 80                              |      |              |      |
| Phenol                     | 2.4       | 0.20 | 3.330          | 0           | 71.3 | 42.7      | 92.7                            |      |              |      |
| Pyrene                     | 1.1       | 0.20 | 1.670          | 0           | 67.5 | 34.7      | 98.8                            |      |              |      |
| 1,2,4-Trichlorobenzene     | 1.2       | 0.20 | 1.670          | 0           | 72.9 | 37.8      | 98.3                            |      |              |      |
| Surr: 2,4,6-Tribromophenol | 3.3       |      | 3.330          |             | 98.0 | 20.1      | 121                             |      |              |      |
| Surr: 2-Fluorobiphenyl     | 1.2       |      | 1.670          |             | 74.2 | 19        | 133                             |      |              |      |
| Surr: 2-Fluorophenol       | 1.9       |      | 3.330          |             | 57.9 | 20.2      | 108                             |      |              |      |
| Surr: 4-Terphenyl-d14      | 1.4       |      | 1.670          |             | 84.5 | 18.9      | 115                             |      |              |      |
| Surr: Nitrobenzene-d5      | 1.2       |      | 1.670          |             | 70.6 | 20.8      | 123                             |      |              |      |
| Surr: Phenol-d5            | 2.3       |      | 3.330          |             | 68.9 | 19.8      | 115                             |      |              |      |

| Sample ID                  | 1207922-008Cms |      | SampType:      | MS          |      | TestCode: | EPA Method 8270C: Semivolatiles |      |              |      |
|----------------------------|----------------|------|----------------|-------------|------|-----------|---------------------------------|------|--------------|------|
| Client ID:                 | BatchQC        |      | Batch ID:      | 3024        |      | RunNo:    | 4492                            |      |              |      |
| Prep Date:                 | 7/25/2012      |      | Analysis Date: | 7/27/2012   |      | SeqNo:    | 125927                          |      | Units: mg/Kg |      |
| Analyte                    | Result         | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit     | Qual |
| Acenaphthene               | 1.7            | 0.40 | 1.674          | 0           | 101  | 38.6      | 100                             |      |              | S    |
| 4-Chloro-3-methylphenol    | 2.8            | 1.0  | 3.339          | 0           | 84.9 | 35.8      | 108                             |      |              |      |
| 2-Chlorophenol             | 2.7            | 0.40 | 3.339          | 0           | 81.4 | 48.2      | 96.1                            |      |              |      |
| 1,4-Dichlorobenzene        | 1.2            | 0.40 | 1.674          | 0           | 73.3 | 42.5      | 97.6                            |      |              |      |
| 2,4-Dinitrotoluene         | 1.2            | 1.0  | 1.674          | 0           | 68.9 | 51.2      | 108                             |      |              |      |
| N-Nitrosodi-n-propylamine  | ND             | 0.40 | 1.674          | 0           | 0    | 31.6      | 114                             |      |              | S    |
| 4-Nitrophenol              | 2.1            | 0.50 | 3.339          | 0           | 63.0 | 22.7      | 144                             |      |              |      |
| Pentachlorophenol          | 2.2            | 0.80 | 3.339          | 0           | 64.8 | 24        | 109                             |      |              |      |
| Phenol                     | 3.0            | 0.40 | 3.339          | 0           | 88.9 | 33.1      | 108                             |      |              |      |
| Pyrene                     | 1.6            | 0.40 | 1.674          | 0.2483      | 83.5 | 42.7      | 98.9                            |      |              |      |
| 1,2,4-Trichlorobenzene     | 1.2            | 0.40 | 1.674          | 0           | 69.7 | 27.1      | 118                             |      |              |      |
| Surr: 2,4,6-Tribromophenol | 2.2            |      | 3.339          |             | 67.3 | 20.1      | 121                             |      |              |      |
| Surr: 2-Fluorobiphenyl     | 1.3            |      | 1.674          |             | 76.2 | 19        | 133                             |      |              |      |
| Surr: 2-Fluorophenol       | 2.4            |      | 3.339          |             | 71.5 | 20.2      | 108                             |      |              |      |
| Surr: 4-Terphenyl-d14      | 1.5            |      | 1.674          |             | 90.0 | 18.9      | 115                             |      |              |      |
| Surr: Nitrobenzene-d5      | 0              |      | 1.674          |             | 0    | 20.8      | 123                             |      |              | S    |
| Surr: Phenol-d5            | 2.8            |      | 3.339          |             | 83.5 | 19.8      | 115                             |      |              |      |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |                 |                |           |             |                                 |          |           |      |          |      |
|----------------------------|-----------------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1207922-008Cmsd | SampType:      | MSD       | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                 | BatchQC         | Batch ID:      | 3024      | RunNo:      | 4492                            |          |           |      |          |      |
| Prep Date:                 | 7/25/2012       | Analysis Date: | 7/27/2012 | SeqNo:      | 125928                          | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result          | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene               | 1.4             | 0.40           | 1.671     | 0           | 86.7                            | 38.6     | 100       | 15.9 | 20       |      |
| 4-Chloro-3-methylphenol    | 2.8             | 1.0            | 3.332     | 0           | 84.1                            | 35.8     | 108       | 1.20 | 20       |      |
| 2-Chlorophenol             | 2.6             | 0.40           | 3.332     | 0           | 76.5                            | 48.2     | 96.1      | 6.31 | 20       |      |
| 1,4-Dichlorobenzene        | 1.2             | 0.40           | 1.671     | 0           | 70.6                            | 42.5     | 97.6      | 3.92 | 20       |      |
| 2,4-Dinitrotoluene         | 1.3             | 1.0            | 1.671     | 0           | 75.0                            | 51.2     | 108       | 8.24 | 20       |      |
| N-Nitrosodi-n-propylamine  | ND              | 0.40           | 1.671     | 0           | 0                               | 31.6     | 114       | 0    | 20       | S    |
| 4-Nitrophenol              | 2.0             | 0.50           | 3.332     | 0           | 61.2                            | 22.7     | 144       | 3.20 | 20       |      |
| Pentachlorophenol          | 2.4             | 0.80           | 3.332     | 0           | 72.1                            | 24       | 109       | 10.3 | 20       |      |
| Phenol                     | 2.7             | 0.40           | 3.332     | 0           | 80.9                            | 33.1     | 108       | 9.61 | 20       |      |
| Pyrene                     | 1.5             | 0.40           | 1.671     | 0.2483      | 75.5                            | 42.7     | 98.9      | 8.58 | 20       |      |
| 1,2,4-Trichlorobenzene     | 1.2             | 0.40           | 1.671     | 0           | 74.3                            | 27.1     | 118       | 6.12 | 20       |      |
| Surr: 2,4,6-Tribromophenol | 2.3             |                | 3.332     |             | 69.8                            | 20.1     | 121       | 0    | 0        |      |
| Surr: 2-Fluorobiphenyl     | 1.2             |                | 1.671     |             | 70.5                            | 19       | 133       | 0    | 0        |      |
| Surr: 2-Fluorophenol       | 2.4             |                | 3.332     |             | 71.0                            | 20.2     | 108       | 0    | 0        |      |
| Surr: 4-Terphenyl-d14      | 1.4             |                | 1.671     |             | 84.2                            | 18.9     | 115       | 0    | 0        |      |
| Surr: Nitrobenzene-d5      | 1.2             |                | 1.671     |             | 74.7                            | 20.8     | 123       | 0    | 0        |      |
| Surr: Phenol-d5            | 2.7             |                | 3.332     |             | 80.4                            | 19.8     | 115       | 0    | 0        |      |

|                             |                                 |      |                                                  |             |      |          |                     |      |          |      |
|-----------------------------|---------------------------------|------|--------------------------------------------------|-------------|------|----------|---------------------|------|----------|------|
| Sample ID: <b>mb-3046</b>   | SampType: <b>MBLK</b>           |      | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |             |      |          |                     |      |          |      |
| Client ID: <b>PBS</b>       | Batch ID: <b>3046</b>           |      | RunNo: <b>4555</b>                               |             |      |          |                     |      |          |      |
| Prep Date: <b>7/26/2012</b> | Analysis Date: <b>7/31/2012</b> |      | SeqNo: <b>127860</b>                             |             |      |          | Units: <b>mg/Kg</b> |      |          |      |
| Analyte                     | Result                          | PQL  | SPK value                                        | SPK Ref Val | %REC | LowLimit | HighLimit           | %RPD | RPDLimit | Qual |
| Acenaphthene                | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Acenaphthylene              | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Aniline                     | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Anthracene                  | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Azobenzene                  | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Benz(a)anthracene           | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Benzo(a)pyrene              | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Benzo(b)fluoranthene        | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Benzo(g,h,i)perylene        | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Benzo(k)fluoranthene        | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Benzoic acid                | ND                              | 0.50 |                                                  |             |      |          |                     |      |          |      |
| Benzyl alcohol              | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Bis(2-chloroethoxy)methane  | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Bis(2-chloroethyl)ether     | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Bis(2-chloroisopropyl)ether | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND                              | 0.50 |                                                  |             |      |          |                     |      |          |      |
| 4-Bromophenyl phenyl ether  | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |
| Butyl benzyl phthalate      | ND                              | 0.20 |                                                  |             |      |          |                     |      |          |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |           |                |           |             |                                 |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | mb-3046   | SampType:      | MBLK      | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                  | PBS       | Batch ID:      | 3046      | RunNo:      | 4555                            |          |           |      |          |      |
| Prep Date:                  | 7/26/2012 | Analysis Date: | 7/31/2012 | SeqNo:      | 127860                          | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Carbazole                   | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 4-Chloroaniline             | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2-Chloronaphthalene         | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| 2-Chlorophenol              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Chrysene                    | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Di-n-butyl phthalate        | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| Di-n-octyl phthalate        | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Dibenzofuran                | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| Diethyl phthalate           | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Dimethyl phthalate          | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND        | 0.40           |           |             |                                 |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND        | 0.30           |           |             |                                 |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND        | 0.40           |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrotoluene          | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| Fluoranthene                | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Fluorene                    | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Hexachlorobenzene           | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Hexachlorobutadiene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Hexachlorocyclopentadiene   | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Hexachloroethane            | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene      | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Isophorone                  | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 1-Methylnaphthalene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 2-Methylnaphthalene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 2-Methylphenol              | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 3+4-Methylphenol            | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| N-Nitrosodi-n-propylamine   | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| N-Nitrosodiphenylamine      | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Naphthalene                 | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 2-Nitroaniline              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 3-Nitroaniline              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 4-Nitroaniline              | ND        | 0.40           |           |             |                                 |          |           |      |          |      |

### Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |           |      |                |             |      |           |                                 |      |              |      |  |
|----------------------------|-----------|------|----------------|-------------|------|-----------|---------------------------------|------|--------------|------|--|
| Sample ID                  | mb-3046   |      | SampType:      | MBLK        |      | TestCode: | EPA Method 8270C: Semivolatiles |      |              |      |  |
| Client ID:                 | PBS       |      | Batch ID:      | 3046        |      | RunNo:    | 4555                            |      |              |      |  |
| Prep Date:                 | 7/26/2012 |      | Analysis Date: | 7/31/2012   |      | SeqNo:    | 127860                          |      | Units: mg/Kg |      |  |
| Analyte                    | Result    | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit     | Qual |  |
| Nitrobenzene               | ND        | 0.50 |                |             |      |           |                                 |      |              |      |  |
| 2-Nitrophenol              | ND        | 0.20 |                |             |      |           |                                 |      |              |      |  |
| 4-Nitrophenol              | ND        | 0.25 |                |             |      |           |                                 |      |              |      |  |
| Pentachlorophenol          | ND        | 0.40 |                |             |      |           |                                 |      |              |      |  |
| Phenanthrene               | ND        | 0.20 |                |             |      |           |                                 |      |              |      |  |
| Phenol                     | ND        | 0.20 |                |             |      |           |                                 |      |              |      |  |
| Pyrene                     | ND        | 0.20 |                |             |      |           |                                 |      |              |      |  |
| Pyridine                   | ND        | 0.50 |                |             |      |           |                                 |      |              |      |  |
| 1,2,4-Trichlorobenzene     | ND        | 0.20 |                |             |      |           |                                 |      |              |      |  |
| 2,4,5-Trichlorophenol      | ND        | 0.20 |                |             |      |           |                                 |      |              |      |  |
| 2,4,6-Trichlorophenol      | ND        | 0.20 |                |             |      |           |                                 |      |              |      |  |
| Surr: 2,4,6-Tribromophenol | 1.6       |      | 3.330          |             | 49.3 | 20.1      | 121                             |      |              |      |  |
| Surr: 2-Fluorobiphenyl     | 0.71      |      | 1.670          |             | 42.7 | 19        | 133                             |      |              |      |  |
| Surr: 2-Fluorophenol       | 1.2       |      | 3.330          |             | 34.6 | 20.2      | 108                             |      |              |      |  |
| Surr: 4-Terphenyl-d14      | 0.73      |      | 1.670          |             | 43.6 | 18.9      | 115                             |      |              |      |  |
| Surr: Nitrobenzene-d5      | 0.67      |      | 1.670          |             | 39.9 | 20.8      | 123                             |      |              |      |  |
| Surr: Phenol-d5            | 1.3       |      | 3.330          |             | 38.0 | 19.8      | 115                             |      |              |      |  |

|                            |           |      |                          |             |                                           |          |              |      |          |      |
|----------------------------|-----------|------|--------------------------|-------------|-------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                  | lcs-3046  |      | SampType: LCS            |             | TestCode: EPA Method 8270C: Semivolatiles |          |              |      |          |      |
| Client ID:                 | LCSS      |      | Batch ID: 3046           |             | RunNo: 4555                               |          |              |      |          |      |
| Prep Date:                 | 7/26/2012 |      | Analysis Date: 7/31/2012 |             | SeqNo: 127861                             |          | Units: mg/Kg |      |          |      |
| Analyte                    | Result    | PQL  | SPK value                | SPK Ref Val | %REC                                      | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Acenaphthene               | 1.2       | 0.20 | 1.670                    | 0           | 70.9                                      | 49.7     | 98.1         |      |          |      |
| 4-Chloro-3-methylphenol    | 2.5       | 0.50 | 3.330                    | 0           | 74.2                                      | 43.8     | 89.1         |      |          |      |
| 2-Chlorophenol             | 2.2       | 0.20 | 3.330                    | 0           | 66.0                                      | 41.1     | 96.9         |      |          |      |
| 1,4-Dichlorobenzene        | 1.0       | 0.20 | 1.670                    | 0           | 60.6                                      | 41       | 97.4         |      |          |      |
| 2,4-Dinitrotoluene         | 1.5       | 0.50 | 1.670                    | 0           | 89.9                                      | 44.4     | 104          |      |          |      |
| N-Nitrosodi-n-propylamine  | 1.3       | 0.20 | 1.670                    | 0           | 74.9                                      | 39.1     | 86.9         |      |          |      |
| 4-Nitrophenol              | 3.0       | 0.25 | 3.330                    | 0           | 91.2                                      | 44.2     | 107          |      |          |      |
| Pentachlorophenol          | 2.6       | 0.40 | 3.330                    | 0           | 78.4                                      | 36.2     | 80           |      |          |      |
| Phenol                     | 2.3       | 0.20 | 3.330                    | 0           | 70.2                                      | 42.7     | 92.7         |      |          |      |
| Pyrene                     | 1.1       | 0.20 | 1.670                    | 0           | 68.4                                      | 34.7     | 98.8         |      |          |      |
| 1,2,4-Trichlorobenzene     | 1.2       | 0.20 | 1.670                    | 0           | 70.8                                      | 37.8     | 98.3         |      |          |      |
| Surr: 2,4,6-Tribromophenol | 3.0       |      | 3.330                    |             | 91.5                                      | 20.1     | 121          |      |          |      |
| Surr: 2-Fluorobiphenyl     | 1.2       |      | 1.670                    |             | 71.4                                      | 19       | 133          |      |          |      |
| Surr: 2-Fluorophenol       | 1.9       |      | 3.330                    |             | 56.8                                      | 20.2     | 108          |      |          |      |
| Surr: 4-Terphenyl-d14      | 1.3       |      | 1.670                    |             | 76.8                                      | 18.9     | 115          |      |          |      |
| Surr: Nitrobenzene-d5      | 1.2       |      | 1.670                    |             | 69.2                                      | 20.8     | 123          |      |          |      |
| Surr: Phenol-d5            | 2.4       |      | 3.330                    |             | 71.7                                      | 19.8     | 115          |      |          |      |

## Qualifiers:

- |                                            |    |                                                    |
|--------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |                     |                |           |             |                                 |          |           |      |          |      |
|----------------------------|---------------------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1207940-019Cms      | SampType:      | MS        | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                 | SWMU 14-19 (0-0.5') | Batch ID:      | 3046      | RunNo:      | 4555                            |          |           |      |          |      |
| Prep Date:                 | 7/26/2012           | Analysis Date: | 7/31/2012 | SeqNo:      | 127874                          | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result              | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene               | 1.4                 | 0.99           | 1.660     | 0           | 85.1                            | 38.6     | 100       |      |          |      |
| 4-Chloro-3-methylphenol    | 2.6                 | 2.5            | 3.310     | 0           | 78.4                            | 35.8     | 108       |      |          |      |
| 2-Chlorophenol             | 2.7                 | 0.99           | 3.310     | 0           | 81.1                            | 48.2     | 96.1      |      |          |      |
| 1,4-Dichlorobenzene        | ND                  | 0.99           | 1.660     | 0           | 52.6                            | 42.5     | 97.6      |      |          |      |
| 2,4-Dinitrotoluene         | ND                  | 2.5            | 1.660     | 0           | 85.7                            | 51.2     | 108       |      |          |      |
| N-Nitrosodi-n-propylamine  | 1.3                 | 0.99           | 1.660     | 0           | 80.5                            | 31.6     | 114       |      |          |      |
| 4-Nitrophenol              | 3.1                 | 1.2            | 3.310     | 0           | 93.7                            | 22.7     | 144       |      |          |      |
| Pentachlorophenol          | 2.3                 | 2.0            | 3.310     | 0           | 68.5                            | 24       | 109       |      |          |      |
| Phenol                     | 2.6                 | 0.99           | 3.310     | 0           | 77.6                            | 33.1     | 108       |      |          |      |
| Pyrene                     | 1.3                 | 0.99           | 1.660     | 0           | 76.4                            | 42.7     | 98.9      |      |          |      |
| 1,2,4-Trichlorobenzene     | 1.3                 | 0.99           | 1.660     | 0           | 75.7                            | 27.1     | 118       |      |          |      |
| Surr: 2,4,6-Tribromophenol | 3.2                 |                | 3.310     |             | 95.8                            | 20.1     | 121       |      |          |      |
| Surr: 2-Fluorobiphenyl     | 1.5                 |                | 1.660     |             | 92.9                            | 19       | 133       |      |          |      |
| Surr: 2-Fluorophenol       | 2.5                 |                | 3.310     |             | 76.5                            | 20.2     | 108       |      |          |      |
| Surr: 4-Terphenyl-d14      | 1.7                 |                | 1.660     |             | 102                             | 18.9     | 115       |      |          |      |
| Surr: Nitrobenzene-d5      | 1.5                 |                | 1.660     |             | 91.6                            | 20.8     | 123       |      |          |      |
| Surr: Phenol-d5            | 2.9                 |                | 3.310     |             | 87.9                            | 19.8     | 115       |      |          |      |

|                            |                     |                |           |             |                                 |          |           |      |          |      |
|----------------------------|---------------------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1207940-019Cmsd     | SampType:      | MSD       | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                 | SWMU 14-19 (0-0.5') | Batch ID:      | 3046      | RunNo:      | 4555                            |          |           |      |          |      |
| Prep Date:                 | 7/26/2012           | Analysis Date: | 7/31/2012 | SeqNo:      | 127875                          | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result              | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene               | 1.5                 | 1.0            | 1.667     | 0           | 88.2                            | 38.6     | 100       | 3.97 | 20       |      |
| 4-Chloro-3-methylphenol    | 2.5                 | 2.5            | 3.323     | 0           | 76.3                            | 35.8     | 108       | 2.32 | 20       |      |
| 2-Chlorophenol             | 2.7                 | 1.0            | 3.323     | 0           | 81.7                            | 48.2     | 96.1      | 1.14 | 20       |      |
| 1,4-Dichlorobenzene        | ND                  | 1.0            | 1.667     | 0           | 53.7                            | 42.5     | 97.6      | 0    | 20       |      |
| 2,4-Dinitrotoluene         | ND                  | 2.5            | 1.667     | 0           | 85.3                            | 51.2     | 108       | 0    | 20       |      |
| N-Nitrosodi-n-propylamine  | 1.5                 | 1.0            | 1.667     | 0           | 90.9                            | 31.6     | 114       | 12.5 | 20       |      |
| 4-Nitrophenol              | 2.8                 | 1.2            | 3.323     | 0           | 83.9                            | 22.7     | 144       | 10.6 | 20       |      |
| Pentachlorophenol          | 2.3                 | 2.0            | 3.323     | 0           | 70.3                            | 24       | 109       | 3.07 | 20       |      |
| Phenol                     | 2.7                 | 1.0            | 3.323     | 0           | 80.4                            | 33.1     | 108       | 3.94 | 20       |      |
| Pyrene                     | 1.4                 | 1.0            | 1.667     | 0           | 83.0                            | 42.7     | 98.9      | 8.66 | 20       |      |
| 1,2,4-Trichlorobenzene     | 1.3                 | 1.0            | 1.667     | 0           | 80.3                            | 27.1     | 118       | 6.28 | 20       |      |
| Surr: 2,4,6-Tribromophenol | 3.5                 |                | 3.323     |             | 106                             | 20.1     | 121       | 0    | 0        |      |
| Surr: 2-Fluorobiphenyl     | 1.6                 |                | 1.667     |             | 96.8                            | 19       | 133       | 0    | 0        |      |
| Surr: 2-Fluorophenol       | 2.5                 |                | 3.323     |             | 75.0                            | 20.2     | 108       | 0    | 0        |      |
| Surr: 4-Terphenyl-d14      | 1.8                 |                | 1.667     |             | 108                             | 18.9     | 115       | 0    | 0        |      |
| Surr: Nitrobenzene-d5      | 1.5                 |                | 1.667     |             | 90.8                            | 20.8     | 123       | 0    | 0        |      |
| Surr: Phenol-d5            | 3.1                 |                | 3.323     |             | 91.9                            | 19.8     | 115       | 0    | 0        |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

| Sample ID                   | mb-2989   | SampType:      | MBLK      | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Client ID:                  | PBW       | Batch ID:      | 2989      | RunNo:      | 4400                            |          |           |      |          |      |
| Prep Date:                  | 7/24/2012 | Analysis Date: | 7/24/2012 | SeqNo:      | 122513                          | Units:   | µg/L      |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Acenaphthylene              | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Aniline                     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Anthracene                  | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Azobenzene                  | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Benz(a)anthracene           | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Benzo(a)pyrene              | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Benzoic acid                | ND        | 20             |           |             |                                 |          |           |      |          |      |
| Benzyl alcohol              | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 4-Bromophenyl phenyl ether  | ND        | 10             |           |             |                                 |          |           |      |          |      |
| benzyl phthalate            | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Carbazole                   | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 4-Chloroaniline             | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2-Chloronaphthalene         | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2-Chlorophenol              | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Chrysene                    | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Di-n-butyl phthalate        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Di-n-octyl phthalate        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Dibenzofuran                | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Diethyl phthalate           | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Dimethyl phthalate          | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND        | 20             |           |             |                                 |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND        | 20             |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND        | 20             |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrotoluene          | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND        | 10             |           |             |                                 |          |           |      |          |      |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |           |                |           |             |                                 |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                  | mb-2989   | SampType:      | MBLK      | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                 | PBW       | Batch ID:      | 2989      | RunNo:      | 4400                            |          |           |      |          |      |
| Prep Date:                 | 7/24/2012 | Analysis Date: | 7/24/2012 | SeqNo:      | 122513                          | Units:   | µg/L      |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Fluoranthene               | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Fluorene                   | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Hexachlorobenzene          | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Hexachlorobutadiene        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Hexachlorocyclopentadiene  | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Hexachloroethane           | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Isophorone                 | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 1-Methylnaphthalene        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2-Methylnaphthalene        | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2-Methylphenol             | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 3-4-Methylphenol           | ND        | 10             |           |             |                                 |          |           |      |          |      |
| N-Nitrosodi-n-propylamine  | ND        | 10             |           |             |                                 |          |           |      |          |      |
| N-Nitrosodimethylamine     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| N-Nitrosodiphenylamine     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Naphthalene                | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2-Nitroaniline             | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 3-Nitroaniline             | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 4-Nitroaniline             | ND        | 20             |           |             |                                 |          |           |      |          |      |
| Nitrobenzene               | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2-Nitrophenol              | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 4-Nitrophenol              | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Pentachlorophenol          | ND        | 20             |           |             |                                 |          |           |      |          |      |
| Phenanthrene               | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Phenol                     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Pyrene                     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Pyridine                   | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 1,2,4-Trichlorobenzene     | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2,4,5-Trichlorophenol      | ND        | 10             |           |             |                                 |          |           |      |          |      |
| 2,4,6-Trichlorophenol      | ND        | 10             |           |             |                                 |          |           |      |          |      |
| Surr: 2,4,6-Tribromophenol | 170       |                | 200.0     |             | 85.4                            | 44.2     | 126       |      |          |      |
| Surr: 2-Fluorobiphenyl     | 86        |                | 100.0     |             | 85.5                            | 37       | 114       |      |          |      |
| Surr: 2-Fluorophenol       | 120       |                | 200.0     |             | 61.4                            | 23.4     | 98        |      |          |      |
| Surr: 4-Terphenyl-d14      | 79        |                | 100.0     |             | 79.3                            | 41.3     | 116       |      |          |      |
| Surr: Nitrobenzene-d5      | 84        |                | 100.0     |             | 84.2                            | 39.5     | 118       |      |          |      |
| Surr: Phenol-d5            | 110       |                | 200.0     |             | 53.2                            | 20.9     | 95.9      |      |          |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

| Sample ID: <b>lcs-2989</b>  | SampType: <b>LCS</b>            | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |                    |          |           |      |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|--------------------|----------|-----------|------|----------|------|
| Client ID: <b>LCSW</b>      | Batch ID: <b>2989</b>           | RunNo: <b>4400</b>                               |           |             |                    |          |           |      |          |      |
| Prep Date: <b>7/24/2012</b> | Analysis Date: <b>7/24/2012</b> | SeqNo: <b>122514</b>                             |           |             | Units: <b>µg/L</b> |          |           |      |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | 68                              | 10                                               | 100.0     | 0           | 68.1               | 38.2     | 99.4      |      |          |      |
| 4-Chloro-3-methylphenol     | 140                             | 10                                               | 200.0     | 0           | 71.3               | 35.5     | 108       |      |          |      |
| 2-Chlorophenol              | 130                             | 10                                               | 200.0     | 0           | 62.6               | 29.8     | 106       |      |          |      |
| 1,4-Dichlorobenzene         | 47                              | 10                                               | 100.0     | 0           | 46.8               | 32.6     | 91.5      |      |          |      |
| 2,4-Dinitrotoluene          | 83                              | 10                                               | 100.0     | 0           | 82.7               | 44.7     | 112       |      |          |      |
| N-Nitrosodi-n-propylamine   | 70                              | 10                                               | 100.0     | 0           | 70.3               | 38.5     | 105       |      |          |      |
| 4-Nitrophenol               | 95                              | 10                                               | 200.0     | 0           | 47.3               | 11.6     | 73.1      |      |          |      |
| Pentachlorophenol           | 120                             | 20                                               | 200.0     | 0           | 61.2               | 20.2     | 93        |      |          |      |
| Phenol                      | 84                              | 10                                               | 200.0     | 0           | 42.0               | 23       | 66.1      |      |          |      |
| Pyrene                      | 71                              | 10                                               | 100.0     | 0           | 71.2               | 40.1     | 101       |      |          |      |
| 1,2,4-Trichlorobenzene      | 54                              | 10                                               | 100.0     | 0           | 53.7               | 37.7     | 99.1      |      |          |      |
| Surr: 2,4,6-Tribromophenol  | 160                             |                                                  | 200.0     |             | 81.9               | 44.2     | 126       |      |          |      |
| Surr: 2-Fluorobiphenyl      | 73                              |                                                  | 100.0     |             | 72.8               | 37       | 114       |      |          |      |
| Surr: 2-Fluorophenol        | 98                              |                                                  | 200.0     |             | 49.2               | 23.4     | 98        |      |          |      |
| Surr: 4-Terphenyl-d14       | 71                              |                                                  | 100.0     |             | 70.6               | 41.3     | 116       |      |          |      |
| Surr: Nitrobenzene-d5       | 65                              |                                                  | 100.0     |             | 65.1               | 39.5     | 118       |      |          |      |
| Surr: Phenol-d5             | 91                              |                                                  | 200.0     |             | 45.5               | 20.9     | 95.9      |      |          |      |

| Sample ID: <b>lcsd-2989</b> | SampType: <b>LCSd</b>           | TestCode: <b>EPA Method 8270C: Semivolatiles</b> |           |             |                    |          |           |        |          |      |
|-----------------------------|---------------------------------|--------------------------------------------------|-----------|-------------|--------------------|----------|-----------|--------|----------|------|
| Client ID: <b>LCSS02</b>    | Batch ID: <b>2989</b>           | RunNo: <b>4400</b>                               |           |             |                    |          |           |        |          |      |
| Prep Date: <b>7/24/2012</b> | Analysis Date: <b>7/24/2012</b> | SeqNo: <b>122515</b>                             |           |             | Units: <b>µg/L</b> |          |           |        |          |      |
| Analyte                     | Result                          | PQL                                              | SPK value | SPK Ref Val | %REC               | LowLimit | HighLimit | %RPD   | RPDLimit | Qual |
| Acenaphthene                | 70                              | 10                                               | 100.0     | 0           | 69.9               | 38.2     | 99.4      | 2.61   | 20       |      |
| 4-Chloro-3-methylphenol     | 160                             | 10                                               | 200.0     | 0           | 81.3               | 35.5     | 108       | 13.1   | 20       |      |
| 2-Chlorophenol              | 110                             | 10                                               | 200.0     | 0           | 55.6               | 29.8     | 106       | 11.9   | 20       |      |
| 1,4-Dichlorobenzene         | 47                              | 10                                               | 100.0     | 0           | 46.8               | 32.6     | 91.5      | 0.0854 | 20       |      |
| 2,4-Dinitrotoluene          | 91                              | 10                                               | 100.0     | 0           | 91.2               | 44.7     | 112       | 9.75   | 20       |      |
| N-Nitrosodi-n-propylamine   | 75                              | 10                                               | 100.0     | 0           | 74.6               | 38.5     | 105       | 5.82   | 20       |      |
| 4-Nitrophenol               | 92                              | 10                                               | 200.0     | 0           | 46.1               | 11.6     | 73.1      | 2.55   | 20       |      |
| Pentachlorophenol           | 110                             | 20                                               | 200.0     | 0           | 57.5               | 20.2     | 93        | 6.30   | 20       |      |
| Phenol                      | 83                              | 10                                               | 200.0     | 0           | 41.5               | 23       | 66.1      | 1.15   | 20       |      |
| Pyrene                      | 71                              | 10                                               | 100.0     | 0           | 71.2               | 40.1     | 101       | 0      | 20       |      |
| 1,2,4-Trichlorobenzene      | 56                              | 10                                               | 100.0     | 0           | 55.5               | 37.7     | 99.1      | 3.33   | 20       |      |
| Surr: 2,4,6-Tribromophenol  | 150                             |                                                  | 200.0     |             | 75.1               | 44.2     | 126       | 0      | 0        |      |
| Surr: 2-Fluorobiphenyl      | 73                              |                                                  | 100.0     |             | 73.1               | 37       | 114       | 0      | 0        |      |
| Surr: 2-Fluorophenol        | 81                              |                                                  | 200.0     |             | 40.7               | 23.4     | 98        | 0      | 0        |      |
| Surr: 4-Terphenyl-d14       | 80                              |                                                  | 100.0     |             | 79.8               | 41.3     | 116       | 0      | 0        |      |
| Surr: Nitrobenzene-d5       | 70                              |                                                  | 100.0     |             | 70.1               | 39.5     | 118       | 0      | 0        |      |
| Surr: Phenol-d5             | 88                              |                                                  | 200.0     |             | 44.2               | 20.9     | 95.9      | 0      | 0        |      |

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |          |                |           |             |                          |          |           |      |          |      |
|------------|----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-3130  | SampType:      | MBLK      | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | PBS      | Batch ID:      | 3130      | RunNo:      | 4597                     |          |           |      |          |      |
| Prep Date: | 8/1/2012 | Analysis Date: | 8/2/2012  | SeqNo:      | 128924                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result   | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | ND       | 0.033          |           |             |                          |          |           |      |          |      |

|            |          |                |           |             |                          |          |           |      |          |      |
|------------|----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-3130 | SampType:      | LCS       | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | LCSS     | Batch ID:      | 3130      | RunNo:      | 4597                     |          |           |      |          |      |
| Prep Date: | 8/1/2012 | Analysis Date: | 8/2/2012  | SeqNo:      | 128925                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result   | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.16     | 0.033          | 0.1667    | 0           | 97.2                     | 80       | 120       |      |          |      |

|            |                    |                |           |             |                          |          |           |      |          |      |
|------------|--------------------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207940-002CMS     | SampType:      | MS        | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | SWMU 14-10 (1.5-2. | Batch ID:      | 3130      | RunNo:      | 4597                     |          |           |      |          |      |
| Prep Date: | 8/1/2012           | Analysis Date: | 8/2/2012  | SeqNo:      | 128936                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result             | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.60               | 0.16           | 0.1647    | 0.2056      | 237                      | 75       | 125       |      |          | S    |

|            |                    |                |           |             |                          |          |           |      |          |      |
|------------|--------------------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207940-002CMSD    | SampType:      | MSD       | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | SWMU 14-10 (1.5-2. | Batch ID:      | 3130      | RunNo:      | 4597                     |          |           |      |          |      |
| Prep Date: | 8/1/2012           | Analysis Date: | 8/2/2012  | SeqNo:      | 128937                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result             | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.60               | 0.16           | 0.1648    | 0.2056      | 240                      | 75       | 125       | 1.01 | 20       | S    |

|            |          |                |           |             |                          |          |           |      |          |      |
|------------|----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-3131  | SampType:      | MBLK      | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | PBS      | Batch ID:      | 3131      | RunNo:      | 4597                     |          |           |      |          |      |
| Prep Date: | 8/1/2012 | Analysis Date: | 8/2/2012  | SeqNo:      | 128955                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result   | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | ND       | 0.033          |           |             |                          |          |           |      |          |      |

|            |          |                |           |             |                          |          |           |      |          |      |
|------------|----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-3131 | SampType:      | LCS       | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | LCSS     | Batch ID:      | 3131      | RunNo:      | 4597                     |          |           |      |          |      |
| Prep Date: | 8/1/2012 | Analysis Date: | 8/2/2012  | SeqNo:      | 128956                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result   | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.16     | 0.033          | 0.1667    | 0           | 93.3                     | 80       | 120       |      |          |      |

|            |                |                |           |             |                          |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207B18-001BMS | SampType:      | MS        | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 3131      | RunNo:      | 4597                     |          |           |      |          |      |
| Prep Date: | 8/1/2012       | Analysis Date: | 8/2/2012  | SeqNo:      | 128971                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.21           | 0.033          | 0.1648    | 0.06444     | 87.3                     | 75       | 125       |      |          |      |

### Qualifiers:

\*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                 |       |                |             |          |          |           |                          |          |        |       |
|------------|-----------------|-------|----------------|-------------|----------|----------|-----------|--------------------------|----------|--------|-------|
| Sample ID  | 1207B18-001BMSD |       |                | SampType:   | MSD      |          | TestCode: | EPA Method 7471: Mercury |          |        |       |
| Client ID: | BatchQC         |       | Batch ID:      |             | 3131     |          | RunNo:    | 4597                     |          |        |       |
| Prep Date: | 8/1/2012        |       | Analysis Date: |             | 8/2/2012 |          | SeqNo:    | 128972                   |          | Units: | mg/Kg |
| Analyte    | Result          | PQL   | SPK value      | SPK Ref Val | %REC     | LowLimit | HighLimit | %RPD                     | RPDLimit | Qual   |       |
| Mercury    | 0.20            | 0.033 | 0.1651         | 0.06444     | 84.5     | 75       | 125       | 2.10                     | 20       |        |       |

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                  |      |                |                  |      |           |                                      |      |                     |      |
|------------|------------------|------|----------------|------------------|------|-----------|--------------------------------------|------|---------------------|------|
| Sample ID  | <b>MB-3008</b>   |      | SampType:      | <b>MBLK</b>      |      | TestCode: | <b>EPA Method 6010B: Soil Metals</b> |      |                     |      |
| Client ID: | <b>PBS</b>       |      | Batch ID:      | <b>3008</b>      |      | RunNo:    | <b>4553</b>                          |      |                     |      |
| Prep Date: | <b>7/24/2012</b> |      | Analysis Date: | <b>7/31/2012</b> |      | SeqNo:    | <b>127775</b>                        |      | Units: <b>mg/Kg</b> |      |
| Analyte    | Result           | PQL  | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                            | %RPD | RPDLimit            | Qual |
| Antimony   | ND               | 2.5  |                |                  |      |           |                                      |      |                     |      |
| Arsenic    | ND               | 2.5  |                |                  |      |           |                                      |      |                     |      |
| Barium     | ND               | 0.10 |                |                  |      |           |                                      |      |                     |      |
| Beryllium  | ND               | 0.15 |                |                  |      |           |                                      |      |                     |      |
| Cadmium    | ND               | 0.10 |                |                  |      |           |                                      |      |                     |      |
| Chromium   | ND               | 0.30 |                |                  |      |           |                                      |      |                     |      |
| Lead       | ND               | 0.25 |                |                  |      |           |                                      |      |                     |      |
| Manganese  | ND               | 0.10 |                |                  |      |           |                                      |      |                     |      |
| Nickel     | ND               | 0.50 |                |                  |      |           |                                      |      |                     |      |
| Selenium   | ND               | 2.5  |                |                  |      |           |                                      |      |                     |      |
| Vanadium   | ND               | 2.5  |                |                  |      |           |                                      |      |                     |      |
| Zinc       | ND               | 2.5  |                |                  |      |           |                                      |      |                     |      |

|            |                  |      |                |                  |      |           |                                      |      |                     |      |
|------------|------------------|------|----------------|------------------|------|-----------|--------------------------------------|------|---------------------|------|
| Sample ID  | <b>LCS-3008</b>  |      | SampType:      | <b>LCS</b>       |      | TestCode: | <b>EPA Method 6010B: Soil Metals</b> |      |                     |      |
| Client ID: | <b>LCSS</b>      |      | Batch ID:      | <b>3008</b>      |      | RunNo:    | <b>4553</b>                          |      |                     |      |
| Prep Date: | <b>7/24/2012</b> |      | Analysis Date: | <b>7/31/2012</b> |      | SeqNo:    | <b>127776</b>                        |      | Units: <b>mg/Kg</b> |      |
| Analyte    | Result           | PQL  | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                            | %RPD | RPDLimit            | Qual |
| Antimony   | 25               | 2.5  | 25.00          | 0                | 99.1 | 80        | 120                                  |      |                     |      |
| Arsenic    | 25               | 2.5  | 25.00          | 0                | 99.4 | 80        | 120                                  |      |                     |      |
| Barium     | 23               | 0.10 | 25.00          | 0                | 91.4 | 80        | 120                                  |      |                     |      |
| Beryllium  | 25               | 0.15 | 25.00          | 0                | 99.8 | 80        | 120                                  |      |                     |      |
| Cadmium    | 24               | 0.10 | 25.00          | 0                | 95.2 | 80        | 120                                  |      |                     |      |
| Chromium   | 23               | 0.30 | 25.00          | 0                | 91.3 | 80        | 120                                  |      |                     |      |
| Lead       | 23               | 0.25 | 25.00          | 0                | 91.5 | 80        | 120                                  |      |                     |      |
| Manganese  | 23               | 0.10 | 25.00          | 0                | 90.9 | 80        | 120                                  |      |                     |      |
| Nickel     | 22               | 0.50 | 25.00          | 0                | 89.6 | 80        | 120                                  |      |                     |      |
| Selenium   | 27               | 2.5  | 25.00          | 0                | 107  | 80        | 120                                  |      |                     |      |
| Vanadium   | 24               | 2.5  | 25.00          | 0                | 94.7 | 80        | 120                                  |      |                     |      |
| Zinc       | 23               | 2.5  | 25.00          | 0.7005           | 90.4 | 80        | 120                                  |      |                     |      |

|            |                  |      |                |                 |      |           |                                      |      |                     |      |
|------------|------------------|------|----------------|-----------------|------|-----------|--------------------------------------|------|---------------------|------|
| Sample ID  | <b>MB-3008</b>   |      | SampType:      | <b>MBLK</b>     |      | TestCode: | <b>EPA Method 6010B: Soil Metals</b> |      |                     |      |
| Client ID: | <b>PBS</b>       |      | Batch ID:      | <b>3008</b>     |      | RunNo:    | <b>4605</b>                          |      |                     |      |
| Prep Date: | <b>7/24/2012</b> |      | Analysis Date: | <b>8/1/2012</b> |      | SeqNo:    | <b>129181</b>                        |      | Units: <b>mg/Kg</b> |      |
| Analyte    | Result           | PQL  | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                            | %RPD | RPDLimit            | Qual |
| Cobalt     | ND               | 0.30 |                |                 |      |           |                                      |      |                     |      |
| Iron       | 1.0              | 1.0  |                |                 |      |           |                                      |      |                     |      |
| Silver     | ND               | 0.25 |                |                 |      |           |                                      |      |                     |      |

### Qualifiers:

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E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |      |           |                |          |          |           |                               |          |        |       |
|------------|-----------|------|-----------|----------------|----------|----------|-----------|-------------------------------|----------|--------|-------|
| Sample ID  | LCS-3008  |      |           | SampType:      | LCS      |          | TestCode: | EPA Method 6010B: Soil Metals |          |        |       |
| Client ID: | LCSS      |      |           | Batch ID:      | 3008     |          | RunNo:    | 4605                          |          |        |       |
| Prep Date: | 7/24/2012 |      |           | Analysis Date: | 8/1/2012 |          | SeqNo:    | 129182                        |          | Units: | mg/Kg |
| Analyte    | Result    | PQL  | SPK value | SPK Ref Val    | %REC     | LowLimit | HighLimit | %RPD                          | RPDLimit | Qual   |       |
| Cobalt     | 25        | 0.30 | 25.00     | 0              | 98.5     | 80       | 120       |                               |          |        |       |
| Iron       | 25        | 1.0  | 25.00     | 1.039          | 96.0     | 80       | 120       |                               |          | B      |       |
| Silver     | 5.1       | 0.25 | 5.000     | 0.05000        | 101      | 80       | 120       |                               |          |        |       |

|            |                    |      |                         |             |                                         |          |              |      |          |      |
|------------|--------------------|------|-------------------------|-------------|-----------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | 1207940-020CMS     |      | SampType: MS            |             | TestCode: EPA Method 6010B: Soil Metals |          |              |      |          |      |
| Client ID: | SWMU 14-19 (1.5-2. |      | Batch ID: 3008          |             | RunNo: 4605                             |          |              |      |          |      |
| Prep Date: | 7/24/2012          |      | Analysis Date: 8/1/2012 |             | SeqNo: 129201                           |          | Units: mg/Kg |      |          |      |
| Analyte    | Result             | PQL  | SPK value               | SPK Ref Val | %REC                                    | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Antimony   | ND                 | 12   | 24.88                   | 0           | 47.5                                    | 75       | 125          |      |          | S    |
| Arsenic    | 24                 | 12   | 24.88                   | 0           | 97.0                                    | 75       | 125          |      |          |      |
| Beryllium  | 26                 | 0.75 | 24.88                   | 0.8069      | 99.9                                    | 75       | 125          |      |          |      |
| Cadmium    | 24                 | 0.50 | 24.88                   | 0           | 95.6                                    | 75       | 125          |      |          |      |
| Chromium   | 38                 | 1.5  | 24.88                   | 11.91       | 106                                     | 75       | 125          |      |          |      |
| Cobalt     | 28                 | 1.5  | 24.88                   | 4.819       | 95.1                                    | 75       | 125          |      |          |      |
| Lead       | 29                 | 1.2  | 24.88                   | 4.128       | 99.7                                    | 75       | 125          |      |          |      |
| Nickel     | 32                 | 2.5  | 24.88                   | 8.015       | 95.1                                    | 75       | 125          |      |          |      |
| ium        | 17                 | 12   | 24.88                   | 0           | 67.6                                    | 75       | 125          |      |          | S    |
| ilver      | 4.6                | 1.2  | 4.976                   | 0           | 93.1                                    | 75       | 125          |      |          |      |
| Vanadium   | 50                 | 12   | 24.88                   | 21.23       | 117                                     | 75       | 125          |      |          |      |
| Zinc       | 61                 | 12   | 24.88                   | 33.83       | 108                                     | 75       | 125          |      |          |      |

|            |                    |      |                         |             |                                         |          |              |      |          |      |
|------------|--------------------|------|-------------------------|-------------|-----------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | 1207940-020CMSD    |      | SampType: MSD           |             | TestCode: EPA Method 6010B: Soil Metals |          |              |      |          |      |
| Client ID: | SWMU 14-19 (1.5-2. |      | Batch ID: 3008          |             | RunNo: 4605                             |          |              |      |          |      |
| Prep Date: | 7/24/2012          |      | Analysis Date: 8/1/2012 |             | SeqNo: 129202                           |          | Units: mg/Kg |      |          |      |
| Analyte    | Result             | PQL  | SPK value               | SPK Ref Val | %REC                                    | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Antimony   | ND                 | 12   | 24.62                   | 0           | 38.2                                    | 75       | 125          | 0    | 20       | SR   |
| Arsenic    | 21                 | 12   | 24.62                   | 0           | 83.9                                    | 75       | 125          | 15.5 | 20       |      |
| Beryllium  | 23                 | 0.75 | 24.62                   | 0.8069      | 92.2                                    | 75       | 125          | 8.77 | 20       |      |
| Cadmium    | 22                 | 0.50 | 24.62                   | 0           | 88.1                                    | 75       | 125          | 9.20 | 20       |      |
| Chromium   | 33                 | 1.5  | 24.62                   | 11.91       | 87.6                                    | 75       | 125          | 13.1 | 20       |      |
| Cobalt     | 25                 | 1.5  | 24.62                   | 4.819       | 83.8                                    | 75       | 125          | 11.2 | 20       |      |
| Lead       | 28                 | 1.2  | 24.62                   | 4.128       | 95.3                                    | 75       | 125          | 4.83 | 20       |      |
| Nickel     | 28                 | 2.5  | 24.62                   | 8.015       | 80.0                                    | 75       | 125          | 13.3 | 20       |      |
| Selenium   | 18                 | 12   | 24.62                   | 0           | 74.2                                    | 75       | 125          | 8.38 | 20       | S    |
| Silver     | 4.1                | 1.2  | 4.924                   | 0           | 84.1                                    | 75       | 125          | 11.3 | 20       |      |
| Vanadium   | 46                 | 12   | 24.62                   | 21.23       | 102                                     | 75       | 125          | 8.17 | 20       |      |
| Zinc       | 51                 | 12   | 24.62                   | 33.83       | 69.2                                    | 75       | 125          | 17.5 | 20       | S    |

### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Value above quantitation range
- Analyte detected below quantitation limits
- RPD outside accepted recovery limits

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |                |           |             |                               |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-3009   | SampType:      | MBLK      | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 3009      | RunNo:      | 4698                          |          |           |      |          |      |
| Prep Date: | 7/24/2012 | Analysis Date: | 8/6/2012  | SeqNo:      | 132140                        | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron       | ND        | 1.0            |           |             |                               |          |           |      |          |      |

|            |           |                |           |             |                               |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-3009  | SampType:      | LCS       | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 3009      | RunNo:      | 4698                          |          |           |      |          |      |
| Prep Date: | 7/24/2012 | Analysis Date: | 8/6/2012  | SeqNo:      | 132141                        | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron       | 26        | 1.0            | 25.00     | 0.9555      | 99.3                          | 80       | 120       |      |          |      |

|            |           |                |           |             |                               |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-3009   | SampType:      | MBLK      | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 3009      | RunNo:      | 4699                          |          |           |      |          |      |
| Prep Date: | 7/24/2012 | Analysis Date: | 8/5/2012  | SeqNo:      | 132220                        | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | ND        | 2.5            |           |             |                               |          |           |      |          |      |
| Arsenic    | ND        | 2.5            |           |             |                               |          |           |      |          |      |
| Barium     | ND        | 0.10           |           |             |                               |          |           |      |          |      |
| Beryllium  | ND        | 0.15           |           |             |                               |          |           |      |          |      |
| Cadmium    | ND        | 0.10           |           |             |                               |          |           |      |          |      |
| Chromium   | ND        | 0.30           |           |             |                               |          |           |      |          |      |
| Cobalt     | ND        | 0.30           |           |             |                               |          |           |      |          |      |
| Lead       | ND        | 0.25           |           |             |                               |          |           |      |          |      |
| Manganese  | ND        | 0.10           |           |             |                               |          |           |      |          |      |
| Nickel     | ND        | 0.50           |           |             |                               |          |           |      |          |      |
| Selenium   | ND        | 2.5            |           |             |                               |          |           |      |          |      |
| Silver     | ND        | 0.25           |           |             |                               |          |           |      |          |      |
| Vanadium   | ND        | 2.5            |           |             |                               |          |           |      |          |      |
| Zinc       | ND        | 2.5            |           |             |                               |          |           |      |          |      |

|            |           |                |           |             |                               |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-3009  | SampType:      | LCS       | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 3009      | RunNo:      | 4699                          |          |           |      |          |      |
| Prep Date: | 7/24/2012 | Analysis Date: | 8/5/2012  | SeqNo:      | 132221                        | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | 28        | 2.5            | 25.00     | 0           | 114                           | 80       | 120       |      |          |      |
| Arsenic    | 29        | 2.5            | 25.00     | 0           | 117                           | 80       | 120       |      |          |      |
| Barium     | 27        | 0.10           | 25.00     | 0           | 107                           | 80       | 120       |      |          |      |
| Beryllium  | 29        | 0.15           | 25.00     | 0.01250     | 117                           | 80       | 120       |      |          |      |
| Cadmium    | 27        | 0.10           | 25.00     | 0           | 110                           | 80       | 120       |      |          |      |
| Chromium   | 26        | 0.30           | 25.00     | 0           | 106                           | 80       | 120       |      |          |      |
| Cobalt     | 29        | 0.30           | 25.00     | 0           | 115                           | 80       | 120       |      |          |      |
| Lead       | 27        | 0.25           | 25.00     | 0           | 110                           | 80       | 120       |      |          |      |

### Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |           |      |                |             |      |           |                               |      |              |      |
|------------|-----------|------|----------------|-------------|------|-----------|-------------------------------|------|--------------|------|
| Sample ID  | LCS-3009  |      | SampType:      | LCS         |      | TestCode: | EPA Method 6010B: Soil Metals |      |              |      |
| Client ID: | LCSS      |      | Batch ID:      | 3009        |      | RunNo:    | 4699                          |      |              |      |
| Prep Date: | 7/24/2012 |      | Analysis Date: | 8/5/2012    |      | SeqNo:    | 132221                        |      | Units: mg/Kg |      |
| Analyte    | Result    | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit     | Qual |
| Manganese  | 26        | 0.10 | 25.00          | 0.07300     | 106  | 80        | 120                           |      |              |      |
| Nickel     | 26        | 0.50 | 25.00          | 0           | 105  | 80        | 120                           |      |              |      |
| Selenium   | 30        | 2.5  | 25.00          | 0           | 121  | 80        | 120                           |      |              | S    |
| Silver     | 5.4       | 0.25 | 5.000          | 0           | 108  | 80        | 120                           |      |              |      |
| Vanadium   | 27        | 2.5  | 25.00          | 0.07050     | 109  | 80        | 120                           |      |              |      |
| Zinc       | 29        | 2.5  | 25.00          | 0           | 116  | 80        | 120                           |      |              |      |

|            |                |      |                |             |      |           |                               |      |              |      |
|------------|----------------|------|----------------|-------------|------|-----------|-------------------------------|------|--------------|------|
| Sample ID  | 1207917-005CMS |      | SampType:      | MS          |      | TestCode: | EPA Method 6010B: Soil Metals |      |              |      |
| Client ID: | BatchQC        |      | Batch ID:      | 3009        |      | RunNo:    | 4699                          |      |              |      |
| Prep Date: | 7/24/2012      |      | Analysis Date: | 8/5/2012    |      | SeqNo:    | 132249                        |      | Units: mg/Kg |      |
| Analyte    | Result         | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit     | Qual |
| Arsenic    | 21             | 12   | 23.84          | 0           | 89.4 | 75        | 125                           |      |              |      |
| Beryllium  | 24             | 0.75 | 23.84          | 0.6761      | 97.6 | 75        | 125                           |      |              |      |
| Cadmium    | 22             | 0.50 | 23.84          | 0           | 90.6 | 75        | 125                           |      |              |      |
| Chromium   | 29             | 1.5  | 23.84          | 8.850       | 84.7 | 75        | 125                           |      |              |      |
| Cobalt     | 26             | 1.5  | 23.84          | 4.445       | 90.6 | 75        | 125                           |      |              |      |
| Copper     | 23             | 1.2  | 23.84          | 3.311       | 82.6 | 75        | 125                           |      |              |      |
| Nickel     | 27             | 2.5  | 23.84          | 6.181       | 86.9 | 75        | 125                           |      |              |      |
| Silver     | 4.0            | 1.2  | 4.768          | 0           | 83.8 | 75        | 125                           |      |              |      |

|            |                 |      |                |             |      |           |                               |      |              |      |
|------------|-----------------|------|----------------|-------------|------|-----------|-------------------------------|------|--------------|------|
| Sample ID  | 1207917-005CMSD |      | SampType:      | MSD         |      | TestCode: | EPA Method 6010B: Soil Metals |      |              |      |
| Client ID: | BatchQC         |      | Batch ID:      | 3009        |      | RunNo:    | 4699                          |      |              |      |
| Prep Date: | 7/24/2012       |      | Analysis Date: | 8/5/2012    |      | SeqNo:    | 132250                        |      | Units: mg/Kg |      |
| Analyte    | Result          | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit     | Qual |
| Arsenic    | 24              | 12   | 24.91          | 0           | 94.6 | 75        | 125                           | 9.99 | 20           |      |
| Beryllium  | 25              | 0.75 | 24.91          | 0.6761      | 98.4 | 75        | 125                           | 5.04 | 20           |      |
| Cadmium    | 23              | 0.50 | 24.91          | 0           | 90.6 | 75        | 125                           | 4.33 | 20           |      |
| Chromium   | 32              | 1.5  | 24.91          | 8.850       | 94.1 | 75        | 125                           | 10.6 | 20           |      |
| Cobalt     | 27              | 1.5  | 24.91          | 4.445       | 91.3 | 75        | 125                           | 4.29 | 20           |      |
| Lead       | 25              | 1.2  | 24.91          | 3.311       | 87.3 | 75        | 125                           | 8.61 | 20           |      |
| Nickel     | 29              | 2.5  | 24.91          | 6.181       | 91.7 | 75        | 125                           | 7.56 | 20           |      |
| Silver     | 4.4             | 1.2  | 4.982          | 0           | 88.1 | 75        | 125                           | 9.44 | 20           |      |

|            |                |     |                |             |      |           |                               |      |              |      |
|------------|----------------|-----|----------------|-------------|------|-----------|-------------------------------|------|--------------|------|
| Sample ID  | 1207917-005CMS |     | SampType:      | MS          |      | TestCode: | EPA Method 6010B: Soil Metals |      |              |      |
| Client ID: | BatchQC        |     | Batch ID:      | 3009        |      | RunNo:    | 4734                          |      |              |      |
| Prep Date: | 7/24/2012      |     | Analysis Date: | 8/8/2012    |      | SeqNo:    | 133485                        |      | Units: mg/Kg |      |
| Analyte    | Result         | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit     | Qual |
| Selenium   | 13             | 12  | 23.84          | 0           | 54.1 | 75        | 125                           |      |              | S    |
| Vanadium   | 43             | 12  | 23.84          | 31.42       | 47.7 | 75        | 125                           |      |              | S    |

### Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| X | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| c | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R | RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1207940

21-Aug-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                 |     |                |             |      |           |                               |      |          |       |  |
|------------|-----------------|-----|----------------|-------------|------|-----------|-------------------------------|------|----------|-------|--|
| Sample ID  | 1207917-005CMSD |     | SampType:      | MSD         |      | TestCode: | EPA Method 6010B: Soil Metals |      |          |       |  |
| Client ID: | BatchQC         |     | Batch ID:      | 3009        |      | RunNo:    | 4734                          |      |          |       |  |
| Prep Date: | 7/24/2012       |     | Analysis Date: | 8/8/2012    |      | SeqNo:    | 133486                        |      | Units:   | mg/Kg |  |
| Analyte    | Result          | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit | Qual  |  |
| Selenium   | 14              | 12  | 24.91          | 0           | 57.7 | 75        | 125                           | 10.9 | 20       | S     |  |
| Vanadium   | 55              | 12  | 24.91          | 31.42       | 93.0 | 75        | 125                           | 24.2 | 20       | R     |  |

|            |                |     |                |             |      |           |                               |      |          |       |  |
|------------|----------------|-----|----------------|-------------|------|-----------|-------------------------------|------|----------|-------|--|
| Sample ID  | 1207917-005CMS |     | SampType:      | MS          |      | TestCode: | EPA Method 6010B: Soil Metals |      |          |       |  |
| Client ID: | BatchQC        |     | Batch ID:      | 3009        |      | RunNo:    | 4816                          |      |          |       |  |
| Prep Date: | 7/24/2012      |     | Analysis Date: | 8/10/2012   |      | SeqNo:    | 135933                        |      | Units:   | mg/Kg |  |
| Analyte    | Result         | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit | Qual  |  |
| Antimony   | ND             | 13  | 23.84          | 3.961       | 28.4 | 75        | 125                           |      |          | S     |  |
| Zinc       | 35             | 13  | 23.84          | 16.80       | 76.6 | 75        | 125                           |      |          |       |  |

|            |                 |                |           |             |                               |          |           |      |          |      |
|------------|-----------------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1207917-005CMSD | SampType:      | MSD       | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | 3009      | RunNo:      | 4816                          |          |           |      |          |      |
| Prep Date: | 7/24/2012       | Analysis Date: | 8/10/2012 | SeqNo:      | 135934                        | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | ND              | 13             | 24.91     | 3.961       | 34.3                          | 75       | 125       | 0    | 20       | S    |
| Zinc       | 39              | 13             | 24.91     | 16.80       | 90.3                          | 75       | 125       | 11.4 | 20       |      |

## Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87105  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Western Refining Gallup

Work Order Number: 1207940

Received by/date:

Logged By: Ashley Gallegos

Completed By: Ashley Gallegos

Reviewed By:

### Chain of Custody

1. Were seals intact?
2. Is Chain of Custody complete?
3. How was the sample delivered?

Yes : No : Not Present ✓  
Yes ✓ No : Not Present  
Client

### Log In

4. Coolers are present? (see 19. for cooler specific information)
5. Was an attempt made to cool the samples?
6. Were all samples received at a temperature of >0° C to 6.0°C
7. Sample(s) in proper container(s)?
8. Sufficient sample volume for indicated test(s)?
9. Are samples (except VOA and ONG) properly preserved?
10. Was preservative added to bottles?
11. VOA vials have zero headspace?
12. Were any sample containers received broken?
13. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody)
14. Are matrices correctly identified on Chain of Custody?
15. Is it clear what analyses were requested?
16. Were all holding times able to be met?  
(If no, notify customer for authorization.)

Yes ✓ No : NA  
Yes ✓ No : NA  
Yes ✓ No : NA  
Yes ✓ No :  
Yes : No ✓ NA  
Yes : No : No VOA Vials ✓  
Yes : No ✓  
Yes ✓ No :  
Yes ✓ No :  
Yes ✓ No :  
Adjusted?  
Checked by:

# of preserved  
bottles checked  
for pH: 43  
(<2 or >12 unless noted)

### Special Handling (if applicable)

17. Was client notified of all discrepancies with this order?

Yes : No : NA ✓

Person Notified:

Date:

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

18. Additional remarks:

### 19. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 3.0     | Good      | Not Present |         |           |           |















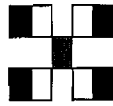
## Turn-Around Time:

|                                              |                               |
|----------------------------------------------|-------------------------------|
| <input checked="" type="checkbox"/> Standard | <input type="checkbox"/> Rush |
| Project Name: <i>SWML No. 14</i>             |                               |
| Project #:                                   |                               |
| Project Manager: <i>SCOTT CROUCH - RES</i>   |                               |
| Sampler: <i>TRACY PAYNE</i>                  |                               |
| Office: <i>SAVES</i>                         | File No. <i>14</i>            |
| Sample temperature: <i>3</i>                 |                               |

| Container Type and # | Preservative Type | HEALING<br>1207140 |
|----------------------|-------------------|--------------------|
| 2 ENKORES            | -                 | -025               |
| 2 VIALS              | MEOH              |                    |
| 1 JAR                | -                 |                    |
| 2 ENKORES            | -                 | -020               |
| 2 VIALS              | MEOH              |                    |
| 1 JAR                | -                 |                    |
| 2 ENKORES            | -                 | -027               |
| 2 VIALS              | MEOH              |                    |
| 1 JAR                | -                 |                    |
| 2 ENKORES            | -                 | -028               |
| 2 VIALS              | MEOH              |                    |
| 1 JAR                | -                 |                    |

|                                                                                       |         |      |
|---------------------------------------------------------------------------------------|---------|------|
| Received by:                                                                          | Date    | Time |
|  | 7/24/12 | 1426 |
| Received by:                                                                          | Date    | Time |

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

[illegible]

Remarks:

|                                                                                       |         |      |
|---------------------------------------------------------------------------------------|---------|------|
| Received by:                                                                          | Date    | Time |
|  | 7/24/12 | 1426 |
| Received by:                                                                          | Date    | Time |







*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

November 15, 2012

Scott Crouch

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL:

FAX

RE: SWMU NO.14

OrderNo.: 1210860

Dear Scott Crouch:

Hall Environmental Analysis Laboratory received 6 sample(s) on 10/18/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-24 (0-0.5')

Project: SWMU NO.14

Collection Date: 10/17/2012 10:15:00 AM

Lab ID: 1210860-001

Matrix: SOIL

Received Date: 10/18/2012 8:00:00 AM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed          |
|------------------------------------------------|--------|----------|------|-------|-----|------------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP           |
| Diesel Range Organics (DRO)                    | ND     | 10       |      | mg/Kg | 1   | 10/21/2012 5:50:17 AM  |
| Motor Oil Range Organics (MRO)                 | ND     | 50       |      | mg/Kg | 1   | 10/21/2012 5:50:17 AM  |
| Surr: DNOP                                     | 100    | 77.6-140 |      | %REC  | 1   | 10/21/2012 5:50:17 AM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB           |
| Gasoline Range Organics (GRO)                  | ND     | 5.0      |      | mg/Kg | 1   | 10/27/2012 1:44:37 PM  |
| Surr: BFB                                      | 99.5   | 84-116   |      | %REC  | 1   | 10/27/2012 1:44:37 PM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: JLF           |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 11/1/2012 4:09:42 PM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF           |
| Antimony                                       | ND     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Arsenic                                        | ND     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Barium                                         | 440    | 1.0      |      | mg/Kg | 10  | 10/25/2012 2:09:26 PM  |
| Beryllium                                      | 0.80   | 0.30     |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Cadmium                                        | ND     | 0.20     |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Chromium                                       | 10     | 0.60     |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Cobalt                                         | 4.6    | 0.60     |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Iron                                           | 15000  | 500      |      | mg/Kg | 500 | 11/2/2012 7:08:54 AM   |
| Lead                                           | 2.5    | 0.50     |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Manganese                                      | 450    | 1.0      |      | mg/Kg | 10  | 10/25/2012 2:09:26 PM  |
| Nickel                                         | 8.0    | 1.0      |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Selenium                                       | ND     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Silver                                         | ND     | 0.50     |      | mg/Kg | 2   | 10/31/2012 1:23:58 PM  |
| Vanadium                                       | 22     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| Zinc                                           | 25     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:21:41 PM |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC           |
| Acenaphthene                                   | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Acenaphthylene                                 | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Aniline                                        | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Anthracene                                     | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Azobenzene                                     | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Benz(a)anthracene                              | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Benzo(a)pyrene                                 | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Benzo(b)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Benzo(g,h,i)perylene                           | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Benzo(k)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Benzoic acid                                   | ND     | 0.50     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Benzyl alcohol                                 | 0.32   | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:26:31 PM  |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-24 (0-0.5')

Project: SWMU NO.14

Collection Date: 10/17/2012 10:15:00 AM

Lab ID: 1210860-001

Matrix: SOIL

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC          |
| Bis(2-ethylhexyl)phthalate             | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Butyl benzyl phthalate                 | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Carbazole                              | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 4-Chloro-3-methylphenol                | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 4-Chloroaniline                        | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2-Chloronaphthalene                    | ND     | 0.25 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2-Chlorophenol                         | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Chrysene                               | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Di-n-butyl phthalate                   | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Di-n-octyl phthalate                   | ND     | 0.40 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Dibenzofuran                           | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 0.25 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Diethyl phthalate                      | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Dimethyl phthalate                     | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2,4-Dichlorophenol                     | ND     | 0.40 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2,4-Dimethylphenol                     | ND     | 0.30 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2,4-Dinitrophenol                      | ND     | 0.40 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2,4-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2,6-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Fluoranthene                           | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Fluorene                               | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Hexachlorobenzene                      | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Hexachlorobutadiene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Hexachlorocyclopentadiene              | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Hexachloroethane                       | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Isophorone                             | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 1-Methylnaphthalene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2-Methylnaphthalene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2-Methylphenol                         | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 3+4-Methylphenol                       | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Naphthalene                            | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2-Nitroaniline                         | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-24 (0-0.5')

Project: SWMU NO.14

Collection Date: 10/17/2012 10:15:00 AM

Lab ID: 1210860-001

Matrix: SOIL

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result   | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|----------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |          |          |      |       |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 4-Nitroaniline                         | ND       | 0.40     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Nitrobenzene                           | ND       | 0.50     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2-Nitrophenol                          | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 4-Nitrophenol                          | ND       | 0.25     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Pentachlorophenol                      | ND       | 0.40     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Phenanthrene                           | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Phenol                                 | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Pyrene                                 | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Pyridine                               | ND       | 0.50     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 1,2,4-Trichlorobenzene                 | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2,4,5-Trichlorophenol                  | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| 2,4,6-Trichlorophenol                  | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:26:31 PM |
| Surr: 2,4,6-Tribromophenol             | 84.3     | 21.3-145 |      | %REC  | 1  | 10/24/2012 9:26:31 PM |
| Surr: 2-Fluorobiphenyl                 | 83.6     | 20-131   |      | %REC  | 1  | 10/24/2012 9:26:31 PM |
| Surr: 2-Fluorophenol                   | 76.1     | 11.9-130 |      | %REC  | 1  | 10/24/2012 9:26:31 PM |
| Surr: 4-Terphenyl-d14                  | 74.2     | 25.1-149 |      | %REC  | 1  | 10/24/2012 9:26:31 PM |
| Surr: Nitrobenzene-d5                  | 88.7     | 25.6-137 |      | %REC  | 1  | 10/24/2012 9:26:31 PM |
| Surr: Phenol-d5                        | 75.5     | 20.3-132 |      | %REC  | 1  | 10/24/2012 9:26:31 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |          |          |      |       |    | Analyst: RAA          |
| Benzene                                | 0.00213  | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Toluene                                | 0.00222  | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Ethylbenzene                           | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Xylenes, Total                         | 0.00380  | 0.00160  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Methyl tert-butyl ether (MTBE)         | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2,4-Trimethylbenzene                 | 0.000935 | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,3,5-Trimethylbenzene                 | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2-Dichloroethane (EDC)               | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2-Dibromoethane (EDB)                | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Naphthalene                            | ND       | 0.00160  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1-Methylnaphthalene                    | ND       | 0.00320  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 2-Methylnaphthalene                    | ND       | 0.00320  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Acetone                                | 0.0480   | 0.00799  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Bromobenzene                           | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Bromodichloromethane                   | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Bromoform                              | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Bromomethane                           | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 2-Butanone                             | 0.00846  | 0.00799  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Carbon tetrachloride                   | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Chlorobenzene                          | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Chloroethane                           | ND       | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |

Qualifiers: \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2  
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-24 (0-0.5')

Project: SWMU NO.14

Collection Date: 10/17/2012 10:15:00 AM

Lab ID: 1210860-001

Matrix: SOIL

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |       |    | Analyst: RAA          |
| Chloroform                             | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Chloromethane                          | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 2-Chlorotoluene                        | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Carbon disulfide                       | ND     | 0.00799  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 4-Chlorotoluene                        | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| cis-1,2-DCE                            | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| cis-1,3-Dichloropropene                | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Dibromochloromethane                   | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Dibromomethane                         | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Dichlorodifluoromethane                | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,1-Dichloroethane                     | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,1-Dichloroethene                     | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2-Dichloropropane                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,3-Dichloropropane                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 2,2-Dichloropropane                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,1-Dichloropropene                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Hexachlorobutadiene                    | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Isopropylbenzene                       | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 4-Isopropyltoluene                     | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Methylene chloride                     | ND     | 0.00240  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| n-Butylbenzene                         | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 2-Hexanone                             | ND     | 0.00799  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| n-Propylbenzene                        | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| sec-Butylbenzene                       | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Styrene                                | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 4-Methyl-2-pentanone                   | ND     | 0.00799  |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| tert-Butylbenzene                      | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Tetrachloroethene (PCE)                | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| trans-1,2-DCE                          | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| trans-1,3-Dichloropropene              | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,1,1-Trichloroethane                  | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| 1,1,2-Trichloroethane                  | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Trichloroethene (TCE)                  | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Trichlorofluoromethane                 | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits



**Analytical Report**

Lab Order 1210860

Date Reported: 11/15/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-24 (0-0.5')**Project:** SWMU NO.14**Collection Date:** 10/17/2012 10:15:00 AM**Lab ID:** 1210860-001**Matrix:** SOIL**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |       |    | Analyst: RAA          |
| 1,2,3-Trichloropropane                 | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Vinyl chloride                         | ND     | 0.000799 |      | mg/Kg | 1  | 10/19/2012 1:07:47 PM |
| Surr: 1,2-Dichloroethane-d4            | 87.9   | 70-130   |      | %REC  | 1  | 10/19/2012 1:07:47 PM |
| Surr: 4-Bromofluorobenzene             | 103    | 70-130   |      | %REC  | 1  | 10/19/2012 1:07:47 PM |
| Surr: Dibromofluoromethane             | 100    | 70-130   |      | %REC  | 1  | 10/19/2012 1:07:47 PM |
| Surr: Toluene-d8                       | 93.6   | 70-130   |      | %REC  | 1  | 10/19/2012 1:07:47 PM |

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-24 (1.5-2')

Project: SWMU NO.14

Collection Date: 10/17/2012 10:30:00 AM

Lab ID: 1210860-002

Matrix: SOIL

Received Date: 10/18/2012 8:00:00 AM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed          |
|------------------------------------------------|--------|----------|------|-------|-----|------------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP           |
| Diesel Range Organics (DRO)                    | ND     | 9.7      |      | mg/Kg | 1   | 10/19/2012 1:24:09 PM  |
| Motor Oil Range Organics (MRO)                 | ND     | 48       |      | mg/Kg | 1   | 10/19/2012 1:24:09 PM  |
| Surr: DNOP                                     | 95.6   | 77.6-140 |      | %REC  | 1   | 10/19/2012 1:24:09 PM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB           |
| Gasoline Range Organics (GRO)                  | ND     | 5.0      |      | mg/Kg | 1   | 10/27/2012 1:15:50 PM  |
| Surr: BFB                                      | 96.3   | 84-116   |      | %REC  | 1   | 10/27/2012 1:15:50 PM  |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: JLF           |
| Mercury                                        | ND     | 0.033    |      | mg/Kg | 1   | 11/1/2012 4:11:28 PM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: JLF           |
| Antimony                                       | ND     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Arsenic                                        | ND     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Barium                                         | 43     | 0.20     |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Beryllium                                      | 0.83   | 0.30     |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Cadmium                                        | ND     | 0.20     |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Chromium                                       | 7.8    | 0.60     |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Cobalt                                         | 3.5    | 0.60     |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Iron                                           | 16000  | 500      |      | mg/Kg | 500 | 11/2/2012 7:21:58 AM   |
| Lead                                           | 3.3    | 0.50     |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Manganese                                      | 230    | 1.0      |      | mg/Kg | 10  | 10/25/2012 2:14:32 PM  |
| Nickel                                         | 6.4    | 1.0      |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Selenium                                       | ND     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Silver                                         | ND     | 0.50     |      | mg/Kg | 2   | 10/31/2012 1:26:49 PM  |
| Vanadium                                       | 14     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| Zinc                                           | 12     | 5.0      |      | mg/Kg | 2   | 10/25/2012 12:26:50 PM |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC           |
| Acenaphthene                                   | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Acenaphthylene                                 | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Aniline                                        | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Anthracene                                     | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Azobenzene                                     | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Benzo(a)anthracene                             | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Benzo(a)pyrene                                 | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Benzo(b)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Benzo(g,h,i)perylene                           | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Benzo(k)fluoranthene                           | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Benzoic acid                                   | ND     | 0.50     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Benzyl alcohol                                 | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Bis(2-chloroethoxy)methane                     | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Bis(2-chloroethyl)ether                        | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |
| Bis(2-chloroisopropyl)ether                    | ND     | 0.20     |      | mg/Kg | 1   | 10/24/2012 9:56:18 PM  |

**Qualifiers:**

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-24 (1.5-2')

Project: SWMU NO.14

Collection Date: 10/17/2012 10:30:00 AM

Lab ID: 1210860-002

Matrix: SOIL

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL   | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |      |      |       |    | Analyst: JDC          |
| Bis(2-ethylhexyl)phthalate             | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 4-Bromophenyl phenyl ether             | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Butyl benzyl phthalate                 | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Carbazole                              | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 4-Chloro-3-methylphenol                | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 4-Chloroaniline                        | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2-Chloronaphthalene                    | ND     | 0.25 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2-Chlorophenol                         | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Chrysene                               | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Di-n-butyl phthalate                   | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Di-n-octyl phthalate                   | ND     | 0.40 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Dibenz(a,h)anthracene                  | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Dibenzofuran                           | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 0.25 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Diethyl phthalate                      | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Dimethyl phthalate                     | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2,4-Dichlorophenol                     | ND     | 0.40 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2,4-Dimethylphenol                     | ND     | 0.30 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2,4-Dinitrophenol                      | ND     | 0.40 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2,4-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2,6-Dinitrotoluene                     | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Fluoranthene                           | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Fluorene                               | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Hexachlorobenzene                      | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Hexachlorobutadiene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Hexachlorocyclopentadiene              | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Hexachloroethane                       | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Isophorone                             | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 1-Methylnaphthalene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2-Methylnaphthalene                    | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2-Methylphenol                         | ND     | 0.50 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 3+4-Methylphenol                       | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| N-Nitrosodi-n-propylamine              | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| N-Nitrosodiphenylamine                 | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Naphthalene                            | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2-Nitroaniline                         | ND     | 0.20 |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |

Qualifiers: \* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2  
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1210860

Date Reported: 11/15/2012

**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-24 (1.5-2')**Project:** SWMU NO.14**Collection Date:** 10/17/2012 10:30:00 AM**Lab ID:** 1210860-002**Matrix:** SOIL**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                               | Result   | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|----------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |          |          |      |       |    | Analyst: JDC          |
| 3-Nitroaniline                         | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 4-Nitroaniline                         | ND       | 0.40     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Nitrobenzene                           | ND       | 0.50     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2-Nitrophenol                          | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 4-Nitrophenol                          | ND       | 0.25     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Pentachlorophenol                      | ND       | 0.40     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Phenanthrene                           | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Phenol                                 | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Pyrene                                 | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Pyridine                               | ND       | 0.50     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 1,2,4-Trichlorobenzene                 | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2,4,5-Trichlorophenol                  | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| 2,4,6-Trichlorophenol                  | ND       | 0.20     |      | mg/Kg | 1  | 10/24/2012 9:56:18 PM |
| Surr: 2,4,6-Tribromophenol             | 73.3     | 21.3-145 |      | %REC  | 1  | 10/24/2012 9:56:18 PM |
| Surr: 2-Fluorobiphenyl                 | 72.5     | 20-131   |      | %REC  | 1  | 10/24/2012 9:56:18 PM |
| Surr: 2-Fluorophenol                   | 71.3     | 11.9-130 |      | %REC  | 1  | 10/24/2012 9:56:18 PM |
| Surr: 4-Terphenyl-d14                  | 65.3     | 25.1-149 |      | %REC  | 1  | 10/24/2012 9:56:18 PM |
| Surr: Nitrobenzene-d5                  | 86.0     | 25.6-137 |      | %REC  | 1  | 10/24/2012 9:56:18 PM |
| Surr: Phenol-d5                        | 72.1     | 20.3-132 |      | %REC  | 1  | 10/24/2012 9:56:18 PM |
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |          |          |      |       |    | Analyst: RAA          |
| Benzene                                | 0.00129  | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Toluene                                | 0.000908 | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Ethylbenzene                           | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Xylenes, Total                         | ND       | 0.00156  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Methyl tert-butyl ether (MTBE)         | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2,4-Trimethylbenzene                 | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,3,5-Trimethylbenzene                 | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2-Dichloroethane (EDC)               | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2-Dibromoethane (EDB)                | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Naphthalene                            | ND       | 0.00156  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1-Methylnaphthalene                    | ND       | 0.00313  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 2-Methylnaphthalene                    | ND       | 0.00313  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Acetone                                | 0.0202   | 0.00782  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Bromobenzene                           | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Bromodichloromethane                   | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Bromoform                              | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Bromomethane                           | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 2-Butanone                             | ND       | 0.00782  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Carbon tetrachloride                   | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Chlorobenzene                          | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Chloroethane                           | ND       | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-24 (1.5-2')

Project: SWMU NO.14

Collection Date: 10/17/2012 10:30:00 AM

Lab ID: 1210860-002

Matrix: SOIL

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |       |    | Analyst: RAA          |
| Chloroform                             | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Chloromethane                          | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 2-Chlorotoluene                        | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Carbon disulfide                       | ND     | 0.00782  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 4-Chlorotoluene                        | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| cis-1,2-DCE                            | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| cis-1,3-Dichloropropene                | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2-Dibromo-3-chloropropane            | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Dibromochloromethane                   | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Dibromomethane                         | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2-Dichlorobenzene                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,3-Dichlorobenzene                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,4-Dichlorobenzene                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Dichlorodifluoromethane                | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,1-Dichloroethane                     | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,1-Dichloroethene                     | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2-Dichloropropane                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,3-Dichloropropane                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 2,2-Dichloropropane                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,1-Dichloropropene                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Hexachlorobutadiene                    | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Isopropylbenzene                       | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 4-Isopropyltoluene                     | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Methylene chloride                     | ND     | 0.00235  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| n-Butylbenzene                         | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 2-Hexanone                             | ND     | 0.00782  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| n-Propylbenzene                        | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| sec-Butylbenzene                       | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Styrene                                | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 4-Methyl-2-pentanone                   | ND     | 0.00782  |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| tert-Butylbenzene                      | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,1,1,2-Tetrachloroethane              | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,1,2,2-Tetrachloroethane              | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Tetrachloroethene (PCE)                | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| trans-1,2-DCE                          | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| trans-1,3-Dichloropropene              | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2,3-Trichlorobenzene                 | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,1,1-Trichloroethane                  | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| 1,1,2-Trichloroethane                  | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Trichloroethene (TCE)                  | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Trichlorofluoromethane                 | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |

**Qualifiers:**  
\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2  
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1210860

Date Reported: 11/15/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** SWMU 14-24 (1.5-2')**Project:** SWMU NO.14**Collection Date:** 10/17/2012 10:30:00 AM**Lab ID:** 1210860-002**Matrix:** SOIL**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>METHOD 8260B/5035LOW: VOLATILES</b> |        |          |      |       |    | Analyst: RAA          |
| 1,2,3-Trichloropropane                 | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Vinyl chloride                         | ND     | 0.000782 |      | mg/Kg | 1  | 10/19/2012 1:38:40 PM |
| Surr: 1,2-Dichloroethane-d4            | 91.0   | 70-130   |      | %REC  | 1  | 10/19/2012 1:38:40 PM |
| Surr: 4-Bromofluorobenzene             | 82.8   | 70-130   |      | %REC  | 1  | 10/19/2012 1:38:40 PM |
| Surr: Dibromofluoromethane             | 97.2   | 70-130   |      | %REC  | 1  | 10/19/2012 1:38:40 PM |
| Surr: Toluene-d8                       | 90.9   | 70-130   |      | %REC  | 1  | 10/19/2012 1:38:40 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1210860

Date Reported: 11/15/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** EB101712**Project:** SWMU NO.14**Collection Date:** 10/17/2012 11:00:00 AM**Lab ID:** 1210860-003**Matrix:** AQUEOUS**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed          |
|----------------------------------------|--------|----------|------|-------|----|------------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE</b>  |        |          |      |       |    | Analyst: JMP           |
| Diesel Range Organics (DRO)            | ND     | 1.0      |      | mg/L  | 1  | 10/20/2012 1:57:39 AM  |
| Motor Oil Range Organics (MRO)         | ND     | 5.0      |      | mg/L  | 1  | 10/20/2012 1:57:39 AM  |
| Surr: DNOP                             | 98.9   | 79.5-166 |      | %REC  | 1  | 10/20/2012 1:57:39 AM  |
| <b>EPA METHOD 300.0: ANIONS</b>        |        |          |      |       |    | Analyst: SRM           |
| Fluoride                               | ND     | 0.10     |      | mg/L  | 1  | 10/18/2012 2:51:00 PM  |
| Chloride                               | ND     | 0.50     |      | mg/L  | 1  | 10/18/2012 2:51:00 PM  |
| Sulfate                                | ND     | 0.50     |      | mg/L  | 1  | 10/18/2012 2:51:00 PM  |
| <b>EPA METHOD 200.7: METALS</b>        |        |          |      |       |    | Analyst: ELS           |
| Barium                                 | ND     | 0.0020   |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Beryllium                              | ND     | 0.0020   |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Cadmium                                | ND     | 0.0020   |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Chromium                               | ND     | 0.0060   |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Cobalt                                 | ND     | 0.0060   |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Iron                                   | ND     | 0.020    |      | mg/L  | 1  | 10/30/2012 10:09:01 AM |
| Manganese                              | ND     | 0.0020   |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Nickel                                 | ND     | 0.010    |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Silver                                 | ND     | 0.0050   |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Vanadium                               | ND     | 0.050    |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| Zinc                                   | ND     | 0.010    |      | mg/L  | 1  | 10/24/2012 10:58:41 AM |
| <b>EPA 200.8: METALS</b>               |        |          |      |       |    | Analyst: DBD           |
| Antimony                               | ND     | 0.0010   |      | mg/L  | 1  | 10/25/2012 7:22:08 PM  |
| Arsenic                                | ND     | 0.0010   |      | mg/L  | 1  | 10/25/2012 7:22:08 PM  |
| Lead                                   | ND     | 0.0010   |      | mg/L  | 1  | 10/25/2012 7:22:08 PM  |
| Selenium                               | ND     | 0.0010   |      | mg/L  | 1  | 10/25/2012 7:22:08 PM  |
| <b>EPA METHOD 245.1: MERCURY</b>       |        |          |      |       |    | Analyst: IDC           |
| Mercury                                | ND     | 0.00020  |      | mg/L  | 1  | 10/24/2012 7:56:59 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC           |
| Acenaphthene                           | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Acenaphthylene                         | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Aniline                                | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Anthracene                             | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Azobenzene                             | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Benz(a)anthracene                      | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Benzo(a)pyrene                         | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Benzo(b)fluoranthene                   | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Benzo(g,h,i)perylene                   | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Benzo(k)fluoranthene                   | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Benzoic acid                           | ND     | 20       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |
| Benzyl alcohol                         | ND     | 10       |      | µg/L  | 1  | 10/22/2012 8:17:14 PM  |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB101712

Project: SWMU NO.14

Collection Date: 10/17/2012 11:00:00 AM

Lab ID: 1210860-003

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |    |      |       |    | Analyst: JDC          |
| Bis(2-chloroethoxy)methane             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Bis(2-chloroethyl)ether                | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Bis(2-chloroisopropyl)ether            | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Bis(2-ethylhexyl)phthalate             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 4-Bromophenyl phenyl ether             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Butyl benzyl phthalate                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Carbazole                              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 4-Chloro-3-methylphenol                | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 4-Chloroaniline                        | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2-Chloronaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2-Chlorophenol                         | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Chrysene                               | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Di-n-butyl phthalate                   | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Di-n-octyl phthalate                   | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Dibenz(a,h)anthracene                  | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Dibenzofuran                           | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 1,2-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 1,3-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 1,4-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Diethyl phthalate                      | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Dimethyl phthalate                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2,4-Dichlorophenol                     | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2,4-Dimethylphenol                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2,4-Dinitrophenol                      | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2,4-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2,6-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Fluoranthene                           | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Fluorene                               | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Hexachlorobenzene                      | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Hexachlorobutadiene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Hexachlorocyclopentadiene              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Hexachloroethane                       | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Isophorone                             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 1-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2-Methylphenol                         | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 3+4-Methylphenol                       | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| N-Nitrosodi-n-propylamine              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits



## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB101712

Project: SWMU NO.14

Collection Date: 10/17/2012 11:00:00 AM

Lab ID: 1210860-003

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL        | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|-----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |           |      |       |    | Analyst: JDC          |
| N-Nitrosodimethylamine                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| N-Nitrosodiphenylamine                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Naphthalene                            | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 3-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 4-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Nitrobenzene                           | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 4-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Pentachlorophenol                      | ND     | 20        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Phenanthrene                           | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Phenol                                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Pyrene                                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Pyridine                               | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2,4,5-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| 2,4,6-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:17:14 PM |
| Surr: 2,4,6-Tribromophenol             | 79.5   | 42.9-124  |      | %REC  | 1  | 10/22/2012 8:17:14 PM |
| Surr: 2-Fluorobiphenyl                 | 72.6   | 40-108    |      | %REC  | 1  | 10/22/2012 8:17:14 PM |
| Surr: 2-Fluorophenol                   | 52.9   | 23.6-94.8 |      | %REC  | 1  | 10/22/2012 8:17:14 PM |
| Surr: 4-Terphenyl-d14                  | 72.0   | 41.9-103  |      | %REC  | 1  | 10/22/2012 8:17:14 PM |
| Surr: Nitrobenzene-d5                  | 71.9   | 42.6-114  |      | %REC  | 1  | 10/22/2012 8:17:14 PM |
| Surr: Phenol-d5                        | 39.3   | 20.3-74.7 |      | %REC  | 1  | 10/22/2012 8:17:14 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |           |      |       |    | Analyst: DJF          |
| Benzene                                | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Toluene                                | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Ethylbenzene                           | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Naphthalene                            | ND     | 2.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 2-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Acetone                                | ND     | 10        |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Bromobenzene                           | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Bromodichloromethane                   | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Bromoform                              | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Bromomethane                           | ND     | 3.0       |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 2-Butanone                             | ND     | 10        |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB101712

Project: SWMU NO.14

Collection Date: 10/17/2012 11:00:00 AM

Lab ID: 1210860-003

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: DJF          |
| Carbon disulfide                   | ND     | 10  |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Carbon Tetrachloride               | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Chlorobenzene                      | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Chloroethane                       | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Chloroform                         | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Chloromethane                      | ND     | 3.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| cis-1,2-DCE                        | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Dibromochloromethane               | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Dibromomethane                     | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,1-Dichloroethane                 | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,1-Dichloropropene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Hexachlorobutadiene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 2-Hexanone                         | ND     | 10  |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Isopropylbenzene                   | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 4-Isopropyltoluene                 | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 4-Methyl-2-pentanone               | ND     | 10  |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Methylene Chloride                 | ND     | 3.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| n-Butylbenzene                     | ND     | 3.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| n-Propylbenzene                    | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| sec-Butylbenzene                   | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Styrene                            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| tert-Butylbenzene                  | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Tetrachloroethene (PCE)            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| trans-1,2-DCE                      | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| trans-1,3-Dichloropropene          | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2,3-Trichlorobenzene             | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,1,1-Trichloroethane              | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |

**Qualifiers:**

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- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1210860

Date Reported: 11/15/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** EB101712**Project:** SWMU NO.14**Collection Date:** 10/17/2012 11:00:00 AM**Lab ID:** 1210860-003**Matrix:** AQUEOUS**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                                         | Result | RL     | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b>               |        |        |      |       |    | Analyst: DJF          |
| 1,1,2-Trichloroethane                            | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Trichloroethene (TCE)                            | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Trichlorofluoromethane                           | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| 1,2,3-Trichloropropane                           | ND     | 2.0    |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Vinyl chloride                                   | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Xylenes, Total                                   | ND     | 1.5    |      | µg/L  | 1  | 10/19/2012 5:03:12 PM |
| Surr: 1,2-Dichloroethane-d4                      | 104    | 70-130 |      | %REC  | 1  | 10/19/2012 5:03:12 PM |
| Surr: 4-Bromofluorobenzene                       | 98.9   | 70-130 |      | %REC  | 1  | 10/19/2012 5:03:12 PM |
| Surr: Dibromofluoromethane                       | 98.0   | 70-130 |      | %REC  | 1  | 10/19/2012 5:03:12 PM |
| Surr: Toluene-d8                                 | 113    | 70-130 |      | %REC  | 1  | 10/19/2012 5:03:12 PM |
| <b>MODIFIED EPA METHOD 8015B: GASOLINE RANGE</b> |        |        |      |       |    | Analyst: RAA          |
| Gasoline Range Organics (GRO)                    | ND     | 0.050  |      | mg/L  | 1  | 10/21/2012 1:50:20 PM |
| Surr: BFB                                        | 98.2   | 70-130 |      | %REC  | 1  | 10/21/2012 1:50:20 PM |

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-OAPIS-1GW

Project: SWMU NO.14

Collection Date: 10/16/2012 9:00:00 AM

Lab ID: 1210860-004

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF  | Date Analyzed          |
|----------------------------------------|--------|----------|------|-------|-----|------------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE</b>  |        |          |      |       |     | Analyst: JMP           |
| Diesel Range Organics (DRO)            | ND     | 1.0      |      | mg/L  | 1   | 10/20/2012 2:22:46 AM  |
| Motor Oil Range Organics (MRO)         | ND     | 5.0      |      | mg/L  | 1   | 10/20/2012 2:22:46 AM  |
| Surr: DNOP                             | 103    | 79.5-166 |      | %REC  | 1   | 10/20/2012 2:22:46 AM  |
| <b>EPA METHOD 300.0: ANIONS</b>        |        |          |      |       |     | Analyst: SRM           |
| Fluoride                               | ND     | 0.10     |      | mg/L  | 1   | 10/18/2012 2:26:11 PM  |
| Chloride                               | ND     | 0.50     |      | mg/L  | 1   | 10/18/2012 2:26:11 PM  |
| Sulfate                                | ND     | 0.50     |      | mg/L  | 1   | 10/18/2012 2:26:11 PM  |
| <b>EPA METHOD 200.7: METALS</b>        |        |          |      |       |     | Analyst: ELS           |
| Barium                                 | 0.68   | 0.0020   |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Beryllium                              | ND     | 0.0020   |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Cadmium                                | ND     | 0.0020   |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Chromium                               | 0.012  | 0.0060   |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Cobalt                                 | 0.044  | 0.0060   |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Iron                                   | 5.6    | 0.20     | *    | mg/L  | 10  | 10/26/2012 3:07:03 PM  |
| Manganese                              | 2.0    | 0.010    | *    | mg/L  | 5   | 10/24/2012 11:19:39 AM |
| Nickel                                 | 0.13   | 0.010    | *    | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Silver                                 | ND     | 0.0050   |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Vanadium                               | ND     | 0.050    |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| Zinc                                   | 0.099  | 0.010    |      | mg/L  | 1   | 10/24/2012 11:16:26 AM |
| <b>EPA 200.8: METALS</b>               |        |          |      |       |     | Analyst: DBD           |
| Antimony                               | ND     | 0.0025   |      | mg/L  | 2.5 | 10/24/2012 3:08:04 PM  |
| Arsenic                                | 0.0085 | 0.0025   |      | mg/L  | 2.5 | 10/24/2012 3:08:04 PM  |
| Lead                                   | 0.010  | 0.0025   |      | mg/L  | 2.5 | 10/24/2012 3:08:04 PM  |
| Selenium                               | 0.016  | 0.0025   |      | mg/L  | 2.5 | 10/24/2012 3:08:04 PM  |
| <b>EPA METHOD 245.1: MERCURY</b>       |        |          |      |       |     | Analyst: IDC           |
| Mercury                                | ND     | 0.00020  |      | mg/L  | 1   | 10/24/2012 7:58:46 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |     | Analyst: JDC           |
| Acenaphthene                           | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Acenaphthylene                         | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Aniline                                | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Anthracene                             | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Azobenzene                             | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Benz(a)anthracene                      | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Benzo(a)pyrene                         | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Benzo(b)fluoranthene                   | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Benzo(g,h,i)perylene                   | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Benzo(k)fluoranthene                   | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Benzoic acid                           | ND     | 20       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |
| Benzyl alcohol                         | ND     | 10       |      | µg/L  | 1   | 10/22/2012 8:46:44 PM  |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-OAPIS-1GW

Project: SWMU NO.14

Collection Date: 10/16/2012 9:00:00 AM

Lab ID: 1210860-004

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |    |      |       |    | Analyst: JDC          |
| Bis(2-chloroethoxy)methane             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Bis(2-chloroethyl)ether                | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Bis(2-chloroisopropyl)ether            | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Bis(2-ethylhexyl)phthalate             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 4-Bromophenyl phenyl ether             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Butyl benzyl phthalate                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Carbazole                              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 4-Chloro-3-methylphenol                | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 4-Chloroaniline                        | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2-Chloronaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2-Chlorophenol                         | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Chrysene                               | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Di-n-butyl phthalate                   | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Di-n-octyl phthalate                   | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Dibenz(a,h)anthracene                  | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Dibenzofuran                           | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 1,2-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 1,3-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 1,4-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Diethyl phthalate                      | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Dimethyl phthalate                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2,4-Dichlorophenol                     | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2,4-Dimethylphenol                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2,4-Dinitrophenol                      | ND     | 20 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2,4-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2,6-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Fluoranthene                           | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Fluorene                               | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Hexachlorobenzene                      | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Hexachlorobutadiene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Hexachlorocyclopentadiene              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Hexachloroethane                       | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Isophorone                             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 1-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2-Methylphenol                         | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 3+4-Methylphenol                       | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| N-Nitrosodi-n-propylamine              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |

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- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-OAPIS-1GW

Project: SWMU NO.14

Collection Date: 10/16/2012 9:00:00 AM

Lab ID: 1210860-004

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL        | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|-----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |           |      |       |    | Analyst: JDC          |
| N-Nitrosodimethylamine                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| N-Nitrosodiphenylamine                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Naphthalene                            | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 3-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 4-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Nitrobenzene                           | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 4-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Pentachlorophenol                      | ND     | 20        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Phenanthrene                           | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Phenol                                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Pyrene                                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Pyridine                               | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2,4,5-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| 2,4,6-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 10/22/2012 8:46:44 PM |
| Surr: 2,4,6-Tribromophenol             | 76.2   | 42.9-124  |      | %REC  | 1  | 10/22/2012 8:46:44 PM |
| Surr: 2-Fluorobiphenyl                 | 75.3   | 40-108    |      | %REC  | 1  | 10/22/2012 8:46:44 PM |
| Surr: 2-Fluorophenol                   | 60.6   | 23.6-94.8 |      | %REC  | 1  | 10/22/2012 8:46:44 PM |
| Surr: 4-Terphenyl-d14                  | 77.9   | 41.9-103  |      | %REC  | 1  | 10/22/2012 8:46:44 PM |
| Surr: Nitrobenzene-d5                  | 90.4   | 42.6-114  |      | %REC  | 1  | 10/22/2012 8:46:44 PM |
| Surr: Phenol-d5                        | 45.7   | 20.3-74.7 |      | %REC  | 1  | 10/22/2012 8:46:44 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |           |      |       |    | Analyst: DJF          |
| Benzene                                | 13     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Toluene                                | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Ethylbenzene                           | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Methyl tert-butyl ether (MTBE)         | 440    | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Naphthalene                            | ND     | 20        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1-Methylnaphthalene                    | ND     | 40        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 2-Methylnaphthalene                    | ND     | 40        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Acetone                                | ND     | 100       |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Bromobenzene                           | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Bromodichloromethane                   | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Bromoform                              | ND     | 10        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Bromomethane                           | ND     | 30        |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 2-Butanone                             | ND     | 100       |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |

**Qualifiers:**

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- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-OAPIS-1GW

Project: SWMU NO.14

Collection Date: 10/16/2012 9:00:00 AM

Lab ID: 1210860-004

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: DJF          |
| Carbon disulfide                   | ND     | 100 |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Carbon Tetrachloride               | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Chlorobenzene                      | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Chloroethane                       | ND     | 20  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Chloroform                         | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Chloromethane                      | ND     | 30  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 2-Chlorotoluene                    | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 4-Chlorotoluene                    | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| cis-1,2-DCE                        | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| cis-1,3-Dichloropropene            | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 20  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Dibromochloromethane               | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Dibromomethane                     | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2-Dichlorobenzene                | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,3-Dichlorobenzene                | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,4-Dichlorobenzene                | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Dichlorodifluoromethane            | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,1-Dichloroethane                 | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,1-Dichloroethene                 | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2-Dichloropropane                | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,3-Dichloropropane                | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 2,2-Dichloropropane                | ND     | 20  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,1-Dichloropropene                | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Hexachlorobutadiene                | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 2-Hexanone                         | ND     | 100 |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Isopropylbenzene                   | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 4-Isopropyltoluene                 | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 4-Methyl-2-pentanone               | ND     | 100 |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Methylene Chloride                 | ND     | 30  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| n-Butylbenzene                     | ND     | 30  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| n-Propylbenzene                    | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| sec-Butylbenzene                   | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Styrene                            | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| tert-Butylbenzene                  | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 20  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Tetrachloroethene (PCE)            | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| trans-1,2-DCE                      | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| trans-1,3-Dichloropropene          | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2,3-Trichlorobenzene             | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2,4-Trichlorobenzene             | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,1,1-Trichloroethane              | ND     | 10  |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |

**Qualifiers:**

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- P Sample pH greater than 2
- RL Reporting Detection Limit

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: SWMU 14-OAPIS-1GW

Project: SWMU NO.14

Collection Date: 10/16/2012 9:00:00 AM

Lab ID: 1210860-004

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                                         | Result | RL     | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b>               |        |        |      |       |    | Analyst: DJF          |
| 1,1,2-Trichloroethane                            | ND     | 10     |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Trichloroethene (TCE)                            | ND     | 10     |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Trichlorofluoromethane                           | ND     | 10     |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| 1,2,3-Trichloropropane                           | ND     | 20     |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Vinyl chloride                                   | ND     | 10     |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Xylenes, Total                                   | ND     | 15     |      | µg/L  | 10 | 10/19/2012 6:35:45 PM |
| Surr: 1,2-Dichloroethane-d4                      | 105    | 70-130 |      | %REC  | 10 | 10/19/2012 6:35:45 PM |
| Surr: 4-Bromofluorobenzene                       | 91.8   | 70-130 |      | %REC  | 10 | 10/19/2012 6:35:45 PM |
| Surr: Dibromofluoromethane                       | 92.5   | 70-130 |      | %REC  | 10 | 10/19/2012 6:35:45 PM |
| Surr: Toluene-d8                                 | 110    | 70-130 |      | %REC  | 10 | 10/19/2012 6:35:45 PM |
| <b>MODIFIED EPA METHOD 8015B: GASOLINE RANGE</b> |        |        |      |       |    | Analyst: RAA          |
| Gasoline Range Organics (GRO)                    | ND     | 0.50   |      | mg/L  | 10 | 10/22/2012 1:13:58 AM |
| Surr: BFB                                        | 94.3   | 70-130 |      | %REC  | 10 | 10/22/2012 1:13:58 AM |

**Qualifiers:**

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- S Spike Recovery outside accepted recovery limits



**Analytical Report**

Lab Order 1210860

Date Reported: 11/15/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** EB101612**Project:** SWMU NO.14**Collection Date:** 10/16/2012 5:20:00 PM**Lab ID:** 1210860-005**Matrix:** AQUEOUS**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF  | Date Analyzed          |
|----------------------------------------|--------|----------|------|-------|-----|------------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE</b>  |        |          |      |       |     | Analyst: JMP           |
| Diesel Range Organics (DRO)            | ND     | 1.0      |      | mg/L  | 1   | 10/20/2012 2:47:36 AM  |
| Motor Oil Range Organics (MRO)         | ND     | 5.0      |      | mg/L  | 1   | 10/20/2012 2:47:36 AM  |
| Surr: DNOP                             | 99.6   | 79.5-166 |      | %REC  | 1   | 10/20/2012 2:47:36 AM  |
| <b>EPA METHOD 300.0: ANIONS</b>        |        |          |      |       |     | Analyst: SRM           |
| Fluoride                               | 2.9    | 0.50     |      | mg/L  | 5   | 10/18/2012 4:05:28 PM  |
| Chloride                               | 1900   | 100      |      | mg/L  | 200 | 10/19/2012 1:10:23 PM  |
| Sulfate                                | 100    | 2.5      |      | mg/L  | 5   | 10/18/2012 4:05:28 PM  |
| <b>EPA METHOD 200.7: METALS</b>        |        |          |      |       |     | Analyst: ELS           |
| Barium                                 | ND     | 0.0020   |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Beryllium                              | ND     | 0.0020   |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Cadmium                                | ND     | 0.0020   |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Chromium                               | ND     | 0.0060   |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Cobalt                                 | 0.0072 | 0.0060   |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Iron                                   | ND     | 0.020    |      | mg/L  | 1   | 11/5/2012 1:26:43 PM   |
| Manganese                              | ND     | 0.0020   |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Nickel                                 | ND     | 0.010    |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Silver                                 | ND     | 0.0050   |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Vanadium                               | ND     | 0.050    |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| Zinc                                   | ND     | 0.010    |      | mg/L  | 1   | 10/24/2012 11:32:58 AM |
| <b>EPA 200.8: METALS</b>               |        |          |      |       |     | Analyst: DBD           |
| Antimony                               | ND     | 0.0010   |      | mg/L  | 1   | 10/25/2012 7:26:04 PM  |
| Arsenic                                | ND     | 0.0010   |      | mg/L  | 1   | 10/25/2012 7:26:04 PM  |
| Lead                                   | ND     | 0.0010   |      | mg/L  | 1   | 10/25/2012 7:26:04 PM  |
| Selenium                               | ND     | 0.0010   |      | mg/L  | 1   | 10/25/2012 7:26:04 PM  |
| <b>EPA METHOD 245.1: MERCURY</b>       |        |          |      |       |     | Analyst: IDC           |
| Mercury                                | ND     | 0.00020  |      | mg/L  | 1   | 10/24/2012 8:00:32 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |     | Analyst: JDC           |
| Acenaphthene                           | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Acenaphthylene                         | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Aniline                                | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Anthracene                             | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Azobenzene                             | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Benz(a)anthracene                      | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Benzo(a)pyrene                         | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Benzo(b)fluoranthene                   | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Benzo(g,h,i)perylene                   | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Benzo(k)fluoranthene                   | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Benzoic acid                           | ND     | 20       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |
| Benzy alcohol                          | ND     | 10       |      | µg/L  | 1   | 10/22/2012 9:16:11 PM  |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB101612

Project: SWMU NO.14

Collection Date: 10/16/2012 5:20:00 PM

Lab ID: 1210860-005

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |    |      |       |    | Analyst: JDC          |
| Bis(2-chloroethoxy)methane             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Bis(2-chloroethyl)ether                | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Bis(2-chloroisopropyl)ether            | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Bis(2-ethylhexyl)phthalate             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 4-Bromophenyl phenyl ether             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Butyl benzyl phthalate                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Carbazole                              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 4-Chloro-3-methylphenol                | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 4-Chloroaniline                        | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2-Chloronaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2-Chlorophenol                         | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 4-Chlorophenyl phenyl ether            | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Chrysene                               | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Di-n-butyl phthalate                   | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Di-n-octyl phthalate                   | ND     | 20 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Dibenz(a,h)anthracene                  | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Dibenzofuran                           | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 1,2-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 1,3-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 1,4-Dichlorobenzene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 3,3'-Dichlorobenzidine                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Diethyl phthalate                      | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Dimethyl phthalate                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2,4-Dichlorophenol                     | ND     | 20 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2,4-Dimethylphenol                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 4,6-Dinitro-2-methylphenol             | ND     | 20 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2,4-Dinitrophenol                      | ND     | 20 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2,4-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2,6-Dinitrotoluene                     | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Fluoranthene                           | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Fluorene                               | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Hexachlorobenzene                      | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Hexachlorobutadiene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Hexachlorocyclopentadiene              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Hexachloroethane                       | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Isophorone                             | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 1-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2-Methylnaphthalene                    | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2-Methylphenol                         | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 3+4-Methylphenol                       | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| N-Nitrosodi-n-propylamine              | ND     | 10 |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |

**Qualifiers:**

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- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB101612

Project: SWMU NO.14

Collection Date: 10/16/2012 5:20:00 PM

Lab ID: 1210860-005

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                               | Result | RL        | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|-----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |           |      |       |    | Analyst: JDC          |
| N-Nitrosodimethylamine                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| N-Nitrosodiphenylamine                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Naphthalene                            | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 3-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 4-Nitroaniline                         | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Nitrobenzene                           | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 4-Nitrophenol                          | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Pentachlorophenol                      | ND     | 20        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Phenanthrene                           | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Phenol                                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Pyrene                                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Pyridine                               | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 1,2,4-Trichlorobenzene                 | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2,4,5-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| 2,4,6-Trichlorophenol                  | ND     | 10        |      | µg/L  | 1  | 10/22/2012 9:16:11 PM |
| Surr: 2,4,6-Tribromophenol             | 77.4   | 42.9-124  |      | %REC  | 1  | 10/22/2012 9:16:11 PM |
| Surr: 2-Fluorobiphenyl                 | 69.2   | 40-108    |      | %REC  | 1  | 10/22/2012 9:16:11 PM |
| Surr: 2-Fluorophenol                   | 48.2   | 23.6-94.8 |      | %REC  | 1  | 10/22/2012 9:16:11 PM |
| Surr: 4-Terphenyl-d14                  | 66.3   | 41.9-103  |      | %REC  | 1  | 10/22/2012 9:16:11 PM |
| Surr: Nitrobenzene-d5                  | 74.3   | 42.6-114  |      | %REC  | 1  | 10/22/2012 9:16:11 PM |
| Surr: Phenol-d5                        | 39.2   | 20.3-74.7 |      | %REC  | 1  | 10/22/2012 9:16:11 PM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |           |      |       |    | Analyst: DJF          |
| Benzene                                | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Toluene                                | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Ethylbenzene                           | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Methyl tert-butyl ether (MTBE)         | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2,4-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,3,5-Trimethylbenzene                 | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2-Dichloroethane (EDC)               | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2-Dibromoethane (EDB)                | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Naphthalene                            | ND     | 2.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 2-Methylnaphthalene                    | ND     | 4.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Acetone                                | ND     | 10        |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Bromobenzene                           | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Bromodichloromethane                   | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Bromoform                              | ND     | 1.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Bromomethane                           | ND     | 3.0       |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 2-Butanone                             | ND     | 10        |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |

**Qualifiers:**

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB101612

Project: SWMU NO.14

Collection Date: 10/16/2012 5:20:00 PM

Lab ID: 1210860-005

Matrix: AQUEOUS

Received Date: 10/18/2012 8:00:00 AM

| Analyses                           | Result | RL  | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|-----|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |     |      |       |    | Analyst: DJF          |
| Carbon disulfide                   | ND     | 10  |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Carbon Tetrachloride               | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Chlorobenzene                      | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Chloroethane                       | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Chloroform                         | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Chloromethane                      | ND     | 3.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 2-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 4-Chlorotoluene                    | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| cis-1,2-DCE                        | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| cis-1,3-Dichloropropene            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Dibromochloromethane               | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Dibromomethane                     | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,3-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,4-Dichlorobenzene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Dichlorodifluoromethane            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,1-Dichloroethane                 | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,1-Dichloroethene                 | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,3-Dichloropropane                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 2,2-Dichloropropane                | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,1-Dichloropropene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Hexachlorobutadiene                | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 2-Hexanone                         | ND     | 10  |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Isopropylbenzene                   | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 4-Isopropyltoluene                 | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 4-Methyl-2-pentanone               | ND     | 10  |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Methylene Chloride                 | ND     | 3.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| n-Butylbenzene                     | ND     | 3.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| n-Propylbenzene                    | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| sec-Butylbenzene                   | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Styrene                            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| tert-Butylbenzene                  | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,1,1,2-Tetrachloroethane          | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 2.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Tetrachloroethene (PCE)            | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| trans-1,2-DCE                      | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| trans-1,3-Dichloropropene          | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2,3-Trichlorobenzene             | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2,4-Trichlorobenzene             | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,1,1-Trichloroethane              | ND     | 1.0 |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |

**Qualifiers:**

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**Lab Order **1210860**

Date Reported: 11/15/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** EB101612**Project:** SWMU NO.14**Collection Date:** 10/16/2012 5:20:00 PM**Lab ID:** 1210860-005**Matrix:** AQUEOUS**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                                         | Result | RL     | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b>               |        |        |      |       |    | Analyst: DJF          |
| 1,1,2-Trichloroethane                            | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Trichloroethene (TCE)                            | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Trichlorofluoromethane                           | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| 1,2,3-Trichloropropane                           | ND     | 2.0    |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Vinyl chloride                                   | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Xylenes, Total                                   | ND     | 1.5    |      | µg/L  | 1  | 10/19/2012 7:06:33 PM |
| Surr: 1,2-Dichloroethane-d4                      | 105    | 70-130 |      | %REC  | 1  | 10/19/2012 7:06:33 PM |
| Surr: 4-Bromofluorobenzene                       | 114    | 70-130 |      | %REC  | 1  | 10/19/2012 7:06:33 PM |
| Surr: Dibromofluoromethane                       | 97.0   | 70-130 |      | %REC  | 1  | 10/19/2012 7:06:33 PM |
| Surr: Toluene-d8                                 | 117    | 70-130 |      | %REC  | 1  | 10/19/2012 7:06:33 PM |
| <b>MODIFIED EPA METHOD 8015B: GASOLINE RANGE</b> |        |        |      |       |    | Analyst: RAA          |
| Gasoline Range Organics (GRO)                    | ND     | 0.050  |      | mg/L  | 1  | 10/21/2012 2:18:53 PM |
| Surr: BFB                                        | 83.5   | 70-130 |      | %REC  | 1  | 10/21/2012 2:18:53 PM |

**Qualifiers:**

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- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1210860

Date Reported: 11/15/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: SWMU NO.14

Collection Date:

Lab ID: 1210860-006

Matrix: TRIP BLANK

Received Date: 10/18/2012 8:00:00 AM

| Analyses                                         | Result | RL    | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|-------|------|-------|----|-----------------------|
| <b>MODIFIED EPA METHOD 8015B: GASOLINE RANGE</b> |        |       |      |       |    | Analyst: DJF          |
| Benzene                                          | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Gasoline Range Organics (GRO)                    | ND     | 0.050 |      | mg/L  | 1  | 10/21/2012 2:08:01 AM |
| Toluene                                          | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Ethylbenzene                                     | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Methyl tert-butyl ether (MTBE)                   | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2,4-Trimethylbenzene                           | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,3,5-Trimethylbenzene                           | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2-Dichloroethane (EDC)                         | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2-Dibromoethane (EDB)                          | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Naphthalene                                      | ND     | 2.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1-Methylnaphthalene                              | ND     | 4.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 2-Methylnaphthalene                              | ND     | 4.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Acetone                                          | ND     | 10    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Bromobenzene                                     | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Bromodichloromethane                             | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Bromoform                                        | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Bromomethane                                     | ND     | 3.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 2-Butanone                                       | ND     | 10    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Carbon disulfide                                 | ND     | 10    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Carbon Tetrachloride                             | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Chlorobenzene                                    | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Chloroethane                                     | ND     | 2.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Chloroform                                       | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Chloromethane                                    | ND     | 3.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 2-Chlorotoluene                                  | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 4-Chlorotoluene                                  | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| cis-1,2-DCE                                      | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| cis-1,3-Dichloropropene                          | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2-Dibromo-3-chloropropane                      | ND     | 2.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Dibromochloromethane                             | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Dibromomethane                                   | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2-Dichlorobenzene                              | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,3-Dichlorobenzene                              | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,4-Dichlorobenzene                              | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Dichlorodifluoromethane                          | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,1-Dichloroethane                               | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,1-Dichloroethene                               | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2-Dichloropropane                              | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,3-Dichloropropane                              | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 2,2-Dichloropropane                              | ND     | 2.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,1-Dichloropropene                              | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Hexachlorobutadiene                              | ND     | 1.0   |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1210860

Date Reported: 11/15/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Trip Blank**Project:** SWMU NO.14**Collection Date:****Lab ID:** 1210860-006**Matrix:** TRIP BLANK**Received Date:** 10/18/2012 8:00:00 AM

| Analyses                                         | Result | RL     | Qual | Units | DF | Date Analyzed         |
|--------------------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>MODIFIED EPA METHOD 8015B: GASOLINE RANGE</b> |        |        |      |       |    | Analyst: DJF          |
| 2-Hexanone                                       | ND     | 10     |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Isopropylbenzene                                 | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 4-Isopropyltoluene                               | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 4-Methyl-2-pentanone                             | ND     | 10     |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Methylene Chloride                               | ND     | 3.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| n-Butylbenzene                                   | ND     | 3.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| n-Propylbenzene                                  | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| sec-Butylbenzene                                 | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Styrene                                          | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| tert-Butylbenzene                                | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,1,1,2-Tetrachloroethane                        | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,1,2,2-Tetrachloroethane                        | ND     | 2.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Tetrachloroethene (PCE)                          | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| trans-1,2-DCE                                    | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| trans-1,3-Dichloropropene                        | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2,3-Trichlorobenzene                           | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2,4-Trichlorobenzene                           | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,1,1-Trichloroethane                            | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,1,2-Trichloroethane                            | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Trichloroethene (TCE)                            | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Trichlorofluoromethane                           | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| 1,2,3-Trichloropropane                           | ND     | 2.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Vinyl chloride                                   | ND     | 1.0    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Xylenes, Total                                   | ND     | 1.5    |      | µg/L  | 1  | 10/19/2012 7:37:20 PM |
| Surr: 1,2-Dichloroethane-d4                      | 96.4   | 70-130 |      | %REC  | 1  | 10/19/2012 7:37:20 PM |
| Surr: 4-Bromofluorobenzene                       | 100    | 70-130 |      | %REC  | 1  | 10/19/2012 7:37:20 PM |
| Surr: Dibromofluoromethane                       | 88.3   | 70-130 |      | %REC  | 1  | 10/19/2012 7:37:20 PM |
| Surr: Toluene-d8                                 | 113    | 70-130 |      | %REC  | 1  | 10/19/2012 7:37:20 PM |
| Surr: BFB                                        | 97.7   | 70-130 |      | %REC  | 1  | 10/21/2012 2:08:01 AM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com  
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB  
**Address:** 4901 HAWKINS NE SUITE D  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

**Batch #:** 121019048  
**Project Name:** 1210860

## Analytical Results Report

|                  |                                      |               |            |                    |                    |
|------------------|--------------------------------------|---------------|------------|--------------------|--------------------|
| Sample Number    | 121019048-001                        | Sampling Date | 10/17/2012 | Date/Time Received | 10/19/2012 1:14 PM |
| Client Sample ID | 1210860-001D / SWMU 14-24<br>(0-0.5) | Sampling Time | 10:15 AM   |                    |                    |
| Matrix           | Soil                                 |               |            |                    |                    |
| Comments         |                                      |               |            |                    |                    |
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| Sample Number    | 121019048-002                        | Sampling Date | 10/17/2012 | Date/Time Received | 10/19/2012 1:14 PM |
| Client Sample ID | 1210860-002D / SWMU 14-24<br>(1.5-2) | Sampling Time | 10:30 AM   |                    |                    |
| Matrix           | Soil                                 |               |            |                    |                    |
| Comments         |                                      |               |            |                    |                    |
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| Sample Number    | 121019048-003           | Sampling Date | 10/17/2012 | Date/Time Received | 10/19/2012 1:14 PM |
| Client Sample ID | 1210860-003F / EB101712 | Sampling Time | 11:00 AM   |                    |                    |
| Matrix           | Water                   |               |            |                    |                    |
| Comments         |                         |               |            |                    |                    |
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Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0085



# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com  
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB  
**Address:** 4901 HAWKINS NE SUITE D  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

**Batch #:** 121019048  
**Project Name:** 1210860

## Analytical Results Report

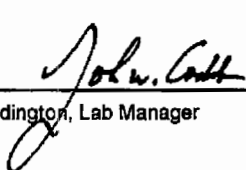
**Sample Number** 121019048-004 **Sampling Date** 10/16/2012 **Date/Time Received** 10/19/2012 1:14 PM  
**Client Sample ID** 1210860-004F / SWMU 14-  
OAPIS-1GW **Sampling Time** 9:00 AM  
**Matrix** Water  
**Comments**

| Parameter | Result | Units | PQL  | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|------|---------------|---------|-----------|-----------|
| Cyanide   | 0.0899 | mg/L  | 0.01 | 10/29/2012    | CRW     | EPA 335.4 |           |

**Sample Number** 121019048-005 **Sampling Date** 10/16/2012 **Date/Time Received** 10/19/2012 1:14 PM  
**Client Sample ID** 1210860-005F / EB101612 **Sampling Time** 5:20 PM  
**Matrix** Water  
**Comments**

| Parameter | Result | Units | PQL  | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|-------|------|---------------|---------|-----------|-----------|
| Cyanide   | ND     | mg/L  | 0.01 | 10/29/2012    | CRW     | EPA 335.4 |           |

Authorized Signature

  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.  
The results reported relate only to the samples indicated.  
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA-ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CE00028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C595; MT:CE00095

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                       |                                  |                                           |
|-----------------------|----------------------------------|-------------------------------------------|
| Sample ID <b>MB</b>   | SampType: <b>MBLK</b>            | TestCode: <b>EPA Method 200.7: Metals</b> |
| Client ID: <b>PBW</b> | Batch ID: <b>R6448</b>           | RunNo: <b>6448</b>                        |
| Prep Date:            | Analysis Date: <b>10/24/2012</b> | SeqNo: <b>185486</b> Units: <b>mg/L</b>   |

| Analyte   | Result | PQL    | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|-----------|--------|--------|-----------|-------------|------|----------|-----------|------|----------|------|
| Barium    | ND     | 0.0020 |           |             |      |          |           |      |          |      |
| Beryllium | ND     | 0.0020 |           |             |      |          |           |      |          |      |
| Cadmium   | ND     | 0.0020 |           |             |      |          |           |      |          |      |
| Chromium  | ND     | 0.0060 |           |             |      |          |           |      |          |      |
| Cobalt    | ND     | 0.0060 |           |             |      |          |           |      |          |      |
| Manganese | ND     | 0.0020 |           |             |      |          |           |      |          |      |
| Nickel    | ND     | 0.010  |           |             |      |          |           |      |          |      |
| Silver    | ND     | 0.0050 |           |             |      |          |           |      |          |      |
| Vanadium  | ND     | 0.050  |           |             |      |          |           |      |          |      |
| Zinc      | ND     | 0.010  |           |             |      |          |           |      |          |      |

|                        |                                  |                                           |
|------------------------|----------------------------------|-------------------------------------------|
| Sample ID <b>LCS</b>   | SampType: <b>LCS</b>             | TestCode: <b>EPA Method 200.7: Metals</b> |
| Client ID: <b>LCSW</b> | Batch ID: <b>R6448</b>           | RunNo: <b>6448</b>                        |
| Prep Date:             | Analysis Date: <b>10/24/2012</b> | SeqNo: <b>185487</b> Units: <b>mg/L</b>   |

| Analyte   | Result | PQL    | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|-----------|--------|--------|-----------|-------------|------|----------|-----------|------|----------|------|
| Barium    | 0.49   | 0.0020 | 0.5000    | 0           | 98.3 | 85       | 115       |      |          |      |
| Beryllium | 0.51   | 0.0020 | 0.5000    | 0           | 103  | 85       | 115       |      |          |      |
| Cadmium   | 0.49   | 0.0020 | 0.5000    | 0           | 98.9 | 85       | 115       |      |          |      |
| Chromium  | 0.49   | 0.0060 | 0.5000    | 0           | 98.2 | 85       | 115       |      |          |      |
| Cobalt    | 0.47   | 0.0060 | 0.5000    | 0           | 94.4 | 85       | 115       |      |          |      |
| Manganese | 0.48   | 0.0020 | 0.5000    | 0           | 95.2 | 85       | 115       |      |          |      |
| Nickel    | 0.46   | 0.010  | 0.5000    | 0           | 92.9 | 85       | 115       |      |          |      |
| Silver    | 0.099  | 0.0050 | 0.1000    | 0           | 98.7 | 85       | 115       |      |          |      |
| Vanadium  | 0.52   | 0.050  | 0.5000    | 0           | 103  | 85       | 115       |      |          |      |
| Zinc      | 0.49   | 0.010  | 0.5000    | 0           | 98.7 | 85       | 115       |      |          |      |

|                                 |                                  |                                           |
|---------------------------------|----------------------------------|-------------------------------------------|
| Sample ID <b>1210860-005EMS</b> | SampType: <b>MS</b>              | TestCode: <b>EPA Method 200.7: Metals</b> |
| Client ID: <b>EB101612</b>      | Batch ID: <b>R6448</b>           | RunNo: <b>6448</b>                        |
| Prep Date:                      | Analysis Date: <b>10/24/2012</b> | SeqNo: <b>185584</b> Units: <b>mg/L</b>   |

| Analyte   | Result | PQL    | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|-----------|--------|--------|-----------|-------------|------|----------|-----------|------|----------|------|
| Barium    | 0.50   | 0.0020 | 0.5000    | 0.0005100   | 101  | 70       | 130       |      |          |      |
| Beryllium | 0.54   | 0.0020 | 0.5000    | 0           | 108  | 70       | 130       |      |          |      |
| Cadmium   | 0.52   | 0.0020 | 0.5000    | 0           | 104  | 70       | 130       |      |          |      |
| Chromium  | 0.50   | 0.0060 | 0.5000    | 0           | 99.8 | 70       | 130       |      |          |      |
| Cobalt    | 0.49   | 0.0060 | 0.5000    | 0.007250    | 96.8 | 70       | 130       |      |          |      |
| Manganese | 0.49   | 0.0020 | 0.5000    | 0           | 98.4 | 70       | 130       |      |          |      |
| Nickel    | 0.48   | 0.010  | 0.5000    | 0           | 95.8 | 70       | 130       |      |          |      |
| Silver    | 0.10   | 0.0050 | 0.1000    | 0           | 103  | 70       | 130       |      |          |      |
| Vanadium  | 0.53   | 0.050  | 0.5000    | 0           | 106  | 70       | 130       |      |          |      |
| Zinc      | 0.50   | 0.010  | 0.5000    | 0           | 101  | 70       | 130       |      |          |      |

## Qualifiers:

- |                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                 |        |                |             |      |           |                          |        |             |      |
|------------|-----------------|--------|----------------|-------------|------|-----------|--------------------------|--------|-------------|------|
| Sample ID  | 1210860-005EMSD |        | SampType:      | MSD         |      | TestCode: | EPA Method 200.7: Metals |        |             |      |
| Client ID: | EB101612        |        | Batch ID:      | R6448       |      | RunNo:    | 6448                     |        |             |      |
| Prep Date: |                 |        | Analysis Date: | 10/24/2012  |      | SeqNo:    | 185585                   |        | Units: mg/L |      |
| Analyte    | Result          | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD   | RPDLimit    | Qual |
| Barium     | 0.50            | 0.0020 | 0.5000         | 0.0005100   | 100  | 70        | 130                      | 0.371  | 20          |      |
| Beryllium  | 0.54            | 0.0020 | 0.5000         | 0           | 108  | 70        | 130                      | 0.157  | 20          |      |
| Cadmium    | 0.52            | 0.0020 | 0.5000         | 0           | 104  | 70        | 130                      | 0.178  | 20          |      |
| Chromium   | 0.50            | 0.0060 | 0.5000         | 0           | 99.3 | 70        | 130                      | 0.460  | 20          |      |
| Cobalt     | 0.49            | 0.0060 | 0.5000         | 0.007250    | 96.4 | 70        | 130                      | 0.406  | 20          |      |
| Manganese  | 0.49            | 0.0020 | 0.5000         | 0           | 98.0 | 70        | 130                      | 0.393  | 20          |      |
| Nickel     | 0.48            | 0.010  | 0.5000         | 0           | 95.4 | 70        | 130                      | 0.513  | 20          |      |
| Silver     | 0.10            | 0.0050 | 0.1000         | 0           | 103  | 70        | 130                      | 0.0872 | 20          |      |
| Vanadium   | 0.53            | 0.050  | 0.5000         | 0           | 106  | 70        | 130                      | 0.179  | 20          |      |
| Zinc       | 0.50            | 0.010  | 0.5000         | 0           | 99.4 | 70        | 130                      | 1.40   | 20          |      |

|            |            |       |                |             |      |           |                          |      |             |      |
|------------|------------|-------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | MB-4467    |       | SampType:      | MBLK        |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | PBW        |       | Batch ID:      | 4467        |      | RunNo:    | 6517                     |      |             |      |
| Prep Date: | 10/23/2012 |       | Analysis Date: | 10/26/2012  |      | SeqNo:    | 188054                   |      | Units: mg/L |      |
| Analyte    | Result     | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Iron       | ND         | 0.020 |                |             |      |           |                          |      |             |      |

|            |            |       |                |             |      |           |                          |      |             |      |
|------------|------------|-------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | LCS-4467   |       | SampType:      | LCS         |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | LCSW       |       | Batch ID:      | 4467        |      | RunNo:    | 6517                     |      |             |      |
| Prep Date: | 10/23/2012 |       | Analysis Date: | 10/26/2012  |      | SeqNo:    | 188055                   |      | Units: mg/L |      |
| Analyte    | Result     | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Iron       | 0.49       | 0.020 | 0.5000         | 0           | 99.0 | 85        | 115                      |      |             |      |

|            |        |       |                |             |      |           |                          |      |             |      |
|------------|--------|-------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | MB     |       | SampType:      | MBLK        |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | PBW    |       | Batch ID:      | R6577       |      | RunNo:    | 6577                     |      |             |      |
| Prep Date: |        |       | Analysis Date: | 10/30/2012  |      | SeqNo:    | 189771                   |      | Units: mg/L |      |
| Analyte    | Result | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Iron       | ND     | 0.020 |                |             |      |           |                          |      |             |      |

|            |        |       |                |             |      |           |                          |      |             |      |
|------------|--------|-------|----------------|-------------|------|-----------|--------------------------|------|-------------|------|
| Sample ID  | LCS    |       | SampType:      | LCS         |      | TestCode: | EPA Method 200.7: Metals |      |             |      |
| Client ID: | LCSW   |       | Batch ID:      | R6577       |      | RunNo:    | 6577                     |      |             |      |
| Prep Date: |        |       | Analysis Date: | 10/30/2012  |      | SeqNo:    | 189772                   |      | Units: mg/L |      |
| Analyte    | Result | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit    | Qual |
| Iron       | 0.52   | 0.020 | 0.5000         | 0           | 104  | 85        | 115                      |      |             |      |

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |            |     |                |             |      |           |                          |      |          |      |      |
|------------|------------|-----|----------------|-------------|------|-----------|--------------------------|------|----------|------|------|
| Sample ID  | MB-4467    |     | SampType:      | MBLK        |      | TestCode: | EPA Method 200.7: Metals |      |          |      |      |
| Client ID: | PBW        |     | Batch ID:      | 4467        |      | RunNo:    | 6448                     |      |          |      |      |
| Prep Date: | 10/23/2012 |     | Analysis Date: | 10/24/2012  |      | SeqNo:    | 191046                   |      | Units:   |      | mg/L |
| Analyte    | Result     | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit | Qual |      |

|           |    |        |  |  |  |  |  |  |  |  |
|-----------|----|--------|--|--|--|--|--|--|--|--|
| Barium    | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Beryllium | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Cadmium   | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Chromium  | ND | 0.0060 |  |  |  |  |  |  |  |  |
| Cobalt    | ND | 0.0060 |  |  |  |  |  |  |  |  |
| Manganese | ND | 0.0020 |  |  |  |  |  |  |  |  |
| Nickel    | ND | 0.010  |  |  |  |  |  |  |  |  |
| Silver    | ND | 0.0050 |  |  |  |  |  |  |  |  |
| Vanadium  | ND | 0.050  |  |  |  |  |  |  |  |  |
| Zinc      | ND | 0.010  |  |  |  |  |  |  |  |  |

|            |            |     |                |             |      |           |                          |      |          |      |      |
|------------|------------|-----|----------------|-------------|------|-----------|--------------------------|------|----------|------|------|
| Sample ID  | LCS-4467   |     | SampType:      | LCS         |      | TestCode: | EPA Method 200.7: Metals |      |          |      |      |
| Client ID: | LCSW       |     | Batch ID:      | 4467        |      | RunNo:    | 6448                     |      |          |      |      |
| Prep Date: | 10/23/2012 |     | Analysis Date: | 10/24/2012  |      | SeqNo:    | 191048                   |      | Units:   |      | mg/L |
| Analyte    | Result     | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit | Qual |      |

|           |       |        |        |   |      |    |     |  |  |  |
|-----------|-------|--------|--------|---|------|----|-----|--|--|--|
| Barium    | 0.48  | 0.0020 | 0.5000 | 0 | 96.3 | 85 | 115 |  |  |  |
| Beryllium | 0.51  | 0.0020 | 0.5000 | 0 | 103  | 85 | 115 |  |  |  |
| Cadmium   | 0.49  | 0.0020 | 0.5000 | 0 | 97.7 | 85 | 115 |  |  |  |
| Chromium  | 0.48  | 0.0060 | 0.5000 | 0 | 96.3 | 85 | 115 |  |  |  |
| Cobalt    | 0.46  | 0.0060 | 0.5000 | 0 | 92.3 | 85 | 115 |  |  |  |
| Manganese | 0.47  | 0.0020 | 0.5000 | 0 | 93.4 | 85 | 115 |  |  |  |
| Nickel    | 0.46  | 0.010  | 0.5000 | 0 | 91.2 | 85 | 115 |  |  |  |
| Silver    | 0.087 | 0.0050 | 0.1000 | 0 | 86.5 | 85 | 115 |  |  |  |
| Vanadium  | 0.51  | 0.050  | 0.5000 | 0 | 101  | 85 | 115 |  |  |  |
| Zinc      | 0.48  | 0.010  | 0.5000 | 0 | 95.6 | 85 | 115 |  |  |  |

|            |        |                |           |             |                          |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK      | TestCode:   | EPA Method 200.7: Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R6689     | RunNo:      | 6689                     |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 11/5/2012 | SeqNo:      | 193297                   | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron       | ND     | 0.020          |           |             |                          |          |           |      |          |      |

|      |    |       |  |  |  |  |  |  |  |  |
|------|----|-------|--|--|--|--|--|--|--|--|
| Iron | ND | 0.020 |  |  |  |  |  |  |  |  |
|------|----|-------|--|--|--|--|--|--|--|--|

|            |        |                |           |             |                          |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS    | SampType:      | LCS       | TestCode:   | EPA Method 200.7: Metals |          |           |      |          |      |
| Client ID: | LCSW   | Batch ID:      | R6689     | RunNo:      | 6689                     |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 11/5/2012 | SeqNo:      | 193298                   | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|      |      |       |        |   |      |    |     |  |  |  |
|------|------|-------|--------|---|------|----|-----|--|--|--|
| Iron | 0.49 | 0.020 | 0.5000 | 0 | 98.0 | 85 | 115 |  |  |  |
|------|------|-------|--------|---|------|----|-----|--|--|--|

### Qualifiers:

- V Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                |                |           |             |                          |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210860-005EMS | SampType:      | MS        | TestCode:   | EPA Method 200.7: Metals |          |           |      |          |      |
| Client ID: | EB101612       | Batch ID:      | R6689     | RunNo:      | 6689                     |          |           |      |          |      |
| Prep Date: |                | Analysis Date: | 11/5/2012 | SeqNo:      | 193607                   | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron       | 0.50           | 0.020          | 0.5000    | 0           | 100                      | 70       | 130       |      |          |      |

|            |                 |                |           |             |                          |          |           |       |          |      |
|------------|-----------------|----------------|-----------|-------------|--------------------------|----------|-----------|-------|----------|------|
| Sample ID  | 1210860-005EMSD | SampType:      | MSD       | TestCode:   | EPA Method 200.7: Metals |          |           |       |          |      |
| Client ID: | EB101612        | Batch ID:      | R6689     | RunNo:      | 6689                     |          |           |       |          |      |
| Prep Date: |                 | Analysis Date: | 11/5/2012 | SeqNo:      | 193608                   | Units:   | mg/L      |       |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| Iron       | 0.50            | 0.020          | 0.5000    | 0           | 100                      | 70       | 130       | 0.290 | 20       |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |            |        |                |             |      |           |                   |      |             |      |  |
|------------|------------|--------|----------------|-------------|------|-----------|-------------------|------|-------------|------|--|
| Sample ID  | MB-4467    |        | SampType:      | MBLK        |      | TestCode: | EPA 200.8: Metals |      |             |      |  |
| Client ID: | PBW        |        | Batch ID:      | 4467        |      | RunNo:    | 6466              |      |             |      |  |
| Prep Date: | 10/23/2012 |        | Analysis Date: | 10/24/2012  |      | SeqNo:    | 185968            |      | Units: mg/L |      |  |
| Analyte    | Result     | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit         | %RPD | RPDLimit    | Qual |  |
| Antimony   | ND         | 0.0025 |                |             |      |           |                   |      |             |      |  |
| Arsenic    | ND         | 0.0025 |                |             |      |           |                   |      |             |      |  |
| Lead       | ND         | 0.0025 |                |             |      |           |                   |      |             |      |  |
| Selenium   | ND         | 0.0025 |                |             |      |           |                   |      |             |      |  |

|            |                |        |           |                |            |          |           |                   |          |        |      |
|------------|----------------|--------|-----------|----------------|------------|----------|-----------|-------------------|----------|--------|------|
| Sample ID  | 1209C98-001AMS |        |           | SampType:      | MS         |          | TestCode: | EPA 200.8: Metals |          |        |      |
| Client ID: | BatchQC        |        |           | Batch ID:      | R6483      |          | RunNo:    | 6483              |          |        |      |
| Prep Date: |                |        |           | Analysis Date: | 10/25/2012 |          | SeqNo:    | 186650            |          | Units: | mg/L |
| Analyte    | Result         | PQL    | SPK value | SPK Ref Val    | %REC       | LowLimit | HighLimit | %RPD              | RPDLimit | Qual   |      |
| Arsenic    | 0.031          | 0.0010 | 0.02500   | 0.005774       | 102        | 70       | 130       |                   |          |        |      |

|            |        |        |                           |             |                             |          |             |      |          |      |
|------------|--------|--------|---------------------------|-------------|-----------------------------|----------|-------------|------|----------|------|
| Sample ID  | LCS    |        | SampType: LCS             |             | TestCode: EPA 200.8: Metals |          |             |      |          |      |
| Client ID: | LCSW   |        | Batch ID: R6483           |             | RunNo: 6483                 |          |             |      |          |      |
| Prep Date: |        |        | Analysis Date: 10/25/2012 |             | SeqNo: 186664               |          | Units: mg/L |      |          |      |
| Analyte    | Result | PQL    | SPK value                 | SPK Ref Val | %REC                        | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Antimony   | 0.026  | 0.0010 | 0.02500                   | 0           | 103                         | 85       | 115         |      |          |      |
| Arsenic    | 0.026  | 0.0010 | 0.02500                   | 0           | 104                         | 85       | 115         |      |          |      |
| Lead       | 0.026  | 0.0010 | 0.02500                   | 0           | 105                         | 85       | 115         |      |          |      |
| Selenium   | 0.026  | 0.0010 | 0.02500                   | 0           | 104                         | 85       | 115         |      |          |      |

|            |        |        |                           |             |                             |          |             |      |          |      |
|------------|--------|--------|---------------------------|-------------|-----------------------------|----------|-------------|------|----------|------|
| Sample ID  | LCS    |        | SampType: LCS             |             | TestCode: EPA 200.8: Metals |          |             |      |          |      |
| Client ID: | LCSW   |        | Batch ID: R6483           |             | RunNo: 6483                 |          |             |      |          |      |
| Prep Date: |        |        | Analysis Date: 10/25/2012 |             | SeqNo: 186665               |          | Units: mg/L |      |          |      |
| Analyte    | Result | PQL    | SPK value                 | SPK Ref Val | %REC                        | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Antimony   | 0.026  | 0.0010 | 0.02500                   | 0           | 104                         | 85       | 115         |      |          |      |
| Arsenic    | 0.026  | 0.0010 | 0.02500                   | 0           | 105                         | 85       | 115         |      |          |      |
| Lead       | 0.027  | 0.0010 | 0.02500                   | 0           | 106                         | 85       | 115         |      |          |      |
| Selenium   | 0.026  | 0.0010 | 0.02500                   | 0           | 104                         | 85       | 115         |      |          |      |

|            |            |        |                |                   |      |           |                          |      |                    |      |  |
|------------|------------|--------|----------------|-------------------|------|-----------|--------------------------|------|--------------------|------|--|
| Sample ID  | <b>MB</b>  |        | SampType:      | <b>MBLK</b>       |      | TestCode: | <b>EPA 200.8: Metals</b> |      |                    |      |  |
| Client ID: | <b>PBW</b> |        | Batch ID:      | <b>R6483</b>      |      | RunNo:    | <b>6483</b>              |      |                    |      |  |
| Prep Date: |            |        | Analysis Date: | <b>10/25/2012</b> |      | SeqNo:    | <b>186667</b>            |      | Units: <b>mg/L</b> |      |  |
| Analyte    | Result     | PQL    | SPK value      | SPK Ref Val       | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit           | Qual |  |
| Antimony   | ND         | 0.0010 |                |                   |      |           |                          |      |                    |      |  |
| Arsenic    | ND         | 0.0010 |                |                   |      |           |                          |      |                    |      |  |
| Lead       | ND         | 0.0010 |                |                   |      |           |                          |      |                    |      |  |
| Selenium   | ND         | 0.0010 |                |                   |      |           |                          |      |                    |      |  |

### Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| V | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P | Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |        |                |            |             |                   |          |           |      |          |      |
|------------|--------|----------------|------------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK       | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R6483      | RunNo:      | 6483              |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 10/25/2012 | SeqNo:      | 186668            | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value  | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | ND     | 0.0010         |            |             |                   |          |           |      |          |      |
| Arsenic    | ND     | 0.0010         |            |             |                   |          |           |      |          |      |
| Lead       | ND     | 0.0010         |            |             |                   |          |           |      |          |      |
| Selenium   | ND     | 0.0010         |            |             |                   |          |           |      |          |      |

|            |                |                |            |             |                   |          |           |      |          |      |
|------------|----------------|----------------|------------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210516-002BMS | SampType:      | MS         | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | R6483      | RunNo:      | 6483              |          |           |      |          |      |
| Prep Date: |                | Analysis Date: | 10/25/2012 | SeqNo:      | 187056            | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic    | 0.026          | 0.0010         | 0.02500    | 0           | 102               | 70       | 130       |      |          |      |
| Lead       | 0.029          | 0.0010         | 0.02500    | 0.002703    | 104               | 70       | 130       |      |          |      |
| Selenium   | 0.026          | 0.0010         | 0.02500    | 0           | 102               | 70       | 130       |      |          |      |

|            |                |                |            |             |                   |          |           |      |          |      |
|------------|----------------|----------------|------------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210544-001CMS | SampType:      | MS         | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | R6483      | RunNo:      | 6483              |          |           |      |          |      |
| Prep Date: |                | Analysis Date: | 10/25/2012 | SeqNo:      | 187059            | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | 0.025          | 0.0010         | 0.02500    | 0           | 98.2              | 70       | 130       |      |          |      |
| Arsenic    | 0.027          | 0.0010         | 0.02500    | 0.001693    | 101               | 70       | 130       |      |          |      |
| Selenium   | 0.026          | 0.0010         | 0.02500    | 0.001046    | 100               | 70       | 130       |      |          |      |

|            |                |                |            |             |                   |          |           |      |          |      |
|------------|----------------|----------------|------------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210724-001AMS | SampType:      | MS         | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | R6483      | RunNo:      | 6483              |          |           |      |          |      |
| Prep Date: |                | Analysis Date: | 10/25/2012 | SeqNo:      | 187071            | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Arsenic    | 0.048          | 0.0010         | 0.02500    | 0.02319     | 99.5              | 70       | 130       |      |          |      |

|            |                |        |                |             |      |          |           |                   |          |      |
|------------|----------------|--------|----------------|-------------|------|----------|-----------|-------------------|----------|------|
| Sample ID  | 1210724-010AMS |        |                | SampType:   | MS   |          | TestCode: | EPA 200.8: Metals |          |      |
| Client ID: | BatchQC        |        | Batch ID:      | R6483       |      | RunNo:   | 6483      |                   |          |      |
| Prep Date: |                |        | Analysis Date: | 10/25/2012  |      | SeqNo:   | 187081    |                   | Units:   | mg/L |
| Analyte    | Result         | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD              | RPDLimit | Qual |
| Arsenic    | 0.029          | 0.0010 | 0.02500        | 0.004033    | 101  | 70       | 130       |                   |          |      |

|            |        |                |            |             |                   |          |           |      |          |      |
|------------|--------|----------------|------------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS    | SampType:      | LCS        | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | LCSW   | Batch ID:      | R6483      | RunNo:      | 6483              |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 10/25/2012 | SeqNo:      | 187100            | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value  | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

### Qualifiers:

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |        |        |                           |             |                             |          |             |      |          |      |
|------------|--------|--------|---------------------------|-------------|-----------------------------|----------|-------------|------|----------|------|
| Sample ID  | LCS    |        | SampType: LCS             |             | TestCode: EPA 200.8: Metals |          |             |      |          |      |
| Client ID: | LCSW   |        | Batch ID: R6483           |             | RunNo: 6483                 |          |             |      |          |      |
| Prep Date: |        |        | Analysis Date: 10/25/2012 |             | SeqNo: 187100               |          | Units: mg/L |      |          |      |
| Analyte    | Result | PQL    | SPK value                 | SPK Ref Val | %REC                        | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Antimony   | 0.024  | 0.0010 | 0.02500                   | 0           | 96.9                        | 85       | 115         |      |          |      |
| Arsenic    | 0.025  | 0.0010 | 0.02500                   | 0           | 100                         | 85       | 115         |      |          |      |
| Lead       | 0.026  | 0.0010 | 0.02500                   | 0           | 104                         | 85       | 115         |      |          |      |
| Selenium   | 0.026  | 0.0010 | 0.02500                   | 0           | 104                         | 85       | 115         |      |          |      |

|            |        |        |                           |             |                             |          |             |      |          |      |
|------------|--------|--------|---------------------------|-------------|-----------------------------|----------|-------------|------|----------|------|
| Sample ID  | LCS    |        | SampType: LCS             |             | TestCode: EPA 200.8: Metals |          |             |      |          |      |
| Client ID: | LCSW   |        | Batch ID: R6483           |             | RunNo: 6483                 |          |             |      |          |      |
| Prep Date: |        |        | Analysis Date: 10/25/2012 |             | SeqNo: 187101               |          | Units: mg/L |      |          |      |
| Analyte    | Result | PQL    | SPK value                 | SPK Ref Val | %REC                        | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Antimony   | 0.024  | 0.0010 | 0.02500                   | 0           | 96.2                        | 85       | 115         |      |          |      |
| Arsenic    | 0.025  | 0.0010 | 0.02500                   | 0           | 99.5                        | 85       | 115         |      |          |      |
| Lead       | 0.026  | 0.0010 | 0.02500                   | 0           | 105                         | 85       | 115         |      |          |      |
| Selenium   | 0.026  | 0.0010 | 0.02500                   | 0           | 104                         | 85       | 115         |      |          |      |

|            |        |                |            |             |                   |          |           |      |          |      |
|------------|--------|----------------|------------|-------------|-------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK       | TestCode:   | EPA 200.8: Metals |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R6483      | RunNo:      | 6483              |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 10/25/2012 | SeqNo:      | 187102            | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value  | SPK Ref Val | %REC              | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Antimony   | ND     | 0.0010         |            |             |                   |          |           |      |          |      |
| Arsenic    | ND     | 0.0010         |            |             |                   |          |           |      |          |      |
| Lead       | ND     | 0.0010         |            |             |                   |          |           |      |          |      |
| Selenium   | ND     | 0.0010         |            |             |                   |          |           |      |          |      |

|            |        |        |                |             |      |           |                   |      |             |      |  |
|------------|--------|--------|----------------|-------------|------|-----------|-------------------|------|-------------|------|--|
| Sample ID  | MB     |        | SampType:      | MBLK        |      | TestCode: | EPA 200.8: Metals |      |             |      |  |
| Client ID: | PBW    |        | Batch ID:      | R6483       |      | RunNo:    | 6483              |      |             |      |  |
| Prep Date: |        |        | Analysis Date: | 10/25/2012  |      | SeqNo:    | 187103            |      | Units: mg/L |      |  |
| Analyte    | Result | PQL    | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit         | %RPD | RPDLimit    | Qual |  |
| Antimony   | ND     | 0.0010 |                |             |      |           |                   |      |             |      |  |
| Arsenic    | ND     | 0.0010 |                |             |      |           |                   |      |             |      |  |
| Lead       | ND     | 0.0010 |                |             |      |           |                   |      |             |      |  |
| Selenium   | ND     | 0.0010 |                |             |      |           |                   |      |             |      |  |

### Qualifiers:

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |            |                |            |             |                           |          |           |      |          |      |
|------------|------------|----------------|------------|-------------|---------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-4503    | SampType:      | MBLK       | TestCode:   | EPA Method 245.1: Mercury |          |           |      |          |      |
| Client ID: | PBW        | Batch ID:      | 4503       | RunNo:      | 6470                      |          |           |      |          |      |
| Prep Date: | 10/24/2012 | Analysis Date: | 10/24/2012 | SeqNo:      | 186274                    | Units:   | mg/L      |      |          |      |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                      | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | ND         | 0.00020        |            |             |                           |          |           |      |          |      |

|            |            |                |            |             |                           |          |           |      |          |      |
|------------|------------|----------------|------------|-------------|---------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-4503   | SampType:      | LCS        | TestCode:   | EPA Method 245.1: Mercury |          |           |      |          |      |
| Client ID: | LCSW       | Batch ID:      | 4503       | RunNo:      | 6470                      |          |           |      |          |      |
| Prep Date: | 10/24/2012 | Analysis Date: | 10/24/2012 | SeqNo:      | 186276                    | Units:   | mg/L      |      |          |      |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                      | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.0048     | 0.00020        | 0.005000   | 0           | 96.2                      | 80       | 120       |      |          |      |

|            |                |                |            |             |                           |          |           |      |          |      |
|------------|----------------|----------------|------------|-------------|---------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210675-003BMS | SampType:      | ms         | TestCode:   | EPA Method 245.1: Mercury |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 4503       | RunNo:      | 6470                      |          |           |      |          |      |
| Prep Date: | 10/24/2012     | Analysis Date: | 10/24/2012 | SeqNo:      | 186299                    | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC                      | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.0042         | 0.00020        | 0.005000   | 0           | 83.0                      | 75       | 125       |      |          |      |

|            |                 |                |            |             |                           |          |           |      |          |      |
|------------|-----------------|----------------|------------|-------------|---------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210675-003BMSD | SampType:      | msd        | TestCode:   | EPA Method 245.1: Mercury |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | 4503       | RunNo:      | 6470                      |          |           |      |          |      |
| Prep Date: | 10/24/2012      | Analysis Date: | 10/24/2012 | SeqNo:      | 186300                    | Units:   | mg/L      |      |          |      |
| Analyte    | Result          | PQL            | SPK value  | SPK Ref Val | %REC                      | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.0040          | 0.00020        | 0.005000   | 0           | 80.1                      | 75       | 125       | 3.62 | 20       |      |

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# QC SUMMARY REPORT

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WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |            |                |                   |             |                                 |          |             |      |          |      |
|------------|------------|----------------|-------------------|-------------|---------------------------------|----------|-------------|------|----------|------|
| Sample ID  | <b>MB</b>  | SampType:      | <b>MBLK</b>       | TestCode:   | <b>EPA Method 300.0: Anions</b> |          |             |      |          |      |
| Client ID: | <b>PBW</b> | Batch ID:      | <b>R6352</b>      | RunNo:      | <b>6352</b>                     |          |             |      |          |      |
| Prep Date: |            | Analysis Date: | <b>10/18/2012</b> | SeqNo:      | <b>182755</b>                   | Units:   | <b>mg/L</b> |      |          |      |
| Analyte    | Result     | PQL            | SPK value         | SPK Ref Val | %REC                            | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |

|          |    |      |  |  |  |  |  |  |  |  |
|----------|----|------|--|--|--|--|--|--|--|--|
| Fluoride | ND | 0.10 |  |  |  |  |  |  |  |  |
| Chloride | ND | 0.50 |  |  |  |  |  |  |  |  |
| Sulfate  | ND | 0.50 |  |  |  |  |  |  |  |  |

|            |             |                |                   |             |                                 |          |             |      |          |      |
|------------|-------------|----------------|-------------------|-------------|---------------------------------|----------|-------------|------|----------|------|
| Sample ID  | <b>LCS</b>  | SampType:      | <b>LCS</b>        | TestCode:   | <b>EPA Method 300.0: Anions</b> |          |             |      |          |      |
| Client ID: | <b>LCSW</b> | Batch ID:      | <b>R6352</b>      | RunNo:      | <b>6352</b>                     |          |             |      |          |      |
| Prep Date: |             | Analysis Date: | <b>10/18/2012</b> | SeqNo:      | <b>182756</b>                   | Units:   | <b>mg/L</b> |      |          |      |
| Analyte    | Result      | PQL            | SPK value         | SPK Ref Val | %REC                            | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |

|          |      |      |        |   |      |    |     |  |  |  |
|----------|------|------|--------|---|------|----|-----|--|--|--|
| Fluoride | 0.49 | 0.10 | 0.5000 | 0 | 97.3 | 90 | 110 |  |  |  |
| Chloride | 5.1  | 0.50 | 5.000  | 0 | 102  | 90 | 110 |  |  |  |
| Sulfate  | 10   | 0.50 | 10.00  | 0 | 100  | 90 | 110 |  |  |  |

|            |                       |                |                   |             |                                 |          |             |      |          |      |
|------------|-----------------------|----------------|-------------------|-------------|---------------------------------|----------|-------------|------|----------|------|
| Sample ID  | <b>1210862-002BMS</b> | SampType:      | <b>MS</b>         | TestCode:   | <b>EPA Method 300.0: Anions</b> |          |             |      |          |      |
| Client ID: | <b>BatchQC</b>        | Batch ID:      | <b>R6352</b>      | RunNo:      | <b>6352</b>                     |          |             |      |          |      |
| Prep Date: |                       | Analysis Date: | <b>10/18/2012</b> | SeqNo:      | <b>182769</b>                   | Units:   | <b>mg/L</b> |      |          |      |
| Analyte    | Result                | PQL            | SPK value         | SPK Ref Val | %REC                            | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |

|          |      |      |        |       |      |      |     |  |  |    |
|----------|------|------|--------|-------|------|------|-----|--|--|----|
| Fluoride | 0.78 | 0.10 | 0.5000 | 0     | 157  | 76.6 | 110 |  |  | S  |
| Chloride | 8.3  | 0.50 | 5.000  | 4.950 | 66.3 | 87.8 | 111 |  |  | S  |
| Sulfate  | 71   | 0.50 | 10.00  | 52.29 | 185  | 84.6 | 122 |  |  | SE |

|            |                        |                |                   |             |                                 |          |             |      |          |      |
|------------|------------------------|----------------|-------------------|-------------|---------------------------------|----------|-------------|------|----------|------|
| Sample ID  | <b>1210862-002BMSD</b> | SampType:      | <b>MSD</b>        | TestCode:   | <b>EPA Method 300.0: Anions</b> |          |             |      |          |      |
| Client ID: | <b>BatchQC</b>         | Batch ID:      | <b>R6352</b>      | RunNo:      | <b>6352</b>                     |          |             |      |          |      |
| Prep Date: |                        | Analysis Date: | <b>10/18/2012</b> | SeqNo:      | <b>182770</b>                   | Units:   | <b>mg/L</b> |      |          |      |
| Analyte    | Result                 | PQL            | SPK value         | SPK Ref Val | %REC                            | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |

|          |      |      |        |       |      |      |     |       |    |    |
|----------|------|------|--------|-------|------|------|-----|-------|----|----|
| Fluoride | 0.78 | 0.10 | 0.5000 | 0     | 155  | 76.6 | 110 | 0.813 | 20 | S  |
| Chloride | 8.2  | 0.50 | 5.000  | 4.950 | 65.9 | 87.8 | 111 | 0.230 | 20 | S  |
| Sulfate  | 71   | 0.50 | 10.00  | 52.29 | 184  | 84.6 | 122 | 0.106 | 20 | SE |

|            |                       |                |                   |             |                                 |          |             |      |          |      |
|------------|-----------------------|----------------|-------------------|-------------|---------------------------------|----------|-------------|------|----------|------|
| Sample ID  | <b>1210860-003CMS</b> | SampType:      | <b>MS</b>         | TestCode:   | <b>EPA Method 300.0: Anions</b> |          |             |      |          |      |
| Client ID: | <b>EB101712</b>       | Batch ID:      | <b>R6352</b>      | RunNo:      | <b>6352</b>                     |          |             |      |          |      |
| Prep Date: |                       | Analysis Date: | <b>10/18/2012</b> | SeqNo:      | <b>182775</b>                   | Units:   | <b>mg/L</b> |      |          |      |
| Analyte    | Result                | PQL            | SPK value         | SPK Ref Val | %REC                            | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |

|          |      |      |        |   |      |      |     |  |  |  |
|----------|------|------|--------|---|------|------|-----|--|--|--|
| Fluoride | 0.49 | 0.10 | 0.5000 | 0 | 97.5 | 76.6 | 110 |  |  |  |
| Chloride | 4.9  | 0.50 | 5.000  | 0 | 98.4 | 87.8 | 111 |  |  |  |
| Sulfate  | 9.6  | 0.50 | 10.00  | 0 | 96.3 | 84.6 | 122 |  |  |  |

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                 |                |            |             |                          |          |           |       |          |      |
|------------|-----------------|----------------|------------|-------------|--------------------------|----------|-----------|-------|----------|------|
| Sample ID  | 1210860-003CMSD | SampType:      | MSD        | TestCode:   | EPA Method 300.0: Anions |          |           |       |          |      |
| Client ID: | EB101712        | Batch ID:      | R6352      | RunNo:      | 6352                     |          |           |       |          |      |
| Prep Date: |                 | Analysis Date: | 10/18/2012 | SeqNo:      | 182776                   | Units:   | mg/L      |       |          |      |
| Analyte    | Result          | PQL            | SPK value  | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| Fluoride   | 0.49            | 0.10           | 0.5000     | 0           | 98.1                     | 76.6     | 110       | 0.572 | 20       |      |
| Chloride   | 4.9             | 0.50           | 5.000      | 0           | 98.3                     | 87.8     | 111       | 0.126 | 20       |      |
| Sulfate    | 9.7             | 0.50           | 10.00      | 0           | 97.3                     | 84.6     | 122       | 1.05  | 20       |      |

|            |        |                |            |             |                          |          |           |      |          |      |
|------------|--------|----------------|------------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB     | SampType:      | MBLK       | TestCode:   | EPA Method 300.0: Anions |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R6364      | RunNo:      | 6364                     |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 10/19/2012 | SeqNo:      | 183032                   | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value  | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride   | ND     | 0.50           |            |             |                          |          |           |      |          |      |

|            |        |                |            |             |                          |          |           |      |          |      |
|------------|--------|----------------|------------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS    | SampType:      | LCS        | TestCode:   | EPA Method 300.0: Anions |          |           |      |          |      |
| Client ID: | LCSW   | Batch ID:      | R6364      | RunNo:      | 6364                     |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 10/19/2012 | SeqNo:      | 183033                   | Units:   | mg/L      |      |          |      |
| Analyte    | Result | PQL            | SPK value  | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Chloride   | 5.1    | 0.50           | 5.000      | 0           | 102                      | 90       | 110       |      |          |      |

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# QC SUMMARY REPORT

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WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

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|                                |            |                |            |             |                                         |          |           |      |          |      |
|--------------------------------|------------|----------------|------------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                      | MB-4397    | SampType:      | MBLK       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                     | PBS        | Batch ID:      | 4397       | RunNo:      | 6325                                    |          |           |      |          |      |
| Prep Date:                     | 10/18/2012 | Analysis Date: | 10/18/2012 | SeqNo:      | 182283                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                        | Result     | PQL            | SPK value  | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND         | 10             |            |             |                                         |          |           |      |          |      |
| Motor Oil Range Organics (MRO) | ND         | 50             |            |             |                                         |          |           |      |          |      |
| Surr: DNOP                     | 10         |                | 10.00      |             | 103                                     | 77.6     | 140       |      |          |      |

|                             |            |                |            |             |                                         |          |           |      |          |      |
|-----------------------------|------------|----------------|------------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | LCS-4397   | SampType:      | LCS        | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                  | LCSS       | Batch ID:      | 4397       | RunNo:      | 6325                                    |          |           |      |          |      |
| Prep Date:                  | 10/18/2012 | Analysis Date: | 10/18/2012 | SeqNo:      | 182284                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result     | PQL            | SPK value  | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 56         | 10             | 50.00      | 0           | 111                                     | 52.6     | 130       |      |          |      |
| Surr: DNOP                  | 4.3        |                | 5.000      |             | 86.9                                    | 77.6     | 140       |      |          |      |

|            |            |                |            |             |                                         |          |           |      |          |      |
|------------|------------|----------------|------------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-4404    | SampType:      | MBLK       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | PBS        | Batch ID:      | 4404       | RunNo:      | 6356                                    |          |           |      |          |      |
| Prep Date: | 10/18/2012 | Analysis Date: | 10/19/2012 | SeqNo:      | 182984                                  | Units:   | %REC      |      |          |      |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 9.6        |                | 10.00      |             | 95.6                                    | 77.6     | 140       |      |          |      |

|            |            |                |            |             |                                         |          |           |      |          |      |
|------------|------------|----------------|------------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-4404   | SampType:      | LCS        | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | LCSS       | Batch ID:      | 4404       | RunNo:      | 6356                                    |          |           |      |          |      |
| Prep Date: | 10/18/2012 | Analysis Date: | 10/19/2012 | SeqNo:      | 182985                                  | Units:   | %REC      |      |          |      |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 4.5        |                | 5.000      |             | 90.3                                    | 77.6     | 140       |      |          |      |

|            |                |                |            |             |                                         |          |           |      |          |      |
|------------|----------------|----------------|------------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210819-001AMS | SampType:      | MS         | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 4404       | RunNo:      | 6356                                    |          |           |      |          |      |
| Prep Date: | 10/18/2012     | Analysis Date: | 10/19/2012 | SeqNo:      | 183001                                  | Units:   | %REC      |      |          |      |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 4.7            |                | 5.899      |             | 79.7                                    | 77.6     | 140       |      |          |      |

|            |                 |                |            |             |                                         |          |           |      |          |      |
|------------|-----------------|----------------|------------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1210819-001AMSD | SampType:      | MSD        | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | 4404       | RunNo:      | 6356                                    |          |           |      |          |      |
| Prep Date: | 10/18/2012      | Analysis Date: | 10/19/2012 | SeqNo:      | 183002                                  | Units:   | %REC      |      |          |      |
| Analyte    | Result          | PQL            | SPK value  | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: DNOP | 4.9             |                | 6.148      |             | 79.2                                    | 77.6     | 140       | 0    | 0        |      |

### Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| V | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P | Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |            |                |            |             |                                |          |           |      |          |      |
|------------|------------|----------------|------------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-4430    | SampType:      | MBLK       | TestCode:   | EPA Method 8015B: Diesel Range |          |           |      |          |      |
| Client ID: | PBW        | Batch ID:      | 4430       | RunNo:      | 6372                           |          |           |      |          |      |
| Prep Date: | 10/19/2012 | Analysis Date: | 10/20/2012 | SeqNo:      | 183215                         | Units:   | mg/L      |      |          |      |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Diesel Range Organics (DRO)

ND

1.0

Motor Oil Range Organics (MRO)

ND

5.0

Surr: DNOP

0.98

1.000

98.2

79.5

166

|            |            |                |            |             |                                |          |           |      |          |      |
|------------|------------|----------------|------------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-4430   | SampType:      | LCS        | TestCode:   | EPA Method 8015B: Diesel Range |          |           |      |          |      |
| Client ID: | LCSW       | Batch ID:      | 4430       | RunNo:      | 6372                           |          |           |      |          |      |
| Prep Date: | 10/19/2012 | Analysis Date: | 10/20/2012 | SeqNo:      | 183216                         | Units:   | mg/L      |      |          |      |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Diesel Range Organics (DRO)

4.5

1.0

5.000

0

90.1

74

157

Surr: DNOP

0.60

0.5000

121

79.5

166

|            |            |                |            |             |                                |          |           |      |          |      |
|------------|------------|----------------|------------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCSD-4430  | SampType:      | LCSD       | TestCode:   | EPA Method 8015B: Diesel Range |          |           |      |          |      |
| Client ID: | LCSS02     | Batch ID:      | 4430       | RunNo:      | 6372                           |          |           |      |          |      |
| Prep Date: | 10/19/2012 | Analysis Date: | 10/20/2012 | SeqNo:      | 183217                         | Units:   | mg/L      |      |          |      |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Diesel Range Organics (DRO)

4.6

1.0

5.000

0

91.2

74

157

1.18

23

Surr: DNOP

0.61

0.5000

122

79.5

166

0

0

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
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- P Sample pH greater than 2

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- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                               |            |                |            |             |                                  |          |           |      |          |      |
|-------------------------------|------------|----------------|------------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | MB-4510    | SampType:      | MBLK       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | PBS        | Batch ID:      | 4510       | RunNo:      | 6518                             |          |           |      |          |      |
| Prep Date:                    | 10/24/2012 | Analysis Date: | 10/27/2012 | SeqNo:      | 188108                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result     | PQL            | SPK value  | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND         | 5.0            |            |             |                                  |          |           |      |          |      |
| Surr: BFB                     | 970        |                | 1000       |             | 96.6                             | 84       | 116       |      |          |      |

|                               |            |                |            |             |                                  |          |           |      |          |      |
|-------------------------------|------------|----------------|------------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | LCS-4510   | SampType:      | LCS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | LCSS       | Batch ID:      | 4510       | RunNo:      | 6518                             |          |           |      |          |      |
| Prep Date:                    | 10/24/2012 | Analysis Date: | 10/27/2012 | SeqNo:      | 188109                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result     | PQL            | SPK value  | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 26         | 5.0            | 25.00      | 0           | 102                              | 74       | 117       |      |          |      |
| Surr: BFB                     | 1000       |                | 1000       |             | 103                              | 84       | 116       |      |          |      |

|                               |                |                |            |             |                                  |          |           |      |          |      |
|-------------------------------|----------------|----------------|------------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1210A72-002AMS | SampType:      | MS         | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC        | Batch ID:      | 4510       | RunNo:      | 6518                             |          |           |      |          |      |
| Prep Date:                    | 10/24/2012     | Analysis Date: | 10/27/2012 | SeqNo:      | 188121                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result         | PQL            | SPK value  | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 26             | 4.9            | 24.65      | 2.267       | 96.2                             | 70       | 130       |      |          |      |
| Surr: BFB                     | 1100           |                | 986.2      |             | 109                              | 84       | 116       |      |          |      |

|                               |                 |                |            |             |                                  |          |           |       |          |      |
|-------------------------------|-----------------|----------------|------------|-------------|----------------------------------|----------|-----------|-------|----------|------|
| Sample ID                     | 1210A72-002AMSD | SampType:      | MSD        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |       |          |      |
| Client ID:                    | BatchQC         | Batch ID:      | 4510       | RunNo:      | 6518                             |          |           |       |          |      |
| Prep Date:                    | 10/24/2012      | Analysis Date: | 10/27/2012 | SeqNo:      | 188122                           | Units:   | mg/Kg     |       |          |      |
| Analyte                       | Result          | PQL            | SPK value  | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 26              | 4.9            | 24.61      | 2.267       | 96.0                             | 70       | 130       | 0.425 | 22.1     |      |
| Surr: BFB                     | 1100            |                | 984.3      |             | 107                              | 84       | 116       | 0     | 0        |      |

### Qualifiers:

- |                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                                |            |         |                |             |      |           |                                 |      |              |      |  |
|--------------------------------|------------|---------|----------------|-------------|------|-----------|---------------------------------|------|--------------|------|--|
| Sample ID                      | mb-4419    |         | SampType:      | MBLK        |      | TestCode: | Method 8260B/5035LOW: VOLATILES |      |              |      |  |
| Client ID:                     | PBS        |         | Batch ID:      | 4419        |      | RunNo:    | 6365                            |      |              |      |  |
| Prep Date:                     | 10/19/2012 |         | Analysis Date: | 10/19/2012  |      | SeqNo:    | 183060                          |      | Units: mg/Kg |      |  |
| Analyte                        | Result     | PQL     | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit     | Qual |  |
| Benzene                        | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Toluene                        | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Ethylbenzene                   | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Xylenes, Total                 | ND         | 0.00200 |                |             |      |           |                                 |      |              |      |  |
| Methyl tert-butyl ether (MTBE) | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2,4-Trimethylbenzene         | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,3,5-Trimethylbenzene         | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2-Dichloroethane (EDC)       | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2-Dibromoethane (EDB)        | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Naphthalene                    | ND         | 0.00200 |                |             |      |           |                                 |      |              |      |  |
| 1-Methylnaphthalene            | ND         | 0.00400 |                |             |      |           |                                 |      |              |      |  |
| 2-Methylnaphthalene            | ND         | 0.00400 |                |             |      |           |                                 |      |              |      |  |
| Acetone                        | ND         | 0.0100  |                |             |      |           |                                 |      |              |      |  |
| Bromobenzene                   | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Bromodichloromethane           | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Bromoform                      | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Bromomethane                   | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 2-Butanone                     | ND         | 0.0100  |                |             |      |           |                                 |      |              |      |  |
| Carbon tetrachloride           | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Chlorobenzene                  | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Chloroethane                   | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Chloroform                     | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Chloromethane                  | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 2-Chlorotoluene                | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Carbon disulfide               | ND         | 0.0100  |                |             |      |           |                                 |      |              |      |  |
| 4-Chlorotoluene                | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| cis-1,2-DCE                    | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| cis-1,3-Dichloropropene        | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2-Dibromo-3-chloropropane    | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Dibromochloromethane           | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Dibromomethane                 | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2-Dichlorobenzene            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,3-Dichlorobenzene            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,4-Dichlorobenzene            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Dichlorodifluoromethane        | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,1-Dichloroethane             | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,1-Dichloroethene             | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2-Dichloropropane            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,3-Dichloropropane            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 2,2-Dichloropropane            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,1-Dichloropropene            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
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# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |            |         |                |             |      |           |                                 |      |              |      |  |
|-----------------------------|------------|---------|----------------|-------------|------|-----------|---------------------------------|------|--------------|------|--|
| Sample ID                   | mb-4419    |         | SampType:      | MBLK        |      | TestCode: | Method 8260B/5035LOW: VOLATILES |      |              |      |  |
| Client ID:                  | PBS        |         | Batch ID:      | 4419        |      | RunNo:    | 6365                            |      |              |      |  |
| Prep Date:                  | 10/19/2012 |         | Analysis Date: | 10/19/2012  |      | SeqNo:    | 183060                          |      | Units: mg/Kg |      |  |
| Analyte                     | Result     | PQL     | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit     | Qual |  |
| Hexachlorobutadiene         | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Isopropylbenzene            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 4-Isopropyltoluene          | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Methylene chloride          | 0.00320    | 0.00300 |                |             |      |           |                                 |      |              |      |  |
| n-Butylbenzene              | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 2-Hexanone                  | ND         | 0.0100  |                |             |      |           |                                 |      |              |      |  |
| n-Propylbenzene             | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| sec-Butylbenzene            | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Styrene                     | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 4-Methyl-2-pentanone        | ND         | 0.0100  |                |             |      |           |                                 |      |              |      |  |
| tert-Butylbenzene           | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,1,1,2-Tetrachloroethane   | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,1,2,2-Tetrachloroethane   | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Tetrachloroethene (PCE)     | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| trans-1,2-DCE               | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| trans-1,3-Dichloropropene   | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2,3-Trichlorobenzene      | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 4-Trichlorobenzene          | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,1,1-Trichloroethane       | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,1,2-Trichloroethane       | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Trichloroethene (TCE)       | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Trichlorofluoromethane      | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| 1,2,3-Trichloropropane      | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Vinyl chloride              | ND         | 0.00100 |                |             |      |           |                                 |      |              |      |  |
| Surr: 1,2-Dichloroethane-d4 | 43.7       |         | 50.00          |             | 87.4 | 70        | 130                             |      |              |      |  |
| Surr: 4-Bromofluorobenzene  | 43.0       |         | 50.00          |             | 85.9 | 70        | 130                             |      |              |      |  |
| Surr: Dibromofluoromethane  | 50.0       |         | 50.00          |             | 100  | 70        | 130                             |      |              |      |  |
| Surr: Toluene-d8            | 51.0       |         | 50.00          |             | 102  | 70        | 130                             |      |              |      |  |

|                             |            |      |                           |             |                                           |          |              |      |          |      |
|-----------------------------|------------|------|---------------------------|-------------|-------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                   | lcs-4419   |      | SampType: LCS             |             | TestCode: Method 8260B/5035LOW: VOLATILES |          |              |      |          |      |
| Client ID:                  | LCSS       |      | Batch ID: 4419            |             | RunNo: 6365                               |          |              |      |          |      |
| Prep Date:                  | 10/19/2012 |      | Analysis Date: 10/19/2012 |             | SeqNo: 183062                             |          | Units: mg/Kg |      |          |      |
| Analyte                     | Result     | PQL  | SPK value                 | SPK Ref Val | %REC                                      | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Benzene                     | 11.7       | 1.00 | 12.50                     | 0           | 93.9                                      | 60       | 140          |      |          |      |
| Toluene                     | 10.2       | 1.00 | 12.50                     | 0           | 82.0                                      | 60       | 140          |      |          |      |
| Chlorobenzene               | 11.9       | 1.00 | 12.50                     | 0           | 94.9                                      | 60       | 140          |      |          |      |
| 1,1-Dichloroethene          | 14.5       | 1.00 | 12.50                     | 0           | 116                                       | 60       | 140          |      |          |      |
| Trichloroethene (TCE)       | 9.39       | 1.00 | 12.50                     | 0           | 75.1                                      | 60       | 140          |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 47.4       |      | 50.00                     |             | 94.9                                      | 70       | 130          |      |          |      |
| Surr: 4-Bromofluorobenzene  | 41.6       |      | 50.00                     |             | 83.2                                      | 70       | 130          |      |          |      |

## Qualifiers:

|                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |            |     |                |             |      |           |                                 |      |              |      |
|----------------------------|------------|-----|----------------|-------------|------|-----------|---------------------------------|------|--------------|------|
| Sample ID                  | Ics-4419   |     | SampType:      | LCS         |      | TestCode: | Method 8260B/5035LOW: VOLATILES |      |              |      |
| Client ID:                 | LCSS       |     | Batch ID:      | 4419        |      | RunNo:    | 6365                            |      |              |      |
| Prep Date:                 | 10/19/2012 |     | Analysis Date: | 10/19/2012  |      | SeqNo:    | 183062                          |      | Units: mg/Kg |      |
| Analyte                    | Result     | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit     | Qual |
| Surr: Dibromofluoromethane | 46.8       |     | 50.00          |             | 93.6 | 70        | 130                             |      |              |      |
| Surr: Toluene-d8           | 46.1       |     | 50.00          |             | 92.3 | 70        | 130                             |      |              |      |

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

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H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
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WO#: 1210860

15-Nov-12

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Project: SWMU NO.14

|                                |        |                           |           |             |                                       |          |             |      |          |      |
|--------------------------------|--------|---------------------------|-----------|-------------|---------------------------------------|----------|-------------|------|----------|------|
| Sample ID                      | 5ml-rb | SampType: MBLK            |           |             | TestCode: EPA Method 8260B: VOLATILES |          |             |      |          |      |
| Client ID:                     | PBW    | Batch ID: R6386           |           |             | RunNo: 6386                           |          |             |      |          |      |
| Prep Date:                     |        | Analysis Date: 10/19/2012 |           |             | SeqNo: 183508                         |          | Units: µg/L |      |          |      |
| Analyte                        | Result | PQL                       | SPK value | SPK Ref Val | %REC                                  | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Benzene                        | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Toluene                        | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Ethylbenzene                   | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,2,4-Trimethylbenzene         | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,3,5-Trimethylbenzene         | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,2-Dichloroethane (EDC)       | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,2-Dibromoethane (EDB)        | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Naphthalene                    | ND     | 2.0                       |           |             |                                       |          |             |      |          |      |
| 1-Methylnaphthalene            | ND     | 4.0                       |           |             |                                       |          |             |      |          |      |
| 2-Methylnaphthalene            | ND     | 4.0                       |           |             |                                       |          |             |      |          |      |
| Acetone                        | ND     | 10                        |           |             |                                       |          |             |      |          |      |
| Bromobenzene                   | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Bromodichloromethane           | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Bromoform                      | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Bromomethane                   | ND     | 3.0                       |           |             |                                       |          |             |      |          |      |
| 2-Butanone                     | ND     | 10                        |           |             |                                       |          |             |      |          |      |
| Carbon disulfide               | ND     | 10                        |           |             |                                       |          |             |      |          |      |
| Carbon Tetrachloride           | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Chlorobenzene                  | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Chloroethane                   | ND     | 2.0                       |           |             |                                       |          |             |      |          |      |
| Chloroform                     | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Chloromethane                  | ND     | 3.0                       |           |             |                                       |          |             |      |          |      |
| 2-Chlorotoluene                | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 4-Chlorotoluene                | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| cis-1,2-DCE                    | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| cis-1,3-Dichloropropene        | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,2-Dibromo-3-chloropropane    | ND     | 2.0                       |           |             |                                       |          |             |      |          |      |
| Dibromochloromethane           | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Dibromomethane                 | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,2-Dichlorobenzene            | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,3-Dichlorobenzene            | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,4-Dichlorobenzene            | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Dichlorodifluoromethane        | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,1-Dichloroethane             | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,1-Dichloroethene             | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,2-Dichloropropane            | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 1,3-Dichloropropane            | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| 2,2-Dichloropropane            | ND     | 2.0                       |           |             |                                       |          |             |      |          |      |
| 1,1-Dichloropropene            | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |
| Hexachlorobutadiene            | ND     | 1.0                       |           |             |                                       |          |             |      |          |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |        |                           |           |                                       |      |             |           |      |          |      |
|-----------------------------|--------|---------------------------|-----------|---------------------------------------|------|-------------|-----------|------|----------|------|
| Sample ID                   | 5ml-rb | SampType: MBLK            |           | TestCode: EPA Method 8260B: VOLATILES |      |             |           |      |          |      |
| Client ID:                  | PBW    | Batch ID: R6386           |           | RunNo: 6386                           |      |             |           |      |          |      |
| Prep Date:                  |        | Analysis Date: 10/19/2012 |           | SeqNo: 183508                         |      | Units: µg/L |           |      |          |      |
| Analyte                     | Result | PQL                       | SPK value | SPK Ref Val                           | %REC | LowLimit    | HighLimit | %RPD | RPDLimit | Qual |
| 2-Hexanone                  | ND     | 10                        |           |                                       |      |             |           |      |          |      |
| Isopropylbenzene            | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 4-Isopropyltoluene          | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 4-Methyl-2-pentanone        | ND     | 10                        |           |                                       |      |             |           |      |          |      |
| Methylene Chloride          | ND     | 3.0                       |           |                                       |      |             |           |      |          |      |
| n-Butylbenzene              | ND     | 3.0                       |           |                                       |      |             |           |      |          |      |
| n-Propylbenzene             | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| sec-Butylbenzene            | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| Styrene                     | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| tert-Butylbenzene           | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND     | 2.0                       |           |                                       |      |             |           |      |          |      |
| Tetrachloroethene (PCE)     | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| trans-1,2-DCE               | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| trans-1,3-Dichloropropene   | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 1,1,1-Trichloroethane       | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 1,1,2-Trichloroethane       | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| Trichloroethene (TCE)       | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| Trichlorofluoromethane      | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| 1,2,3-Trichloropropane      | ND     | 2.0                       |           |                                       |      |             |           |      |          |      |
| Vinyl chloride              | ND     | 1.0                       |           |                                       |      |             |           |      |          |      |
| Xylenes, Total              | ND     | 1.5                       |           |                                       |      |             |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.9    |                           | 10.00     |                                       | 99.5 | 70          | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 10     |                           | 10.00     |                                       | 103  | 70          | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 9.1    |                           | 10.00     |                                       | 91.2 | 70          | 130       |      |          |      |
| Surr: Toluene-d8            | 10     |                           | 10.00     |                                       | 104  | 70          | 130       |      |          |      |

|                             |           |                |            |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|------------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 100ng lcs | SampType:      | LCS        | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSW      | Batch ID:      | R6386      | RunNo:      | 6386                        |          |           |      |          |      |
| Prep Date:                  |           | Analysis Date: | 10/19/2012 | SeqNo:      | 183534                      | Units:   | µg/L      |      |          |      |
| Analyte                     | Result    | PQL            | SPK value  | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 19        | 1.0            | 20.00      | 0           | 93.6                        | 70       | 130       |      |          |      |
| Toluene                     | 18        | 1.0            | 20.00      | 0           | 92.4                        | 80       | 120       |      |          |      |
| Chlorobenzene               | 19        | 1.0            | 20.00      | 0           | 95.0                        | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 19        | 1.0            | 20.00      | 0           | 97.1                        | 73.7     | 122       |      |          |      |
| Trichloroethene (TCE)       | 17        | 1.0            | 20.00      | 0           | 83.8                        | 70       | 130       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 9.1       |                | 10.00      |             | 91.4                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 12        |                | 10.00      |             | 115                         | 70       | 130       |      |          |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |           |                |            |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|------------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 100ng lcs | SampType:      | LCS        | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                 | LCSW      | Batch ID:      | R6386      | RunNo:      | 6386                        |          |           |      |          |      |
| Prep Date:                 |           | Analysis Date: | 10/19/2012 | SeqNo:      | 183534                      | Units:   | µg/L      |      |          |      |
| Analyte                    | Result    | PQL            | SPK value  | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: Dibromofluoromethane | 8.1       |                | 10.00      |             | 81.3                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8           | 11        |                | 10.00      |             | 108                         | 70       | 130       |      |          |      |

|                             |                 |     |           |                |            |          |           |                             |          |        |      |
|-----------------------------|-----------------|-----|-----------|----------------|------------|----------|-----------|-----------------------------|----------|--------|------|
| Sample ID                   | 1210860-003a ms |     |           | SampType:      | MS         |          | TestCode: | EPA Method 8260B: VOLATILES |          |        |      |
| Client ID:                  | EB101712        |     |           | Batch ID:      | R6386      |          | RunNo:    | 6386                        |          |        |      |
| Prep Date:                  |                 |     |           | Analysis Date: | 10/19/2012 |          | SeqNo:    | 183536                      |          | Units: | µg/L |
| Analyte                     | Result          | PQL | SPK value | SPK Ref Val    | %REC       | LowLimit | HighLimit | %RPD                        | RPDLimit | Qual   |      |
| Benzene                     | 19              | 1.0 | 20.00     | 0              | 97.2       | 66.8     | 128       |                             |          |        |      |
| Toluene                     | 19              | 1.0 | 20.00     | 0              | 95.7       | 70       | 130       |                             |          |        |      |
| Chlorobenzene               | 20              | 1.0 | 20.00     | 0              | 101        | 70       | 130       |                             |          |        |      |
| 1,1-Dichloroethene          | 21              | 1.0 | 20.00     | 0              | 104        | 70       | 130       |                             |          |        |      |
| Trichloroethene (TCE)       | 17              | 1.0 | 20.00     | 0.4600         | 82.0       | 70       | 130       |                             |          |        |      |
| Surr: 1,2-Dichloroethane-d4 | 9.6             |     | 10.00     |                | 96.3       | 70       | 130       |                             |          |        |      |
| Surr: 4-Bromofluorobenzene  | 8.9             |     | 10.00     |                | 88.5       | 70       | 130       |                             |          |        |      |
| Surr: Dibromofluoromethane  | 8.7             |     | 10.00     |                | 87.2       | 70       | 130       |                             |          |        |      |
| Surr: Toluene-d8            | 11              |     | 10.00     |                | 109        | 70       | 130       |                             |          |        |      |

|                             |                  |     |           |                |            |          |                                       |      |             |      |  |
|-----------------------------|------------------|-----|-----------|----------------|------------|----------|---------------------------------------|------|-------------|------|--|
| Sample ID                   | 1210860-003a msd |     |           | SampType:      | MSD        |          | TestCode: EPA Method 8260B: VOLATILES |      |             |      |  |
| Client ID:                  | EB101712         |     |           | Batch ID:      | R6386      |          | RunNo: 6386                           |      |             |      |  |
| Prep Date:                  |                  |     |           | Analysis Date: | 10/19/2012 |          | SeqNo: 183559                         |      | Units: µg/L |      |  |
| Analyte                     | Result           | PQL | SPK value | SPK Ref Val    | %REC       | LowLimit | HighLimit                             | %RPD | RPDLimit    | Qual |  |
| Benzene                     | 19               | 1.0 | 20.00     | 0              | 92.6       | 66.8     | 128                                   | 4.84 | 16.7        |      |  |
| Toluene                     | 18               | 1.0 | 20.00     | 0              | 91.3       | 70       | 130                                   | 4.75 | 18.7        |      |  |
| Chlorobenzene               | 19               | 1.0 | 20.00     | 0              | 95.3       | 70       | 130                                   | 5.49 | 19.5        |      |  |
| 1,1-Dichloroethene          | 19               | 1.0 | 20.00     | 0              | 93.4       | 70       | 130                                   | 10.5 | 16.7        |      |  |
| Trichloroethene (TCE)       | 16               | 1.0 | 20.00     | 0.4600         | 77.0       | 70       | 130                                   | 6.12 | 17.5        |      |  |
| Surr: 1,2-Dichloroethane-d4 | 9.4              |     | 10.00     |                | 93.8       | 70       | 130                                   | 0    | 0           |      |  |
| Surr: 4-Bromofluorobenzene  | 11               |     | 10.00     |                | 105        | 70       | 130                                   | 0    | 0           |      |  |
| Surr: Dibromofluoromethane  | 8.4              |     | 10.00     |                | 84.4       | 70       | 130                                   | 0    | 0           |      |  |
| Surr: Toluene-d8            | 11               |     | 10.00     |                | 106        | 70       | 130                                   | 0    | 0           |      |  |

### Qualifiers:

- |                                              |                                                      |
|----------------------------------------------|------------------------------------------------------|
| * Value exceeds Maximum Contaminant Level.   | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit               |
| P Sample pH greater than 2                   | R RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |            |      |                           |             |      |                                           |           |              |          |      |
|----------------------------|------------|------|---------------------------|-------------|------|-------------------------------------------|-----------|--------------|----------|------|
| Sample ID                  | Ics-4422   |      | SampType: LCS             |             |      | TestCode: EPA Method 8270C: Semivolatiles |           |              |          |      |
| Client ID:                 | LCSS       |      | Batch ID: 4422            |             |      | RunNo: 6445                               |           |              |          |      |
| Prep Date:                 | 10/19/2012 |      | Analysis Date: 10/23/2012 |             |      | SeqNo: 185414                             |           | Units: mg/Kg |          |      |
| Analyte                    | Result     | PQL  | SPK value                 | SPK Ref Val | %REC | LowLimit                                  | HighLimit | %RPD         | RPDLimit | Qual |
| Acenaphthene               | 1.2        | 0.20 | 1.670                     | 0           | 74.7 | 49.7                                      | 98.1      |              |          |      |
| 4-Chloro-3-methylphenol    | 2.6        | 0.50 | 3.330                     | 0           | 76.9 | 43.8                                      | 89.1      |              |          |      |
| 2-Chlorophenol             | 2.5        | 0.20 | 3.330                     | 0           | 75.3 | 41.1                                      | 96.9      |              |          |      |
| 1,4-Dichlorobenzene        | 1.3        | 0.20 | 1.670                     | 0           | 78.0 | 41                                        | 97.4      |              |          |      |
| 2,4-Dinitrotoluene         | 1.3        | 0.50 | 1.670                     | 0           | 79.3 | 44.4                                      | 104       |              |          |      |
| N-Nitrosodi-n-propylamine  | 1.4        | 0.20 | 1.670                     | 0           | 83.1 | 39.1                                      | 86.9      |              |          |      |
| 4-Nitrophenol              | 2.4        | 0.25 | 3.330                     | 0           | 73.5 | 44.2                                      | 107       |              |          |      |
| Pentachlorophenol          | 2.1        | 0.40 | 3.330                     | 0           | 61.6 | 36.2                                      | 80        |              |          |      |
| Phenol                     | 2.4        | 0.20 | 3.330                     | 0           | 72.5 | 42.7                                      | 92.7      |              |          |      |
| Pyrene                     | 1.3        | 0.20 | 1.670                     | 0           | 77.3 | 34.7                                      | 98.8      |              |          |      |
| 1,2,4-Trichlorobenzene     | 1.5        | 0.20 | 1.670                     | 0           | 91.6 | 37.8                                      | 98.3      |              |          |      |
| Surr: 2,4,6-Tribromophenol | 3.4        |      | 3.330                     |             | 103  | 21.3                                      | 145       |              |          |      |
| Surr: 2-Fluorobiphenyl     | 1.6        |      | 1.670                     |             | 95.5 | 20                                        | 131       |              |          |      |
| Surr: 2-Fluorophenol       | 2.8        |      | 3.330                     |             | 83.7 | 11.9                                      | 130       |              |          |      |
| Surr: 4-Terphenyl-d14      | 1.3        |      | 1.670                     |             | 79.6 | 25.1                                      | 149       |              |          |      |
| Surr: Nitrobenzene-d5      | 1.7        |      | 1.670                     |             | 99.9 | 25.6                                      | 137       |              |          |      |
| Surr: Phenol-d5            | 3.0        |      | 3.330                     |             | 89.0 | 20.3                                      | 132       |              |          |      |

|                             |            |      |                           |             |                                           |          |              |      |          |      |
|-----------------------------|------------|------|---------------------------|-------------|-------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                   | mb-4422    |      | SampType: MBLK            |             | TestCode: EPA Method 8270C: Semivolatiles |          |              |      |          |      |
| Client ID:                  | PBS        |      | Batch ID: 4422            |             | RunNo: 6445                               |          |              |      |          |      |
| Prep Date:                  | 10/19/2012 |      | Analysis Date: 10/23/2012 |             | SeqNo: 185416                             |          | Units: mg/Kg |      |          |      |
| Analyte                     | Result     | PQL  | SPK value                 | SPK Ref Val | %REC                                      | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Acenaphthene                | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Acenaphthylene              | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Aniline                     | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Anthracene                  | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Azobenzene                  | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Benz(a)anthracene           | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Benzo(a)pyrene              | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Benzo(b)fluoranthene        | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Benzo(g,h,i)perylene        | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Benzo(k)fluoranthene        | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Benzoic acid                | ND         | 0.50 |                           |             |                                           |          |              |      |          |      |
| Benzyl alcohol              | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Bis(2-chloroethoxy)methane  | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Bis(2-chloroethyl)ether     | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Bis(2-chloroisopropyl)ether | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND         | 0.50 |                           |             |                                           |          |              |      |          |      |
| 4-Bromophenyl phenyl ether  | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |
| Butyl benzyl phthalate      | ND         | 0.20 |                           |             |                                           |          |              |      |          |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
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- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |            |                |            |             |                                 |          |           |      |          |      |
|-----------------------------|------------|----------------|------------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | mb-4422    | SampType:      | MBLK       | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                  | PBS        | Batch ID:      | 4422       | RunNo:      | 6445                            |          |           |      |          |      |
| Prep Date:                  | 10/19/2012 | Analysis Date: | 10/23/2012 | SeqNo:      | 185416                          | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result     | PQL            | SPK value  | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Carbazole                   | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| 4-Chloroaniline             | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| 2-Chloronaphthalene         | ND         | 0.25           |            |             |                                 |          |           |      |          |      |
| 2-Chlorophenol              | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Chrysene                    | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Di-n-butyl phthalate        | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| Di-n-octyl phthalate        | ND         | 0.40           |            |             |                                 |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Dibenzofuran                | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND         | 0.25           |            |             |                                 |          |           |      |          |      |
| Diethyl phthalate           | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Dimethyl phthalate          | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 1-Dichlorophenol            | ND         | 0.40           |            |             |                                 |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND         | 0.30           |            |             |                                 |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND         | 0.40           |            |             |                                 |          |           |      |          |      |
| 2,4-Dinitrotoluene          | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| Fluoranthene                | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Fluorene                    | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Hexachlorobenzene           | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Hexachlorobutadiene         | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Hexachlorocyclopentadiene   | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Hexachloroethane            | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene      | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Isophorone                  | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| 1-Methylnaphthalene         | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 2-Methylnaphthalene         | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 2-Methylphenol              | ND         | 0.50           |            |             |                                 |          |           |      |          |      |
| 3+4-Methylphenol            | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| N-Nitrosodi-n-propylamine   | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| N-Nitrosodiphenylamine      | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| Naphthalene                 | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 2-Nitroaniline              | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 3-Nitroaniline              | ND         | 0.20           |            |             |                                 |          |           |      |          |      |
| 4-Nitroaniline              | ND         | 0.40           |            |             |                                 |          |           |      |          |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |                   |      |                |                   |      |           |                                        |      |                     |      |
|----------------------------|-------------------|------|----------------|-------------------|------|-----------|----------------------------------------|------|---------------------|------|
| Sample ID                  | <b>mb-4422</b>    |      | SampType:      | <b>MBLK</b>       |      | TestCode: | <b>EPA Method 8270C: Semivolatiles</b> |      |                     |      |
| Client ID:                 | <b>PBS</b>        |      | Batch ID:      | <b>4422</b>       |      | RunNo:    | <b>6445</b>                            |      |                     |      |
| Prep Date:                 | <b>10/19/2012</b> |      | Analysis Date: | <b>10/23/2012</b> |      | SeqNo:    | <b>185416</b>                          |      | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result            | PQL  | SPK value      | SPK Ref Val       | %REC | LowLimit  | HighLimit                              | %RPD | RPDLimit            | Qual |
| Nitrobenzene               | ND                | 0.50 |                |                   |      |           |                                        |      |                     |      |
| 2-Nitrophenol              | ND                | 0.20 |                |                   |      |           |                                        |      |                     |      |
| 4-Nitrophenol              | ND                | 0.25 |                |                   |      |           |                                        |      |                     |      |
| Pentachlorophenol          | ND                | 0.40 |                |                   |      |           |                                        |      |                     |      |
| Phenanthrene               | ND                | 0.20 |                |                   |      |           |                                        |      |                     |      |
| Phenol                     | ND                | 0.20 |                |                   |      |           |                                        |      |                     |      |
| Pyrene                     | ND                | 0.20 |                |                   |      |           |                                        |      |                     |      |
| Pyridine                   | ND                | 0.50 |                |                   |      |           |                                        |      |                     |      |
| 1,2,4-Trichlorobenzene     | ND                | 0.20 |                |                   |      |           |                                        |      |                     |      |
| 2,4,5-Trichlorophenol      | ND                | 0.20 |                |                   |      |           |                                        |      |                     |      |
| 2,4,6-Trichlorophenol      | ND                | 0.20 |                |                   |      |           |                                        |      |                     |      |
| Surr: 2,4,6-Tribromophenol | 3.9               |      | 3.330          |                   | 117  | 21.3      | 145                                    |      |                     |      |
| Surr: 2-Fluorobiphenyl     | 1.6               |      | 1.670          |                   | 98.4 | 20        | 131                                    |      |                     |      |
| Surr: 2-Fluorophenol       | 3.1               |      | 3.330          |                   | 91.6 | 11.9      | 130                                    |      |                     |      |
| Surr: 4-Terphenyl-d14      | 1.5               |      | 1.670          |                   | 91.7 | 25.1      | 149                                    |      |                     |      |
| Surr: Nitrobenzene-d5      | 1.8               |      | 1.670          |                   | 109  | 25.6      | 137                                    |      |                     |      |
| Surr: Phenol-d5            | 3.2               |      | 3.330          |                   | 96.3 | 20.3      | 132                                    |      |                     |      |

|                            |                       |      |                |                   |      |           |                                        |      |                     |      |
|----------------------------|-----------------------|------|----------------|-------------------|------|-----------|----------------------------------------|------|---------------------|------|
| Sample ID                  | <b>1210858-004Cms</b> |      | SampType:      | <b>MS</b>         |      | TestCode: | <b>EPA Method 8270C: Semivolatiles</b> |      |                     |      |
| Client ID:                 | <b>BatchQC</b>        |      | Batch ID:      | <b>4422</b>       |      | RunNo:    | <b>6445</b>                            |      |                     |      |
| Prep Date:                 | <b>10/19/2012</b>     |      | Analysis Date: | <b>10/23/2012</b> |      | SeqNo:    | <b>185433</b>                          |      | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result                | PQL  | SPK value      | SPK Ref Val       | %REC | LowLimit  | HighLimit                              | %RPD | RPDLimit            | Qual |
| Acenaphthene               | 1.2                   | 0.20 | 1.659          | 0                 | 69.3 | 25.6      | 142                                    |      |                     |      |
| 4-Chloro-3-methylphenol    | 2.2                   | 0.50 | 3.309          | 0                 | 67.6 | 63.7      | 100                                    |      |                     |      |
| 2-Chlorophenol             | 2.0                   | 0.20 | 3.309          | 0                 | 61.7 | 22.2      | 126                                    |      |                     |      |
| 1,4-Dichlorobenzene        | 1.1                   | 0.20 | 1.659          | 0                 | 63.6 | 12.4      | 115                                    |      |                     |      |
| 2,4-Dinitrotoluene         | 1.2                   | 0.50 | 1.659          | 0                 | 74.6 | 14.9      | 142                                    |      |                     |      |
| N-Nitrosodi-n-propylamine  | 1.1                   | 0.20 | 1.659          | 0                 | 65.9 | 13.9      | 136                                    |      |                     |      |
| 4-Nitrophenol              | 2.2                   | 0.25 | 3.309          | 0.09121           | 63.6 | 36.7      | 130                                    |      |                     |      |
| Pentachlorophenol          | 1.9                   | 0.40 | 3.309          | 0                 | 56.5 | 15.8      | 113                                    |      |                     |      |
| Phenol                     | 2.1                   | 0.20 | 3.309          | 0                 | 63.9 | 25.1      | 124                                    |      |                     |      |
| Pyrene                     | 1.1                   | 0.20 | 1.659          | 0                 | 68.6 | 35.8      | 124                                    |      |                     |      |
| 1,2,4-Trichlorobenzene     | 1.3                   | 0.20 | 1.659          | 0                 | 78.0 | 30        | 113                                    |      |                     |      |
| Surr: 2,4,6-Tribromophenol | 3.0                   |      | 3.309          |                   | 90.3 | 21.3      | 145                                    |      |                     |      |
| Surr: 2-Fluorobiphenyl     | 1.5                   |      | 1.659          |                   | 90.0 | 20        | 131                                    |      |                     |      |
| Surr: 2-Fluorophenol       | 2.5                   |      | 3.309          |                   | 74.2 | 11.9      | 130                                    |      |                     |      |
| Surr: 4-Terphenyl-d14      | 1.3                   |      | 1.659          |                   | 80.0 | 25.1      | 149                                    |      |                     |      |
| Surr: Nitrobenzene-d5      | 1.7                   |      | 1.659          |                   | 101  | 25.6      | 137                                    |      |                     |      |
| Surr: Phenol-d5            | 2.8                   |      | 3.309          |                   | 84.0 | 20.3      | 132                                    |      |                     |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |                 |                           |           |             |                                           |          |           |              |          |      |
|----------------------------|-----------------|---------------------------|-----------|-------------|-------------------------------------------|----------|-----------|--------------|----------|------|
| Sample ID                  | 1210858-004Cmsd | SampType: MSD             |           |             | TestCode: EPA Method 8270C: Semivolatiles |          |           |              |          |      |
| Client ID:                 | BatchQC         | Batch ID: 4422            |           |             | RunNo: 6445                               |          |           |              |          |      |
| Prep Date:                 | 10/19/2012      | Analysis Date: 10/23/2012 |           |             | SeqNo: 185434                             |          |           | Units: mg/Kg |          |      |
| Analyte                    | Result          | PQL                       | SPK value | SPK Ref Val | %REC                                      | LowLimit | HighLimit | %RPD         | RPDLimit | Qual |
| Acenaphthene               | 1.2             | 0.20                      | 1.681     | 0           | 71.3                                      | 25.6     | 142       | 4.05         | 22       |      |
| 4-Chloro-3-methylphenol    | 2.3             | 0.50                      | 3.351     | 0           | 69.5                                      | 63.7     | 100       | 4.10         | 27.3     |      |
| 2-Chlorophenol             | 2.3             | 0.20                      | 3.351     | 0           | 68.2                                      | 22.2     | 126       | 11.4         | 26.3     |      |
| 1,4-Dichlorobenzene        | 1.1             | 0.20                      | 1.681     | 0           | 63.4                                      | 12.4     | 115       | 1.02         | 27.4     |      |
| 2,4-Dinitrotoluene         | 1.3             | 0.50                      | 1.681     | 0           | 77.0                                      | 14.9     | 142       | 4.43         | 27.4     |      |
| N-Nitrosodi-n-propylamine  | 1.3             | 0.20                      | 1.681     | 0           | 75.9                                      | 13.9     | 136       | 15.3         | 22.6     |      |
| 4-Nitrophenol              | 2.3             | 0.25                      | 3.351     | 0.09121     | 64.9                                      | 36.7     | 130       | 3.21         | 20       |      |
| Pentachlorophenol          | 2.0             | 0.40                      | 3.351     | 0           | 59.9                                      | 15.8     | 113       | 7.18         | 27.1     |      |
| Phenol                     | 2.2             | 0.20                      | 3.351     | 0           | 66.5                                      | 25.1     | 124       | 5.18         | 32.2     |      |
| Pyrene                     | 1.2             | 0.20                      | 1.681     | 0           | 70.8                                      | 35.8     | 124       | 4.36         | 29.5     |      |
| 1,2,4-Trichlorobenzene     | 1.4             | 0.20                      | 1.681     | 0           | 80.5                                      | 30       | 113       | 4.34         | 27.8     |      |
| Surr: 2,4,6-Tribromophenol | 3.1             |                           | 3.351     |             | 93.6                                      | 21.3     | 145       | 0            | 0        |      |
| Surr: 2-Fluorobiphenyl     | 1.5             |                           | 1.681     |             | 91.0                                      | 20       | 131       | 0            | 0        |      |
| Surr: 2-Fluorophenol       | 2.5             |                           | 3.351     |             | 75.3                                      | 11.9     | 130       | 0            | 0        |      |
| Surr: 4-Terphenyl-d14      | 1.4             |                           | 1.681     |             | 81.4                                      | 25.1     | 149       | 0            | 0        |      |
| Surr: Nitrobenzene-d5      | 1.6             |                           | 1.681     |             | 96.9                                      | 25.6     | 137       | 0            | 0        |      |
| Surr: Phenol-d5            | 2.9             |                           | 3.351     |             | 85.9                                      | 20.3     | 132       | 0            | 0        |      |

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                             |            |                |            |             |                                 |          |           |      |          |      |
|-----------------------------|------------|----------------|------------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | mb-4411    | SampType:      | MBLK       | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                  | PBW        | Batch ID:      | 4411       | RunNo:      | 6416                            |          |           |      |          |      |
| Prep Date:                  | 10/19/2012 | Analysis Date: | 10/22/2012 | SeqNo:      | 184532                          | Units:   | µg/L      |      |          |      |
| Analyte                     | Result     | PQL            | SPK value  | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Acenaphthylene              | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Aniline                     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Anthracene                  | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Azobenzene                  | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Benz(a)anthracene           | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Benzo(a)pyrene              | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Benzoic acid                | ND         | 20             |            |             |                                 |          |           |      |          |      |
| Benzyl alcohol              | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 4-Bromophenyl phenyl ether  | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Butyl benzyl phthalate      | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Carbazole                   | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 4-Chloroaniline             | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2-Chloronaphthalene         | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2-Chlorophenol              | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Chrysene                    | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Di-n-butyl phthalate        | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Di-n-octyl phthalate        | ND         | 20             |            |             |                                 |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Dibenzofuran                | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Diethyl phthalate           | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Dimethyl phthalate          | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND         | 20             |            |             |                                 |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND         | 20             |            |             |                                 |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND         | 20             |            |             |                                 |          |           |      |          |      |
| 2,4-Dinitrotoluene          | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND         | 10             |            |             |                                 |          |           |      |          |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |            |                |            |             |                                 |          |           |      |          |      |
|----------------------------|------------|----------------|------------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID                  | mb-4411    | SampType:      | MBLK       | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID:                 | PBW        | Batch ID:      | 4411       | RunNo:      | 6416                            |          |           |      |          |      |
| Prep Date:                 | 10/19/2012 | Analysis Date: | 10/22/2012 | SeqNo:      | 184532                          | Units:   | µg/L      |      |          |      |
| Analyte                    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Fluoranthene               | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Fluorene                   | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Hexachlorobenzene          | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Hexachlorobutadiene        | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Hexachlorocyclopentadiene  | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Hexachloroethane           | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Indeno(1,2,3-cd)pyrene     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Isophorone                 | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 1-Methylnaphthalene        | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2-Methylnaphthalene        | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2-Methylphenol             | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 3+4-Methylphenol           | ND         | 10             |            |             |                                 |          |           |      |          |      |
| N-Nitrosodi-n-propylamine  | ND         | 10             |            |             |                                 |          |           |      |          |      |
| N-Nitrosodimethylamine     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| N-Nitrosodiphenylamine     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Naphthalene                | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2-Nitroaniline             | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 4-Nitroaniline             | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2-Nitrophenol              | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 4-Nitrophenol              | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Pentachlorophenol          | ND         | 20             |            |             |                                 |          |           |      |          |      |
| Phenanthrene               | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Phenol                     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Pyrene                     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Pyridine                   | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 1,2,4-Trichlorobenzene     | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2,4,5-Trichlorophenol      | ND         | 10             |            |             |                                 |          |           |      |          |      |
| 2,4,6-Trichlorophenol      | ND         | 10             |            |             |                                 |          |           |      |          |      |
| Surr: 2,4,6-Tribromophenol | 180        |                | 200.0      |             | 89.0                            | 42.9     | 124       |      |          |      |
| Surr: 2-Fluorobiphenyl     | 74         |                | 100.0      |             | 73.7                            | 40       | 108       |      |          |      |
| Surr: 2-Fluorophenol       | 130        |                | 200.0      |             | 63.3                            | 23.6     | 94.8      |      |          |      |
| Surr: 4-Terphenyl-d14      | 75         |                | 100.0      |             | 74.5                            | 41.9     | 103       |      |          |      |
| Surr: Nitrobenzene-d5      | 91         |                | 100.0      |             | 90.8                            | 42.6     | 114       |      |          |      |
| Surr: Phenol-d5            | 100        |                | 200.0      |             | 49.9                            | 20.3     | 74.7      |      |          |      |

### Qualifiers:

- |                                              |                                                      |
|----------------------------------------------|------------------------------------------------------|
| * Value exceeds Maximum Contaminant Level.   | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit               |
| P Sample pH greater than 2                   | R RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                            |            |     |                           |             |                                           |          |             |      |          |      |
|----------------------------|------------|-----|---------------------------|-------------|-------------------------------------------|----------|-------------|------|----------|------|
| Sample ID                  | Ics-4411   |     | SampType: LCS             |             | TestCode: EPA Method 8270C: Semivolatiles |          |             |      |          |      |
| Client ID:                 | LCSW       |     | Batch ID: 4411            |             | RunNo: 6416                               |          |             |      |          |      |
| Prep Date:                 | 10/19/2012 |     | Analysis Date: 10/22/2012 |             | SeqNo: 184533                             |          | Units: µg/L |      |          |      |
| Analyte                    | Result     | PQL | SPK value                 | SPK Ref Val | %REC                                      | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Acenaphthene               | 69         | 10  | 100.0                     | 0           | 69.3                                      | 43.3     | 92          |      |          |      |
| 4-Chloro-3-methylphenol    | 150        | 10  | 200.0                     | 0           | 72.7                                      | 46.3     | 108         |      |          |      |
| 2-Chlorophenol             | 130        | 10  | 200.0                     | 0           | 65.3                                      | 38       | 99.3        |      |          |      |
| 1,4-Dichlorobenzene        | 62         | 10  | 100.0                     | 0           | 61.6                                      | 30.8     | 80.6        |      |          |      |
| 2,4-Dinitrotoluene         | 73         | 10  | 100.0                     | 0           | 73.1                                      | 46.1     | 117         |      |          |      |
| N-Nitrosodi-n-propylamine  | 73         | 10  | 100.0                     | 0           | 73.0                                      | 39.3     | 110         |      |          |      |
| 4-Nitrophenol              | 80         | 10  | 200.0                     | 0           | 39.8                                      | 29.8     | 67          |      |          |      |
| Pentachlorophenol          | 110        | 20  | 200.0                     | 0           | 55.3                                      | 32.2     | 95.7        |      |          |      |
| Phenol                     | 78         | 10  | 200.0                     | 0           | 39.2                                      | 27       | 64.8        |      |          |      |
| Pyrene                     | 72         | 10  | 100.0                     | 0           | 71.5                                      | 44.7     | 97.3        |      |          |      |
| 1,2,4-Trichlorobenzene     | 73         | 10  | 100.0                     | 0           | 72.7                                      | 36.6     | 86.7        |      |          |      |
| Surr: 2,4,6-Tribromophenol | 170        |     | 200.0                     |             | 87.4                                      | 42.9     | 124         |      |          |      |
| Surr: 2-Fluorobiphenyl     | 81         |     | 100.0                     |             | 81.3                                      | 40       | 108         |      |          |      |
| Surr: 2-Fluorophenol       | 120        |     | 200.0                     |             | 60.0                                      | 23.6     | 94.8        |      |          |      |
| Surr: 4-Terphenyl-d14      | 74         |     | 100.0                     |             | 74.1                                      | 41.9     | 103         |      |          |      |
| Surr: Nitrobenzene-d5      | 85         |     | 100.0                     |             | 84.8                                      | 42.6     | 114         |      |          |      |
| Surr: Phenol-d5            | 100        |     | 200.0                     |             | 50.3                                      | 20.3     | 74.7        |      |          |      |

|                            |            |     |                           |             |                                           |          |             |      |          |      |
|----------------------------|------------|-----|---------------------------|-------------|-------------------------------------------|----------|-------------|------|----------|------|
| Sample ID                  | Icsd-4411  |     | SampType: LCSD            |             | TestCode: EPA Method 8270C: Semivolatiles |          |             |      |          |      |
| Client ID:                 | LCSS02     |     | Batch ID: 4411            |             | RunNo: 6416                               |          |             |      |          |      |
| Prep Date:                 | 10/19/2012 |     | Analysis Date: 10/22/2012 |             | SeqNo: 184535                             |          | Units: µg/L |      |          |      |
| Analyte                    | Result     | PQL | SPK value                 | SPK Ref Val | %REC                                      | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Acenaphthene               | 63         | 10  | 100.0                     | 0           | 62.5                                      | 43.3     | 92          | 10.3 | 25       |      |
| 4-Chloro-3-methylphenol    | 140        | 10  | 200.0                     | 0           | 67.6                                      | 46.3     | 108         | 7.30 | 32.7     |      |
| 2-Chlorophenol             | 120        | 10  | 200.0                     | 0           | 59.8                                      | 38       | 99.3        | 8.77 | 20       |      |
| 1,4-Dichlorobenzene        | 54         | 10  | 100.0                     | 0           | 53.8                                      | 30.8     | 80.6        | 13.6 | 20       |      |
| 2,4-Dinitrotoluene         | 70         | 10  | 100.0                     | 0           | 70.2                                      | 46.1     | 117         | 4.16 | 29.9     |      |
| N-Nitrosodi-n-propylamine  | 65         | 10  | 100.0                     | 0           | 64.8                                      | 39.3     | 110         | 11.9 | 23.1     |      |
| 4-Nitrophenol              | 75         | 10  | 200.0                     | 0           | 37.7                                      | 29.8     | 67          | 5.34 | 40.5     |      |
| Pentachlorophenol          | 110        | 20  | 200.0                     | 0           | 54.1                                      | 32.2     | 95.7        | 2.07 | 37.3     |      |
| Phenol                     | 68         | 10  | 200.0                     | 0           | 34.1                                      | 27       | 64.8        | 14.1 | 20       |      |
| Pyrene                     | 68         | 10  | 100.0                     | 0           | 67.9                                      | 44.7     | 97.3        | 5.13 | 26.5     |      |
| 1,2,4-Trichlorobenzene     | 67         | 10  | 100.0                     | 0           | 66.7                                      | 36.6     | 86.7        | 8.58 | 27.2     |      |
| Surr: 2,4,6-Tribromophenol | 170        |     | 200.0                     |             | 87.5                                      | 42.9     | 124         | 0    | 0        |      |
| Surr: 2-Fluorobiphenyl     | 72         |     | 100.0                     |             | 71.5                                      | 40       | 108         | 0    | 0        |      |
| Surr: 2-Fluorophenol       | 110        |     | 200.0                     |             | 53.9                                      | 23.6     | 94.8        | 0    | 0        |      |
| Surr: 4-Terphenyl-d14      | 72         |     | 100.0                     |             | 72.5                                      | 41.9     | 103         | 0    | 0        |      |
| Surr: Nitrobenzene-d5      | 77         |     | 100.0                     |             | 76.5                                      | 42.6     | 114         | 0    | 0        |      |
| Surr: Phenol-d5            | 90         |     | 200.0                     |             | 45.1                                      | 20.3     | 74.7        | 0    | 0        |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

**Hall Environmental Analysis Laboratory, Inc.**

WO#: 1210860

15-Nov-12

**Client:** Western Refining Southwest, Gallup

**Project:** SWMU NO.14

|            |                  |                |                  |             |                                 |          |              |      |          |      |
|------------|------------------|----------------|------------------|-------------|---------------------------------|----------|--------------|------|----------|------|
| Sample ID  | <b>MB-4629</b>   | SampType:      | <b>MBLK</b>      | TestCode:   | <b>EPA Method 7471: Mercury</b> |          |              |      |          |      |
| Client ID: | <b>PBS</b>       | Batch ID:      | <b>4629</b>      | RunNo:      | <b>6634</b>                     |          |              |      |          |      |
| Prep Date: | <b>11/1/2012</b> | Analysis Date: | <b>11/1/2012</b> | SeqNo:      | <b>191517</b>                   | Units:   | <b>mg/Kg</b> |      |          |      |
| Analyte    | Result           | PQL            | SPK value        | SPK Ref Val | %REC                            | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Mercury    | ND               | 0.033          |                  |             |                                 |          |              |      |          |      |

|            |                  |                |                  |             |                                 |          |              |      |          |      |
|------------|------------------|----------------|------------------|-------------|---------------------------------|----------|--------------|------|----------|------|
| Sample ID  | <b>LCS-4629</b>  | SampType:      | <b>LCS</b>       | TestCode:   | <b>EPA Method 7471: Mercury</b> |          |              |      |          |      |
| Client ID: | <b>LCSS</b>      | Batch ID:      | <b>4629</b>      | RunNo:      | <b>6634</b>                     |          |              |      |          |      |
| Prep Date: | <b>11/1/2012</b> | Analysis Date: | <b>11/1/2012</b> | SeqNo:      | <b>191518</b>                   | Units:   | <b>mg/Kg</b> |      |          |      |
| Analyte    | Result           | PQL            | SPK value        | SPK Ref Val | %REC                            | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Mercury    | 0.17             | 0.033          | 0.1667           | 0           | 101                             | 80       | 120          |      |          |      |

|            |                       |                |                  |             |                                 |          |              |      |          |      |
|------------|-----------------------|----------------|------------------|-------------|---------------------------------|----------|--------------|------|----------|------|
| Sample ID  | <b>1210859-003CMS</b> | SampType:      | <b>MS</b>        | TestCode:   | <b>EPA Method 7471: Mercury</b> |          |              |      |          |      |
| Client ID: | <b>BatchQC</b>        | Batch ID:      | <b>4629</b>      | RunNo:      | <b>6634</b>                     |          |              |      |          |      |
| Prep Date: | <b>11/1/2012</b>      | Analysis Date: | <b>11/1/2012</b> | SeqNo:      | <b>191520</b>                   | Units:   | <b>mg/Kg</b> |      |          |      |
| Analyte    | Result                | PQL            | SPK value        | SPK Ref Val | %REC                            | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Mercury    | 0.19                  | 0.033          | 0.1609           | 0.02890     | 103                             | 75       | 125          |      |          |      |

|            |                        |                |                  |             |                                 |          |              |      |          |      |
|------------|------------------------|----------------|------------------|-------------|---------------------------------|----------|--------------|------|----------|------|
| Sample ID  | <b>1210859-003CMSD</b> | SampType:      | <b>MSD</b>       | TestCode:   | <b>EPA Method 7471: Mercury</b> |          |              |      |          |      |
| Client ID: | <b>BatchQC</b>         | Batch ID:      | <b>4629</b>      | RunNo:      | <b>6634</b>                     |          |              |      |          |      |
| Prep Date: | <b>11/1/2012</b>       | Analysis Date: | <b>11/1/2012</b> | SeqNo:      | <b>191521</b>                   | Units:   | <b>mg/Kg</b> |      |          |      |
| Analyte    | Result                 | PQL            | SPK value        | SPK Ref Val | %REC                            | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Mercury    | 0.22                   | 0.033          | 0.1651           | 0.02890     | 113                             | 75       | 125          | 10.5 | 20       |      |

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |            |      |                |             |      |           |                               |      |              |      |  |
|------------|------------|------|----------------|-------------|------|-----------|-------------------------------|------|--------------|------|--|
| Sample ID  | MB-4440    |      | SampType:      | MBLK        |      | TestCode: | EPA Method 6010B: Soil Metals |      |              |      |  |
| Client ID: | PBS        |      | Batch ID:      | 4440        |      | RunNo:    | 6493                          |      |              |      |  |
| Prep Date: | 10/22/2012 |      | Analysis Date: | 10/25/2012  |      | SeqNo:    | 186820                        |      | Units: mg/Kg |      |  |
| Analyte    | Result     | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit     | Qual |  |
| Antimony   | ND         | 2.5  |                |             |      |           |                               |      |              |      |  |
| Arsenic    | ND         | 2.5  |                |             |      |           |                               |      |              |      |  |
| Barium     | ND         | 0.10 |                |             |      |           |                               |      |              |      |  |
| Beryllium  | ND         | 0.15 |                |             |      |           |                               |      |              |      |  |
| Cadmium    | ND         | 0.10 |                |             |      |           |                               |      |              |      |  |
| Chromium   | ND         | 0.30 |                |             |      |           |                               |      |              |      |  |
| Cobalt     | ND         | 0.30 |                |             |      |           |                               |      |              |      |  |
| Lead       | ND         | 0.25 |                |             |      |           |                               |      |              |      |  |
| Manganese  | ND         | 0.10 |                |             |      |           |                               |      |              |      |  |
| Nickel     | ND         | 0.50 |                |             |      |           |                               |      |              |      |  |
| Selenium   | ND         | 2.5  |                |             |      |           |                               |      |              |      |  |
| Silver     | 0.64       | 0.25 |                |             |      |           |                               |      |              |      |  |
| Vanadium   | ND         | 2.5  |                |             |      |           |                               |      |              |      |  |
| Zinc       | ND         | 2.5  |                |             |      |           |                               |      |              |      |  |

|            |            |      |                           |             |                                         |          |              |      |          |      |
|------------|------------|------|---------------------------|-------------|-----------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | LCS-4440   |      | SampType: LCS             |             | TestCode: EPA Method 6010B: Soil Metals |          |              |      |          |      |
| Client ID: | LCSS       |      | Batch ID: 4440            |             | RunNo: 6493                             |          |              |      |          |      |
| Prep Date: | 10/22/2012 |      | Analysis Date: 10/25/2012 |             | SeqNo: 186821                           |          | Units: mg/Kg |      |          |      |
| Analyte    | Result     | PQL  | SPK value                 | SPK Ref Val | %REC                                    | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Antimony   | 25         | 2.5  | 25.00                     | 0.6605      | 96.6                                    | 80       | 120          |      |          |      |
| Arsenic    | 25         | 2.5  | 25.00                     | 0           | 102                                     | 80       | 120          |      |          |      |
| Barium     | 25         | 0.10 | 25.00                     | 0           | 98.6                                    | 80       | 120          |      |          |      |
| Beryllium  | 26         | 0.15 | 25.00                     | 0           | 103                                     | 80       | 120          |      |          |      |
| Cadmium    | 25         | 0.10 | 25.00                     | 0           | 98.8                                    | 80       | 120          |      |          |      |
| Chromium   | 25         | 0.30 | 25.00                     | 0           | 99.0                                    | 80       | 120          |      |          |      |
| Cobalt     | 24         | 0.30 | 25.00                     | 0           | 95.6                                    | 80       | 120          |      |          |      |
| Lead       | 24         | 0.25 | 25.00                     | 0           | 96.6                                    | 80       | 120          |      |          |      |
| Manganese  | 24         | 0.10 | 25.00                     | 0.05400     | 96.6                                    | 80       | 120          |      |          |      |
| Nickel     | 24         | 0.50 | 25.00                     | 0           | 94.2                                    | 80       | 120          |      |          |      |
| Selenium   | 24         | 2.5  | 25.00                     | 0           | 94.1                                    | 80       | 120          |      |          |      |
| Silver     | 6.0        | 0.25 | 5.000                     | 0.6425      | 106                                     | 80       | 120          |      |          | B    |
| Vanadium   | 25         | 2.5  | 25.00                     | 0           | 102                                     | 80       | 120          |      |          |      |
| Zinc       | 24         | 2.5  | 25.00                     | 0           | 97.3                                    | 80       | 120          |      |          |      |

|            |                |      |           |                |            |          |           |                               |          |        |       |
|------------|----------------|------|-----------|----------------|------------|----------|-----------|-------------------------------|----------|--------|-------|
| Sample ID  | 1210771-001AMS |      |           | SampType:      | MS         |          | TestCode: | EPA Method 6010B: Soil Metals |          |        |       |
| Client ID: | BatchQC        |      |           | Batch ID:      | 4440       |          | RunNo:    | 6493                          |          |        |       |
| Prep Date: | 10/22/2012     |      |           | Analysis Date: | 10/25/2012 |          | SeqNo:    | 186845                        |          | Units: | mg/Kg |
| Analyte    | Result         | PQL  | SPK value | SPK Ref Val    | %REC       | LowLimit | HighLimit | %RPD                          | RPDLimit | Qual   |       |
| Arsenic    | 23             | 2.5  | 24.93     | 2.265          | 83.0       | 75       | 125       |                               |          |        |       |
| Cadmium    | 20             | 0.10 | 24.93     | 0.03505        | 80.0       | 75       | 125       |                               |          |        |       |

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# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |                |                |            |             |                               |          |           |      |          |      |   |
|------------|----------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|---|
| Sample ID  | 1210771-001AMS | SampType:      | MS         | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |   |
| Client ID: | BatchQC        | Batch ID:      | 4440       | RunNo:      | 6493                          |          |           |      |          |      |   |
| Prep Date: | 10/22/2012     | Analysis Date: | 10/25/2012 | SeqNo:      | 186845                        | Units:   | mg/Kg     |      |          |      |   |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |   |
| Chromium   | 25             | 0.30           | 24.93      | 3.270       | 86.6                          | 75       | 125       |      |          |      |   |
| Selenium   | 17             | 2.5            | 24.93      | 0           | 68.1                          | 75       | 125       |      |          |      | S |

|            |                 |                |            |             |                               |          |           |      |          |      |   |
|------------|-----------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|---|
| Sample ID  | 1210771-001AMSD | SampType:      | MSD        | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |   |
| Client ID: | BatchQC         | Batch ID:      | 4440       | RunNo:      | 6493                          |          |           |      |          |      |   |
| Prep Date: | 10/22/2012      | Analysis Date: | 10/25/2012 | SeqNo:      | 186849                        | Units:   | mg/Kg     |      |          |      |   |
| Analyte    | Result          | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |   |
| Arsenic    | 23              | 2.5            | 24.96      | 2.265       | 81.7                          | 75       | 125       | 1.34 | 20       |      |   |
| Cadmium    | 19              | 0.10           | 24.96      | 0.03505     | 77.2                          | 75       | 125       | 3.39 | 20       |      |   |
| Chromium   | 24              | 0.30           | 24.96      | 3.270       | 84.2                          | 75       | 125       | 2.39 | 20       |      |   |
| Selenium   | 15              | 2.5            | 24.96      | 0           | 61.4                          | 75       | 125       | 10.1 | 20       |      | S |

|            |            |                |            |             |                               |          |           |      |          |      |  |
|------------|------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|--|
| Sample ID  | MB-4440    | SampType:      | MBLK       | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |  |
| Client ID: | PBS        | Batch ID:      | 4440       | RunNo:      | 6546                          |          |           |      |          |      |  |
| Prep Date: | 10/22/2012 | Analysis Date: | 10/29/2012 | SeqNo:      | 188992                        | Units:   | mg/L      |      |          |      |  |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |  |
| Silver     | ND         | 0.25           |            |             |                               |          |           |      |          |      |  |

|            |            |                |            |             |                               |          |           |      |          |      |  |
|------------|------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|--|
| Sample ID  | LCS-4440   | SampType:      | LCS        | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |  |
| Client ID: | LCSS       | Batch ID:      | 4440       | RunNo:      | 6546                          |          |           |      |          |      |  |
| Prep Date: | 10/22/2012 | Analysis Date: | 10/29/2012 | SeqNo:      | 188993                        | Units:   | mg/L      |      |          |      |  |
| Analyte    | Result     | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |  |
| Silver     | 5.7        | 0.25           | 5.000      | 0           | 113                           | 80       | 120       |      |          |      |  |

|            |                |                |            |             |                               |          |           |      |          |      |  |
|------------|----------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|--|
| Sample ID  | 1210771-001AMS | SampType:      | MS         | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |  |
| Client ID: | BatchQC        | Batch ID:      | 4440       | RunNo:      | 6546                          |          |           |      |          |      |  |
| Prep Date: | 10/22/2012     | Analysis Date: | 10/29/2012 | SeqNo:      | 189043                        | Units:   | mg/Kg     |      |          |      |  |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |  |
| Silver     | 4.3            | 0.25           | 4.987      | 0           | 85.5                          | 75       | 125       |      |          |      |  |

|            |                 |                |            |             |                               |          |           |      |          |      |  |
|------------|-----------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|--|
| Sample ID  | 1210771-001AMSD | SampType:      | MSD        | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |  |
| Client ID: | BatchQC         | Batch ID:      | 4440       | RunNo:      | 6546                          |          |           |      |          |      |  |
| Prep Date: | 10/22/2012      | Analysis Date: | 10/29/2012 | SeqNo:      | 189044                        | Units:   | mg/Kg     |      |          |      |  |
| Analyte    | Result          | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |  |
| Silver     | 4.0             | 0.25           | 4.992      | 0           | 80.9                          | 75       | 125       | 5.39 | 20       |      |  |

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# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|            |            |                |           |             |                               |          |           |      |          |      |
|------------|------------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-4440    | SampType:      | MBLK      | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |
| Client ID: | PBS        | Batch ID:      | 4440      | RunNo:      | 6670                          |          |           |      |          |      |
| Prep Date: | 10/22/2012 | Analysis Date: | 11/2/2012 | SeqNo:      | 192431                        | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result     | PQL            | SPK value | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron       | ND         | 1.0            |           |             |                               |          |           |      |          |      |

|            |            |                |           |             |                               |          |           |      |          |      |
|------------|------------|----------------|-----------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-4440   | SampType:      | LCS       | TestCode:   | EPA Method 6010B: Soil Metals |          |           |      |          |      |
| Client ID: | LCSS       | Batch ID:      | 4440      | RunNo:      | 6670                          |          |           |      |          |      |
| Prep Date: | 10/22/2012 | Analysis Date: | 11/2/2012 | SeqNo:      | 192432                        | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result     | PQL            | SPK value | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Iron       | 27         | 1.0            | 25.00     | 0           | 109                           | 80       | 120       |      |          |      |

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Chall Environmental Analysis Laboratory, Inc.

WO#: 1210860

15-Nov-12

Client: Western Refining Southwest, Gallup

Project: SWMU NO.14

|                               |                                  |                                                            |           |                    |      |          |           |      |          |      |
|-------------------------------|----------------------------------|------------------------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Sample ID <b>b6</b>           | SampType: <b>MBLK</b>            | TestCode: <b>Modified EPA Method 8015B: Gasoline Range</b> |           |                    |      |          |           |      |          |      |
| Client ID: <b>PBW</b>         | Batch ID: <b>R6394</b>           | RunNo: <b>6394</b>                                         |           |                    |      |          |           |      |          |      |
| Prep Date:                    | Analysis Date: <b>10/20/2012</b> | SeqNo: <b>184074</b>                                       |           | Units: <b>mg/L</b> |      |          |           |      |          |      |
| Analyte                       | Result                           | PQL                                                        | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                               | 0.050                                                      |           |                    |      |          |           |      |          |      |
| Surr: BFB                     | 9.6                              |                                                            | 10.00     |                    | 95.8 | 70       | 130       |      |          |      |

|                                |                                  |                                                            |           |                    |      |          |           |      |          |      |
|--------------------------------|----------------------------------|------------------------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Sample ID <b>2.5ug gro lcs</b> | SampType: <b>LCS</b>             | TestCode: <b>Modified EPA Method 8015B: Gasoline Range</b> |           |                    |      |          |           |      |          |      |
| Client ID: <b>LCSW</b>         | Batch ID: <b>R6394</b>           | RunNo: <b>6394</b>                                         |           |                    |      |          |           |      |          |      |
| Prep Date:                     | Analysis Date: <b>10/19/2012</b> | SeqNo: <b>184077</b>                                       |           | Units: <b>mg/L</b> |      |          |           |      |          |      |
| Analyte                        | Result                           | PQL                                                        | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)  | 0.43                             | 0.050                                                      | 0.5000    | 0                  | 86.2 | 85       | 115       |      |          |      |
| Surr: BFB                      | 10                               |                                                            | 10.00     |                    | 99.9 | 70       | 130       |      |          |      |

|                                 |                                  |                                                            |           |                    |      |          |           |      |          |      |
|---------------------------------|----------------------------------|------------------------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Sample ID <b>1210660-001ams</b> | SampType: <b>MS</b>              | TestCode: <b>Modified EPA Method 8015B: Gasoline Range</b> |           |                    |      |          |           |      |          |      |
| Client ID: <b>BatchQC</b>       | Batch ID: <b>R6394</b>           | RunNo: <b>6394</b>                                         |           |                    |      |          |           |      |          |      |
| Prep Date:                      | Analysis Date: <b>10/20/2012</b> | SeqNo: <b>184078</b>                                       |           | Units: <b>mg/L</b> |      |          |           |      |          |      |
| Analyte                         | Result                           | PQL                                                        | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)   | 4.0                              | 0.25                                                       | 2.500     | 1.915              | 82.1 | 70       | 130       |      |          |      |
| Surr: BFB                       | 46                               |                                                            | 50.00     |                    | 91.6 | 70       | 130       |      |          |      |

|                                  |                                  |                                                            |           |                    |      |          |           |      |          |      |
|----------------------------------|----------------------------------|------------------------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Sample ID <b>1210660-001amsd</b> | SampType: <b>MSD</b>             | TestCode: <b>Modified EPA Method 8015B: Gasoline Range</b> |           |                    |      |          |           |      |          |      |
| Client ID: <b>BatchQC</b>        | Batch ID: <b>R6394</b>           | RunNo: <b>6394</b>                                         |           |                    |      |          |           |      |          |      |
| Prep Date:                       | Analysis Date: <b>10/20/2012</b> | SeqNo: <b>184079</b>                                       |           | Units: <b>mg/L</b> |      |          |           |      |          |      |
| Analyte                          | Result                           | PQL                                                        | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)    | 3.8                              | 0.25                                                       | 2.500     | 1.915              | 76.4 | 70       | 130       | 3.70 | 20       |      |
| Surr: BFB                        | 51                               |                                                            | 50.00     |                    | 102  | 70       | 130       | 0    | 0        |      |

|                               |                                  |                                                            |           |                    |      |          |           |      |          |      |
|-------------------------------|----------------------------------|------------------------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Sample ID <b>5ml rb</b>       | SampType: <b>MBLK</b>            | TestCode: <b>Modified EPA Method 8015B: Gasoline Range</b> |           |                    |      |          |           |      |          |      |
| Client ID: <b>PBW</b>         | Batch ID: <b>R6402</b>           | RunNo: <b>6402</b>                                         |           |                    |      |          |           |      |          |      |
| Prep Date:                    | Analysis Date: <b>10/21/2012</b> | SeqNo: <b>184122</b>                                       |           | Units: <b>mg/L</b> |      |          |           |      |          |      |
| Analyte                       | Result                           | PQL                                                        | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND                               | 0.050                                                      |           |                    |      |          |           |      |          |      |
| Surr: BFB                     | 9.5                              |                                                            | 10.00     |                    | 95.0 | 70       | 130       |      |          |      |

|                                |                                  |                                                            |           |                    |      |          |           |      |          |      |
|--------------------------------|----------------------------------|------------------------------------------------------------|-----------|--------------------|------|----------|-----------|------|----------|------|
| Sample ID <b>2.5ug gro lcs</b> | SampType: <b>LCS</b>             | TestCode: <b>Modified EPA Method 8015B: Gasoline Range</b> |           |                    |      |          |           |      |          |      |
| Client ID: <b>LCSW</b>         | Batch ID: <b>R6402</b>           | RunNo: <b>6402</b>                                         |           |                    |      |          |           |      |          |      |
| Prep Date:                     | Analysis Date: <b>10/21/2012</b> | SeqNo: <b>184125</b>                                       |           | Units: <b>mg/L</b> |      |          |           |      |          |      |
| Analyte                        | Result                           | PQL                                                        | SPK value | SPK Ref Val        | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO)  | 0.46                             | 0.050                                                      | 0.5000    | 0                  | 92.2 | 85       | 115       |      |          |      |
| Surr: BFB                      | 9.6                              |                                                            | 10.00     |                    | 95.9 | 70       | 130       |      |          |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits





Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87105  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1210860

Received by/date: AT 10/18/12

Logged By: Michelle Garcia 10/18/2012 8:00:00 AM

Michelle Garcia

Completed By: Michelle Garcia 10/18/2012 9:43:44 AM

Michelle Garcia

Reviewed By: [Signature] 10/18/12

### Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒  
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐  
3. How was the sample delivered? Client

### Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐  
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
6. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
7. Sample(s) in proper container(s)? Yes ☒ No ☐  
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐  
12. Were any sample containers received broken? Yes ☐ No ☒  
13. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
15. Is it clear what analyses were requested? Yes ☒ No ☐  
16. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

<2 or >12 Unless noted)

Adjusted? [Signature]

Checked by: [Signature]

### Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

|                      |  |       |                                                                                                                               |
|----------------------|--|-------|-------------------------------------------------------------------------------------------------------------------------------|
| Person Notified:     |  | Date: |                                                                                                                               |
| By Whom:             |  | Via:  | <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person |
| Regarding:           |  |       |                                                                                                                               |
| Client Instructions: |  |       |                                                                                                                               |

18. Additional remarks:

### 19. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 1.0     | Good      | Not Present |         |           |           |





## **APPENDIX G**

---

### **Summary of EPA/NMED/RCRA Activity**

## 2012 Major Refinery Activities and Events

|           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| February  | The WQCC Discharge Permit for GW-32 (Gallup Refinery) was rescinded by OCD.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| April     | The connection of the storm water management system to the new Waste Water Treatment System and commission and startup of the DGF and MPPE units took place on April 29.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| August    | The annual groundwater sampling was conducted.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| September | NMED HWB/EPA conducted a Compliance Evaluation Inspection on September 11-12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Sept/Oct  | <p>A major refinery turnaround (TA) took place. Major upgrades were conducted on the electrical system and the flare system. The electrical distribution system upgrade and load capacity expansion will provide immediate and long term project needs and condition monitoring. This upgrade adds reliability features critical to assuring uninterrupted electrical power to the refinery. The top of the stripper tower in the DHT unit was replaced.</p> <p>This TA was unique in that there were almost as many technical improvements as repair items which included an electrostatic precipitator and a new CO boiler which lowered particulate, NOx and CO emissions off the FCC. The trays in the majority of the distillation towers were upgraded, installed a new section on the crude heater (CH-2), upgraded desalters and modified the catalyst system in the FCC Unit.</p> |
| Year 2012 | Two new bio-diesel tanks were constructed which have not been placed into service yet.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## **APPENDIX H**

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### **Summary of Leaks, Spills, and Releases**

## SPILL SUMMARY REPORT – 2012

---

- 4/12/12      An estimated 17 barrels of oily waste water overflowed at the NAPIS due to mechanical malfunction. The flapper in the check valve came loose causing the benzene pump to fail causing the waste water to overflow. A vacuum truck was dispatched to vacuum up standing water and a portable pump was installed to also pump out water into the sewer system. All water was removed and remediation procedures started on the contaminated soil. Spill was reported to appropriate agencies and Form C-141 was filed.
- 8/10/12      In the NHT unit, a pump (H-P3D) seal malfunctioned discharging naphtha which caused a small fire to ignite. Western's Emergency Response Team was dispatched to extinguish the fire. It is estimated that 10 barrels of naphtha was consumed in the fire and contained on a concrete slab which drains into the waste water sewer system. Spill and fire was reported to appropriate agencies and Form C-141 was also filed.
- 8/16/12      At the API area, the flare tip ignited due to a high level in the hydrocarbon blowdown drum located in the operation unit and also a high level in the hydrocarbon knockout drum located at the API area. Approximately 6 to 12 barrels of liquid hydrocarbon was consumed in the fire. Western's Emergency Response Team was dispatched to extinguish the fire. Fire and spill was reported to appropriate agencies and Form C-141 was filed.
- 9/12/12      In the SATS unit approximately 6 to 7 barrels of diluted liquid KOH was sprayed onto the ground and equipment when the hose used to depressure the tower malfunctioned. The hose was draining into a sewer cup when the hose malfunctioned, spraying KOH liquid into the concrete containment and onto the ground creating a vapor cloud. Some personnel were exposed to the vapor cloud and were immediately dispatched to the local hospital. Area affected was sprayed down with water and drained into the sewer system. The remaining liquid KOH was removed via vacuum truck and soil was removed. Spill and release was reported to appropriate agencies and Form C-141 was filed.
- 9/23/12      At the API area, the benzene strippers overflowed through the fans and vent stack. Approximately 80 barrels of liquid is estimated to have been released to the containment area as well as to the ground surface. Standing water was vacuumed up and soil samples collected. Area was cleaned up. Appropriate agencies were notified and a Follow up to the Final C-141 report was filed.
- 11/10/12      Evaporation Pond 1 overflowed on the northwest corner into evaporation pond 2. Approximately 40 barrels of pond water is estimated to have overflowed from pond 1. Form C-141 was filed and appropriate agencies notified.

Attached are copies of all the Form C-141 filed for 2012.

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

## Release Notification and Corrective Action

### OPERATOR

☒ Initial Report ☒ Final Report

|                                             |                                   |
|---------------------------------------------|-----------------------------------|
| Name of Company: Western Refining           | Contact: Beck Larsen              |
| Address I-40 / Exit 39, Jamestown, NM 87347 | Telephone No: (505) 722-0258      |
| Facility Name: Western Refining (Gallup)    | Facility Type: Petroleum Refinery |
| Surface Owner:                              | Mineral Owner:                    |
| Lease No.                                   |                                   |

### LOCATION OF RELEASE

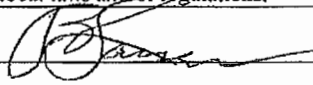
|             |               |                  |               |               |                  |               |                |                    |
|-------------|---------------|------------------|---------------|---------------|------------------|---------------|----------------|--------------------|
| Unit Letter | Section<br>28 | Township<br>15 N | Range<br>15 W | Feet from the | North/South Line | Feet from the | East/West Line | County<br>McKinley |
|-------------|---------------|------------------|---------------|---------------|------------------|---------------|----------------|--------------------|

Latitude 35° 29' 022" Longitude 108° 24' 024"

### NATURE OF RELEASE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                    |                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Type of Release API Wastewater                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Volume of Release ~17 bbls (est 715 gal) (oily water w/slight sheen)                                                                                                                                                                               | Volume Recovered ~17 bbls (est 715 gal) (oily wastewaterw/ slight sheen) |
| Source of Release:<br>API Overflow                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Date and Hour of Occurrence<br>4/12/2012; 1330 hrs (1:30 PM)                                                                                                                                                                                       | Date and Hour of Discovery<br>10/02/2011; 1540 hrs (3:40 PM)             |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | If YES, To Whom?<br>Ruth Horowitz, NMED HWB (Msg @ 4/13/2012, 12:25 hrs)<br>Kristen Van Horn, NMED HWB (Msg @4/13/2012, 12:28 hrs)<br>Brandon Powell, NMED HWB (telephone @4/13/2012, 12:34 hrs)<br>Carl J Chavez, OCD (Msg @4/13/2012, 12:38 hrs) |                                                                          |
| y Whom? Beck Larsen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Date and Hour<br>NMED (HWB, (Msgs 4/13/2012 @ 1225; 1228 hrs)<br>OCD (telephone 4/13/2012 @ 12:34 hrs; Msg 4/13/2012 @ 12:28 hrs)                                                                                                                  |                                                                          |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | If YES, Volume Impacting the Watercourse.<br>N/A                                                                                                                                                                                                   |                                                                          |
| If a Watercourse was Impacted, Describe Fully.* N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                    |                                                                          |
| Describe Cause of Problem and Remedial Action Taken.* At the time, the new API was operating properly with no issues. At 1:30PM on 4/12/2012, the flapper came off the check valve causing the benzene pump to fail. The pump failure cause the API to back up where the flow out of the API (Q~0 gpm) was much less than the flow in (Qmax=500 gpm). API Wastewater overflowed from the API spouts on each bay onto the ground.                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                    |                                                                          |
| Describe Area Affected and Cleanup Action Taken.* Immediately after the flapper came off of the check valve causing the benzene pump to fail causing the API to overflow, a second pump was put online. It was estimated that about 17 bbls of oily wastewater overflowed from the new API area to the ground to several depression areas near the API. The onsite vacuum truck was immediately dispatched to cleanup the oily wastewater. All wastewater was removed by about 17:00 hrs (4/12/2012). The wastewater only had an oily sheen with no measurable quantity on oil in the wastewater. Remediation is in progress near the new API and affected areas in order to cleanup the contaminate soil.                                                                                                                     |                                                                                                                                                                                                                                                    |                                                                          |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. |                                                                                                                                                                                                                                                    |                                                                          |

### OIL CONSERVATION DIVISION

|                                                                                                |                                   |                  |
|------------------------------------------------------------------------------------------------|-----------------------------------|------------------|
| Signature:  | Approved by District Supervisor:  |                  |
| Printed Name: Beck Larsen                                                                      | Approval Date:                    | Expiration Date: |
| Title: Environmental Engineer                                                                  | Conditions of Approval:           |                  |
| Mail Address: Thurman.larsen@wnr.com                                                           | Attached <input type="checkbox"/> |                  |
| Date: 4/16/2012                                                                                | Phone: (505) 722-0258             |                  |

\* Attach Additional Sheets If Necessary



District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
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District IV  
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State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
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Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☒ Final Report

|                                              |                                   |           |
|----------------------------------------------|-----------------------------------|-----------|
| Name of Company: Western Refining            | Contact: Ed Riege                 |           |
| Address: I-40 / Exit 39, Jamestown, NM 87347 | Telephone No.: (505) 722-0217     |           |
| Facility Name: Western Refining (Gallup)     | Facility Type: Petroleum Refinery |           |
| Surface Owner                                | Mineral Owner                     | Lease No. |

#### LOCATION OF RELEASE

|             |               |                 |              |               |                  |               |                |                    |
|-------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|
| Unit Letter | Section<br>28 | Township<br>15N | Range<br>15W | Feet from the | North/South Line | Feet from the | East/West Line | County<br>McKinley |
|-------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|

Latitude 35°29'22" Longitude 108°24'24"

#### NATURE OF RELEASE

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                     |                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------|
| Type of Release Naphtha (consumed in fire)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Volume of Release ~ 10 bbls                         | Volume Recovered N/A                               |
| Source of Release NHT Reboiler Circulating Pump (H-P3D)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Date and Hour of Occurrence<br>8/10/2012 @ 2010 hrs | Date and Hour of Discovery<br>8/10/2012 @ 2010 hrs |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | If YES, To Whom? OCD- Carl Chavez                   |                                                    |
| By Whom? Ed Riege within 24 hours of fire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Date and Hour 08/11/12; 1724 hrs                    |                                                    |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | If YES, Volume Impacting the Watercourse.<br>N/A    |                                                    |
| If a Watercourse was Impacted, Describe Fully.*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                     |                                                    |
| Describe Cause of Problem and Remedial Action Taken.* A seal blew out on the west NHT Reboiler Circulating Pump (H-P3D) discharging naphtha from pump casing causing a small fire to ignite. Western Emergency Response Team (ERT) was dispatched to the scene to extinguish fire. Fire water was used to extinguish all flames. It was estimated that approximately 10 bbls of Naphtha was consumed in the fire. Any fire water or naphtha was collected on a concrete slab that drains to the Wastewater Treatment System.                                                                                                                                                                                                                                                                                                   |                                                     |                                                    |
| Describe Area Affected and Cleanup Action Taken.* Any contaminants (Naphtha and fire water) were collected and contained in the NHT area via a concrete containment. All contaminants were drained from the containment area are via a sump draining to the Wastewater Treatment System.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                     |                                                    |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. |                                                     |                                                    |

#### OIL CONSERVATION DIVISION

|                                  |                                   |                  |
|----------------------------------|-----------------------------------|------------------|
| Signature:                       | Approved by District Supervisor:  |                  |
| Printed Name: Ed Riege           | Approval Date:                    | Expiration Date: |
| Title: Environmental Manager     | Conditions of Approval:           |                  |
| E-mail Address: ed.riege@wnr.com | Attached <input type="checkbox"/> |                  |
| Date: 8/13/2012                  | Phone: (505) 722-0217             |                  |

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☒ Final Report

|                                              |                                   |           |
|----------------------------------------------|-----------------------------------|-----------|
| Name of Company: Western Refining            | Contact: Ed Riege                 |           |
| Address: I-40 / Exit 39, Jamestown, NM 87347 | Telephone No.: (505) 722-0217     |           |
| Facility Name: Western Refining (Gallup)     | Facility Type: Petroleum Refinery |           |
| Surface Owner                                | Mineral Owner                     | Lease No. |

#### LOCATION OF RELEASE

|             |               |                 |              |               |                  |               |                |                    |
|-------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|
| Unit Letter | Section<br>28 | Township<br>15N | Range<br>15W | Feet from the | North/South Line | Feet from the | East/West Line | County<br>McKinley |
|-------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|

Latitude 35°29'22" Longitude 108°24'24"

#### NATURE OF RELEASE

|                                                                                                                                          |                                                                           |                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------|
| Type of Release Naphtha (consumed in fire)                                                                                               | Volume of Release 6-12 bbls (est liquid volume consumed in fire)          | Volume Recovered N/A                               |
| Source of Release Hydrocarbon Blowdown Tank/Flare Fire                                                                                   | Date and Hour of Occurrence<br>8/16/2012 @ 1023hrs                        | Date and Hour of Discovery<br>8/16/2012 @ 1038 hrs |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom? OCD- Carl Chavez/Brandon Powell; NMED-Kathy Palmer (msg) |                                                    |
| By Whom? Beck Larsen within 1 hours of fire                                                                                              | Date and Hour 08/16/12; 1120 hrs; 1157                                    |                                                    |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                        | If YES, Volume Impacting the Watercourse.<br>N/A                          |                                                    |

a. Watercourse was Impacted, Describe Fully.\*

N/A

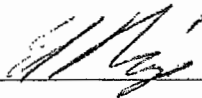
Describe Cause of Problem and Remedial Action Taken.\* Incident was due to a high level in the Hydrocarbon Blowdown drum (Operation) and to a high level in the Hydrocarbon Knockout drum at the flare (API Area). Liquid hydrocarbon came out of the flare tip and ignited. The on-site Fire Department and Emergency Response Team (ERT) was dispatched immediately.

Describe Area Affected and Cleanup Action Taken.\* The on-site Fire Department used their Pumper Trucks to extinguish the flames.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

#### OIL CONSERVATION DIVISION

Signature:



Printed Name: Ed Riege

Approved by District Supervisor:

Title: Environmental Manager

Approval Date:

Expiration Date:

E-mail Address: ed.riege@wnr.com

Conditions of Approval:

Attached ☐

Date: 8/28/2012

Phone: (505) 722-0217

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
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Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☒ Final Report

|                                              |                                   |
|----------------------------------------------|-----------------------------------|
| Name of Company: Western Refining            | Contact: Beck Larsen              |
| Address: I-40 / Exit 39, Jamestown, NM 87347 | Telephone No.: (505) 722-0258     |
| Facility Name: Western Refining (Gallup)     | Facility Type: Petroleum Refinery |

|               |               |           |
|---------------|---------------|-----------|
| Surface Owner | Mineral Owner | Lease No. |
|---------------|---------------|-----------|

#### LOCATION OF RELEASE

|             |               |                 |              |               |                  |               |                |                    |
|-------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|
| Unit Letter | Section<br>28 | Township<br>15N | Range<br>15W | Feet from the | North/South Line | Feet from the | East/West Line | County<br>McKinley |
|-------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|

Latitude 35°29'22" Longitude 108°24'24"

#### NATURE OF RELEASE

|                                                                                                                                          |                                                         |                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------|
| Type of Release Potassium Hydroxide (KOH) (20% Diluted Solution)                                                                         | Volume of Release ~280 gal<br>(~555 lbs KOH)(~6-7 bbls) | Volume Recovered Unknown                           |
| Source of Release Hose used for Washing KOH from KOH Tower                                                                               | Date and Hour of Occurrence<br>9/12/2012 @ 1530 hrs     | Date and Hour of Discovery<br>9/12/2012 @ 1530 hrs |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom? N/A                                    |                                                    |
| By Whom? N/A                                                                                                                             | Date and Hour N/A                                       |                                                    |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                        | If YES, Volume Impacting the Watercourse.<br>N/A        |                                                    |

\* a Watercourse was Impacted, Describe Fully.\*

/A

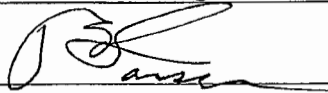
Describe Cause of Problem and Remedial Action Taken.\* Note that the KOH solution was in a diluted form of < 20% by weight (estimated). The incident occurred when a 1 inch hose that was being used to wash out the KOH Tower, blew out of the sewer cup due to an ice plug that formed at the end of the hose. The hose whipped around for a few seconds before the valve was shut off causing a small vapor cloud to be released in the Treater and Gas Con areas. The wind at the time was blowing from a north-north-east direction. There were several persons downwind of the vapor cloud that were exposed to fumes from the KOH vapors. The KOH spray was primarily on the concrete slab with some that came in contact with the ground.

Describe Area Affected and Cleanup Action Taken.\* The KOH spray was primarily on the concrete slab; however, some KOH solution did get on the ground. It was estimated that an area of 5 ft by 10 ft section (50 sq ft) of soil was affected. The KOH that was on the slab was either removed via vacuum truck or washed to the process sewer. Samples were collected and submitted to an Environmental Laboratory for TCLP analysis. A Work Order has been written and contaminated soil has been removed for disposal at an approved disposal facility in accordance with all applicable regulations.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

#### OIL CONSERVATION DIVISION

Signature:



Printed Name: Beck Larsen

Approved by District Supervisor:

Title: Environmental Engineer

Approval Date:

Expiration Date:

E-mail Address: thurman.larsen@wnr.com

Conditions of Approval:

Attached ☐

Date: 9/14/2012

Phone: (505) 722-0258

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

Follow Up to

### OPERATOR

☐ Initial Report ☒ Final Report

|                                             |                              |
|---------------------------------------------|------------------------------|
| Name of Company: Western Refining Southwest | Contact: Cheryl Johnson      |
| Address: I-40 Exit 39, Jamestown, NM 87347  | Telephone No. (505) 722-3833 |
| Facility Name: Gallup Refinery              | Facility Type: Oil Refinery  |

|                                 |                                 |         |
|---------------------------------|---------------------------------|---------|
| Surface Owner: Western Refining | Mineral Owner: Western Refining | API No. |
|---------------------------------|---------------------------------|---------|

### LOCATION OF RELEASE

|             |                    |                 |              |               |                  |               |                |                    |
|-------------|--------------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|
| Unit Letter | Section<br>23 & 33 | Township<br>15N | Range<br>15W | Feet from the | North/South Line | Feet from the | East/West Line | County<br>McKinley |
|-------------|--------------------|-----------------|--------------|---------------|------------------|---------------|----------------|--------------------|

Latitude: 35°29'22" Longitude 108°25'24"

### NATURE OF RELEASE

|                                                                                                                                          |                                                                                        |                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------|
| Type of Release: Spill                                                                                                                   | Volume of Release: < 80 BBL                                                            | Volume Recovered: 4000 gals                       |
| Source of Release: Benzene Strippers (Z-84-V5 & Z-84-V4)                                                                                 | Date and Hour of Occurrence:<br>9-23-12, 0400 hours                                    | Date and Hour of Discovery<br>9-23-12, 0400 hours |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br>Carl Chavez, NMED OCD, District 3 Supervisor, Kristen Van Horn HWB |                                                   |
| By Whom? Cheryl Johnson and Ed Riege                                                                                                     | Date and Hour: 9/23/12: 1330 hours                                                     |                                                   |
| Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                           | If YES, Volume Impacting the Watercourse.                                              |                                                   |

Watercourse was Impacted, Describe Fully.\* Not Applicable

Describe Cause of Problem and Remedial Action Taken.\*☐ On 9-23-12 at approximately 0400 hours, the benzene strippers were discovered to be overflowing through the fans and out the vent stack. Due to increased flow and foaming issues, the benzene strippers backed up causing the overflow through the fans and the vent stack. The overflow went into the concrete pad and overflowed onto the ground on all four sides of the concrete containment berm and also a portion into aeration lagoon 1. Operator decreased flow to the benzene strippers and maintenance department was called out immediately to begin vacuum and clean up procedures.

Describe Area Affected and Cleanup Action Taken.\*

On the northeast side of the benzene stripper pad, waste water overflowed out of the concrete containment berm onto the ground in an area estimated to be 10 x 30 feet section was saturated and had standing water. On the west side of the concrete containment berm, an area approximately 10 x 10 feet section was also saturated with water. On the south side of the concrete berm there was also a small puddle of water. On the north side of the concrete containment berm, waste water overflowed onto the ground and flowed into aeration lagoon 1 (amount unknown). All 5 aerators were on-line in both lagoons 1 and lagoon 2. Upon discovery of the overflow maintenance department was called immediately to begin vacuuming up the overflow via vacuum truck in all areas affected. A trash pump was also in service pumping out the containment area. As of 1230 hours, all the standing water had been vacuumed up by the vacuum truck. On 9-24-12 soil samples were collected from spill site and the contaminated soil will be excavated and disposed of in accordance with applicable rules and regulations.

11-28-12: Area affected was cleaned up around the benzene strippers. Approximately 25 cubic yards of stained soil was removed and placed in a roll-off for disposal offsite. A copy of the lab analysis and pictures of the clean up are also attached to this follow up report as Attachment A.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOC rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOC marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOC acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

### OIL CONSERVATION DIVISION

|                                    |                                       |                                   |
|------------------------------------|---------------------------------------|-----------------------------------|
| Signature:                         | Approved by Environmental Specialist: |                                   |
| Printed Name: Ed Riege             |                                       |                                   |
| Signature: Environmental Manager   | Approval Date:                        | Expiration Date:                  |
| E-mail Address: ed.riege@wnr.com   | Conditions of Approval:               | Attached <input type="checkbox"/> |
| Date: 11-28-12 Phone: 505-722-0217 |                                       |                                   |

\* Attach Additional Sheets If Necessary



ATTACHMENT A



East side of the benzene strippers



North-east side of the benzene strippers



West side of the benzene strippers



East side of the benzene strippers



*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

December 20, 2012

Cheryl Johnson

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-0231

FAX (505) 722-0210

RE: BZ Strip Soil Confirmation

OrderNo.: 1212159

Dear Cheryl Johnson:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/3/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1212159

Date Reported: 12/20/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** BZ Strip-Soil Confirmation

**Project:** BZ Strip Soil Confirmation

**Collection Date:** 11/30/2012 12:50:00 PM

**Lab ID:** 1212159-001

**Matrix:** SOIL

**Received Date:** 12/3/2012 1:20:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF | Date Analyzed          |
|------------------------------------------------|--------|----------|------|-------|----|------------------------|
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: <b>MMD</b>    |
| Diesel Range Organics (DRO)                    | 830    | 200      |      | mg/Kg | 20 | 12/6/2012 11:40:03 AM  |
| Surr: DNOP                                     | 0      | 72.4-120 | S    | %REC  | 20 | 12/6/2012 11:40:03 AM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |    | Analyst: <b>NSB</b>    |
| Gasoline Range Organics (GRO)                  | ND     | 4.8      |      | mg/Kg | 1  | 12/6/2012 1:48:10 PM   |
| Surr: BFB                                      | 94.0   | 84-116   |      | %REC  | 1  | 12/6/2012 1:48:10 PM   |
| <b>EPA METHOD 8021B: VOLATILES</b>             |        |          |      |       |    | Analyst: <b>NSB</b>    |
| Benzene                                        | ND     | 0.048    |      | mg/Kg | 1  | 12/6/2012 1:48:10 PM   |
| Toluene                                        | ND     | 0.048    |      | mg/Kg | 1  | 12/6/2012 1:48:10 PM   |
| Ethylbenzene                                   | ND     | 0.048    |      | mg/Kg | 1  | 12/6/2012 1:48:10 PM   |
| Xylenes, Total                                 | ND     | 0.095    |      | mg/Kg | 1  | 12/6/2012 1:48:10 PM   |
| Surr: 4-Bromofluorobenzene                     | 95.4   | 80-120   |      | %REC  | 1  | 12/6/2012 1:48:10 PM   |
| <b>MERCURY, TCLP</b>                           |        |          |      |       |    | Analyst: <b>TMG</b>    |
| Mercury                                        | ND     | 0.020    |      | mg/L  | 1  | 12/13/2012 3:39:35 PM  |
| <b>EPA METHOD 6010B: TCLP METALS</b>           |        |          |      |       |    | Analyst: <b>ELS</b>    |
| Arsenic                                        | ND     | 5.0      |      | mg/L  | 1  | 12/10/2012 10:19:34 AM |
| Barium                                         | ND     | 100      |      | mg/L  | 1  | 12/10/2012 10:19:34 AM |
| Cadmium                                        | ND     | 1.0      |      | mg/L  | 1  | 12/10/2012 10:19:34 AM |
| Chromium                                       | ND     | 5.0      |      | mg/L  | 1  | 12/10/2012 10:19:34 AM |
| Lead                                           | ND     | 5.0      |      | mg/L  | 1  | 12/10/2012 10:19:34 AM |
| Selenium                                       | ND     | 1.0      |      | mg/L  | 1  | 12/10/2012 10:19:34 AM |
| Silver                                         | ND     | 5.0      |      | mg/L  | 1  | 12/10/2012 10:19:34 AM |
| <b>VOLATILES BY 8260B/1311</b>                 |        |          |      |       |    | Analyst: <b>RAA</b>    |
| Benzene                                        | ND     | 0.50     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| 2-Butanone                                     | ND     | 10       |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Carbon Tetrachloride                           | ND     | 0.50     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Chlorobenzene                                  | ND     | 100      |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Chloroform                                     | ND     | 6.0      |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| 1,4-Dichlorobenzene                            | ND     | 7.5      |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| 1,2-Dichloroethane (EDC)                       | ND     | 0.50     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| 1,1-Dichloroethene                             | ND     | 0.70     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Hexachlorobutadiene                            | ND     | 0.50     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Tetrachloroethene (PCE)                        | ND     | 0.70     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Trichloroethene (TCE)                          | ND     | 0.50     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Vinyl chloride                                 | ND     | 0.20     |      | mg/L  | 1  | 12/14/2012 5:48:57 AM  |
| Surr: 1,2-Dichloroethane-d4                    | 89.4   | 69.9-130 |      | %REC  | 1  | 12/14/2012 5:48:57 AM  |
| Surr: 4-Bromofluorobenzene                     | 102    | 71.2-123 |      | %REC  | 1  | 12/14/2012 5:48:57 AM  |
| Surr: Dibromofluoromethane                     | 85.9   | 73.9-134 |      | %REC  | 1  | 12/14/2012 5:48:57 AM  |
| Surr: Toluene-d8                               | 96.0   | 81.9-122 |      | %REC  | 1  | 12/14/2012 5:48:57 AM  |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email [moscow@anateklabs.com](mailto:moscow@anateklabs.com)  
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email [spokane@anateklabs.com](mailto:spokane@anateklabs.com)

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB  
**Address:** 4901 HAWKINS NE SUITE D  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

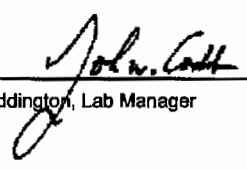
**Batch #:** 121206040  
**Project Name:** 1212159

## Analytical Results Report

**Sample Number** 121206040-001 **Sampling Date** 11/30/2012 **Date/Time Received** 12/6/2012 10:45 AM  
**Client Sample ID** 1212159-001C / BZ STRIP-SOIL CONFIRMATION **Sampling Time** 12:50 PM  
**Matrix** Soil  
**Comments**

| Parameter          | Result   | Units    | PQL | Analysis Date | Analyst | Method    | Qualifier |
|--------------------|----------|----------|-----|---------------|---------|-----------|-----------|
| Cyanide (reactive) | 0.378    | mg/Kg    | 0.3 | 12/12/2012    | CRW     | SW846 CH7 |           |
| Ignitability       | Negative |          |     | 12/7/2012     | JWC     | EPA 1030  |           |
| pH                 | 8.19     | ph Units |     | 12/7/2012     | ETL     | EPA 9045  |           |
| Reactive sulfide   | 75.3     | mg/kg    | 27  | 12/13/2012    | JTT     | SW846 CH7 |           |
| %moisture          | 8.5      | Percent  |     | 12/12/2012    | CRW     | %moisture |           |

Authorized Signature

  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.  
The results reported relate only to the samples indicated.  
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-4D-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Monday, December 17, 2012

Page 1 of 1



# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

|                             |           |                |           |             |                                         |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | MB-5122   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                  | PBS       | Batch ID:      | 5122      | RunNo:      | 7319                                    |          |           |      |          |      |
| Prep Date:                  | 12/5/2012 | Analysis Date: | 12/6/2012 | SeqNo:      | 212356                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | ND        | 10             |           |             |                                         |          |           |      |          |      |
| Surr: DNOP                  | 9.8       |                | 10.00     |             | 98.0                                    | 72.4     | 120       |      |          |      |

|                             |           |                |           |             |                                         |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | LCS-5122  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                  | LCSS      | Batch ID:      | 5122      | RunNo:      | 7319                                    |          |           |      |          |      |
| Prep Date:                  | 12/5/2012 | Analysis Date: | 12/6/2012 | SeqNo:      | 212357                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 47        | 10             | 50.00     | 0           | 94.2                                    | 47.4     | 122       |      |          |      |
| Surr: DNOP                  | 4.2       |                | 5.000     |             | 84.5                                    | 72.4     | 120       |      |          |      |

|                             |                |                |           |             |                                         |          |           |      |          |      |
|-----------------------------|----------------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1212091-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                  | BatchQC        | Batch ID:      | 5122      | RunNo:      | 7319                                    |          |           |      |          |      |
| Prep Date:                  | 12/5/2012      | Analysis Date: | 12/6/2012 | SeqNo:      | 212656                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result         | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 790            | 10             | 51.98     | 567.8       | 424                                     | 12.6     | 148       |      |          | S    |
| Surr: DNOP                  | 6.1            |                | 5.198     |             | 117                                     | 72.4     | 120       |      |          |      |

|                             |                 |                |           |             |                                         |          |           |      |          |      |
|-----------------------------|-----------------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1212091-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID:                  | BatchQC         | Batch ID:      | 5122      | RunNo:      | 7319                                    |          |           |      |          |      |
| Prep Date:                  | 12/5/2012       | Analysis Date: | 12/6/2012 | SeqNo:      | 212678                                  | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result          | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 900             | 9.9            | 49.60     | 567.8       | 663                                     | 12.6     | 148       | 12.9 | 22.5     | S    |
| Surr: DNOP                  | 7.0             |                | 4.960     |             | 141                                     | 72.4     | 120       | 0    | 0        | S    |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Call Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

|            |           |                |           |             |                                  |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-5125   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 5125      | RunNo:      | 7329                             |          |           |      |          |      |
| Prep Date: | 12/5/2012 | Analysis Date: | 12/6/2012 | SeqNo:      | 213035                           | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                               |     |     |      |  |      |    |     |  |  |  |
|-------------------------------|-----|-----|------|--|------|----|-----|--|--|--|
| Gasoline Range Organics (GRO) | ND  | 5.0 |      |  |      |    |     |  |  |  |
| Surr: BFB                     | 910 |     | 1000 |  | 90.7 | 84 | 116 |  |  |  |

|            |           |                |           |             |                                  |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-5125  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 5125      | RunNo:      | 7329                             |          |           |      |          |      |
| Prep Date: | 12/5/2012 | Analysis Date: | 12/6/2012 | SeqNo:      | 213036                           | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                               |     |     |       |   |      |    |     |  |  |  |
|-------------------------------|-----|-----|-------|---|------|----|-----|--|--|--|
| Gasoline Range Organics (GRO) | 22  | 5.0 | 25.00 | 0 | 88.2 | 74 | 117 |  |  |  |
| Surr: BFB                     | 930 |     | 1000  |   | 92.5 | 84 | 116 |  |  |  |

|            |                |                |           |             |                                  |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1212182-003AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 5125      | RunNo:      | 7329                             |          |           |      |          |      |
| Prep Date: | 12/5/2012      | Analysis Date: | 12/6/2012 | SeqNo:      | 213071                           | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                               |     |     |       |   |      |    |     |  |  |  |
|-------------------------------|-----|-----|-------|---|------|----|-----|--|--|--|
| Gasoline Range Organics (GRO) | 21  | 4.8 | 24.08 | 0 | 88.5 | 70 | 130 |  |  |  |
| Surr: BFB                     | 920 |     | 963.4 |   | 95.3 | 84 | 116 |  |  |  |

|            |                 |                |           |             |                                  |          |           |      |          |      |
|------------|-----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1212182-003AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | 5125      | RunNo:      | 7329                             |          |           |      |          |      |
| Prep Date: | 12/5/2012       | Analysis Date: | 12/6/2012 | SeqNo:      | 213077                           | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                               |     |     |       |   |      |    |     |      |      |  |
|-------------------------------|-----|-----|-------|---|------|----|-----|------|------|--|
| Gasoline Range Organics (GRO) | 20  | 4.8 | 24.25 | 0 | 83.0 | 70 | 130 | 5.67 | 22.1 |  |
| Surr: BFB                     | 890 |     | 969.9 |   | 91.4 | 84 | 116 | 0    | 0    |  |

|            |           |                |           |             |                                  |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-5125  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 5125      | RunNo:      | 7362                             |          |           |      |          |      |
| Prep Date: | 12/5/2012 | Analysis Date: | 12/7/2012 | SeqNo:      | 214058                           | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                               |     |     |       |   |      |    |     |  |  |  |
|-------------------------------|-----|-----|-------|---|------|----|-----|--|--|--|
| Gasoline Range Organics (GRO) | 22  | 5.0 | 25.00 | 0 | 86.7 | 74 | 117 |  |  |  |
| Surr: BFB                     | 930 |     | 1000  |   | 92.7 | 84 | 116 |  |  |  |

## Qualifiers:

- |                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

|                            |                  |       |                |                  |      |           |                                    |      |                     |      |
|----------------------------|------------------|-------|----------------|------------------|------|-----------|------------------------------------|------|---------------------|------|
| Sample ID                  | <b>MB-5125</b>   |       | SampType:      | <b>MBLK</b>      |      | TestCode: | <b>EPA Method 8021B: Volatiles</b> |      |                     |      |
| Client ID:                 | <b>PBS</b>       |       | Batch ID:      | <b>5125</b>      |      | RunNo:    | <b>7329</b>                        |      |                     |      |
| Prep Date:                 | <b>12/5/2012</b> |       | Analysis Date: | <b>12/6/2012</b> |      | SeqNo:    | <b>213118</b>                      |      | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result           | PQL   | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD | RPDLimit            | Qual |
| Benzene                    | ND               | 0.050 |                |                  |      |           |                                    |      |                     |      |
| Toluene                    | ND               | 0.050 |                |                  |      |           |                                    |      |                     |      |
| Ethylbenzene               | ND               | 0.050 |                |                  |      |           |                                    |      |                     |      |
| Xylenes, Total             | ND               | 0.10  |                |                  |      |           |                                    |      |                     |      |
| Surr: 4-Bromofluorobenzene | 0.97             |       | 1.000          |                  | 97.0 | 80        | 120                                |      |                     |      |

|                            |                  |       |                |                  |      |           |                                    |      |                     |      |
|----------------------------|------------------|-------|----------------|------------------|------|-----------|------------------------------------|------|---------------------|------|
| Sample ID                  | <b>LCS-5125</b>  |       | SampType:      | <b>LCS</b>       |      | TestCode: | <b>EPA Method 8021B: Volatiles</b> |      |                     |      |
| Client ID:                 | <b>LCSS</b>      |       | Batch ID:      | <b>5125</b>      |      | RunNo:    | <b>7329</b>                        |      |                     |      |
| Prep Date:                 | <b>12/5/2012</b> |       | Analysis Date: | <b>12/6/2012</b> |      | SeqNo:    | <b>213119</b>                      |      | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result           | PQL   | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD | RPDLimit            | Qual |
| Benzene                    | 0.99             | 0.050 | 1.000          | 0                | 98.6 | 76.3      | 117                                |      |                     |      |
| Toluene                    | 0.99             | 0.050 | 1.000          | 0                | 99.0 | 80        | 120                                |      |                     |      |
| Ethylbenzene               | 1.0              | 0.050 | 1.000          | 0                | 101  | 77        | 116                                |      |                     |      |
| Xylenes, Total             | 3.0              | 0.10  | 3.000          | 0                | 100  | 76.7      | 117                                |      |                     |      |
| Surr: 4-Bromofluorobenzene | 1.0              |       | 1.000          |                  | 101  | 80        | 120                                |      |                     |      |

|                            |                            |       |                |                  |      |           |                                    |      |                     |      |
|----------------------------|----------------------------|-------|----------------|------------------|------|-----------|------------------------------------|------|---------------------|------|
| Sample ID                  | <b>1212159-001AMS</b>      |       | SampType:      | <b>MS</b>        |      | TestCode: | <b>EPA Method 8021B: Volatiles</b> |      |                     |      |
| Client ID:                 | <b>BZ Strip-Soil Confr</b> |       | Batch ID:      | <b>5125</b>      |      | RunNo:    | <b>7329</b>                        |      |                     |      |
| Prep Date:                 | <b>12/5/2012</b>           |       | Analysis Date: | <b>12/6/2012</b> |      | SeqNo:    | <b>213123</b>                      |      | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result                     | PQL   | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD | RPDLimit            | Qual |
| Benzene                    | 1.0                        | 0.049 | 0.9709         | 0                | 104  | 67.2      | 113                                |      |                     |      |
| Toluene                    | 1.0                        | 0.049 | 0.9709         | 0                | 105  | 62.1      | 116                                |      |                     |      |
| Ethylbenzene               | 1.0                        | 0.049 | 0.9709         | 0.004829         | 107  | 67.9      | 127                                |      |                     |      |
| Xylenes, Total             | 3.1                        | 0.097 | 2.913          | 0                | 107  | 60.6      | 134                                |      |                     |      |
| Surr: 4-Bromofluorobenzene | 0.95                       |       | 0.9709         |                  | 97.6 | 80        | 120                                |      |                     |      |

|                            |                            |       |                |                  |      |           |                                    |       |                     |      |
|----------------------------|----------------------------|-------|----------------|------------------|------|-----------|------------------------------------|-------|---------------------|------|
| Sample ID                  | <b>1212159-001AMSD</b>     |       | SampType:      | <b>MSD</b>       |      | TestCode: | <b>EPA Method 8021B: Volatiles</b> |       |                     |      |
| Client ID:                 | <b>BZ Strip-Soil Confr</b> |       | Batch ID:      | <b>5125</b>      |      | RunNo:    | <b>7329</b>                        |       |                     |      |
| Prep Date:                 | <b>12/5/2012</b>           |       | Analysis Date: | <b>12/6/2012</b> |      | SeqNo:    | <b>213124</b>                      |       | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result                     | PQL   | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                          | %RPD  | RPDLimit            | Qual |
| Benzene                    | 1.0                        | 0.048 | 0.9699         | 0                | 103  | 67.2      | 113                                | 1.58  | 14.3                |      |
| Toluene                    | 1.0                        | 0.048 | 0.9699         | 0                | 105  | 62.1      | 116                                | 0.511 | 15.9                |      |
| Ethylbenzene               | 1.0                        | 0.048 | 0.9699         | 0.004829         | 106  | 67.9      | 127                                | 0.756 | 14.4                |      |
| Xylenes, Total             | 3.1                        | 0.097 | 2.910          | 0                | 106  | 60.6      | 134                                | 0.915 | 12.6                |      |
| Surr: 4-Bromofluorobenzene | 0.97                       |       | 0.9699         |                  | 99.6 | 80        | 120                                | 0     | 0                   |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

|                             |           |      |                |             |      |           |                         |      |             |      |
|-----------------------------|-----------|------|----------------|-------------|------|-----------|-------------------------|------|-------------|------|
| Sample ID                   | mb-5145   |      | SampType:      | MBLK        |      | TestCode: | Volatiles by 8260B/1311 |      |             |      |
| Client ID:                  | PBS       |      | Batch ID:      | 5145        |      | RunNo:    | 7501                    |      |             |      |
| Prep Date:                  | 12/6/2012 |      | Analysis Date: | 12/14/2012  |      | SeqNo:    | 217709                  |      | Units: mg/L |      |
| Analyte                     | Result    | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit               | %RPD | RPDLimit    | Qual |
| Benzene                     | ND        | 0.50 |                |             |      |           |                         |      |             |      |
| 2-Butanone                  | ND        | 10   |                |             |      |           |                         |      |             |      |
| Carbon Tetrachloride        | ND        | 0.50 |                |             |      |           |                         |      |             |      |
| Chlorobenzene               | ND        | 100  |                |             |      |           |                         |      |             |      |
| Chloroform                  | ND        | 6.0  |                |             |      |           |                         |      |             |      |
| 1,4-Dichlorobenzene         | ND        | 7.5  |                |             |      |           |                         |      |             |      |
| 1,2-Dichloroethane (EDC)    | ND        | 0.50 |                |             |      |           |                         |      |             |      |
| 1,1-Dichloroethene          | ND        | 0.70 |                |             |      |           |                         |      |             |      |
| Hexachlorobutadiene         | ND        | 0.50 |                |             |      |           |                         |      |             |      |
| Tetrachloroethene (PCE)     | ND        | 0.70 |                |             |      |           |                         |      |             |      |
| Trichloroethene (TCE)       | ND        | 0.50 |                |             |      |           |                         |      |             |      |
| Vinyl chloride              | ND        | 0.20 |                |             |      |           |                         |      |             |      |
| Surr: 1,2-Dichloroethane-d4 | 0.18      |      | 0.2000         |             | 89.9 | 69.9      | 130                     |      |             |      |
| Surr: 4-Bromofluorobenzene  | 0.20      |      | 0.2000         |             | 100  | 71.2      | 123                     |      |             |      |
| Surr: Dibromofluoromethane  | 0.17      |      | 0.2000         |             | 86.5 | 73.9      | 134                     |      |             |      |
| Surr: Toluene-d8            | 0.20      |      | 0.2000         |             | 98.1 | 81.9      | 122                     |      |             |      |

|                             |           |      |                |             |      |           |                         |      |             |      |
|-----------------------------|-----------|------|----------------|-------------|------|-----------|-------------------------|------|-------------|------|
| Sample ID                   | lcs-5145  |      | SampType:      | LCS         |      | TestCode: | Volatiles by 8260B/1311 |      |             |      |
| Client ID:                  | LCSS      |      | Batch ID:      | 5145        |      | RunNo:    | 7501                    |      |             |      |
| Prep Date:                  | 12/6/2012 |      | Analysis Date: | 12/14/2012  |      | SeqNo:    | 217710                  |      | Units: mg/L |      |
| Analyte                     | Result    | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit               | %RPD | RPDLimit    | Qual |
| Benzene                     | 0.41      | 0.30 | 0.4000         | 0           | 102  | 51.1      | 171                     |      |             |      |
| Chlorobenzene               | 0.41      | 0.30 | 0.4000         | 0           | 104  | 36.1      | 191                     |      |             |      |
| 1,1-Dichloroethene          | 0.43      | 0.30 | 0.4000         | 0           | 107  | 49.1      | 162                     |      |             |      |
| Trichloroethene (TCE)       | 0.33      | 0.30 | 0.4000         | 0           | 83.0 | 41.2      | 166                     |      |             |      |
| Surr: 1,2-Dichloroethane-d4 | 0.18      |      | 0.2000         |             | 90.9 | 69.9      | 130                     |      |             |      |
| Surr: 4-Bromofluorobenzene  | 0.21      |      | 0.2000         |             | 104  | 71.2      | 123                     |      |             |      |
| Surr: Dibromofluoromethane  | 0.17      |      | 0.2000         |             | 83.2 | 73.9      | 134                     |      |             |      |
| Surr: Toluene-d8            | 0.19      |      | 0.2000         |             | 96.0 | 81.9      | 122                     |      |             |      |

|                             |                      |      |                |             |      |           |                         |      |             |      |
|-----------------------------|----------------------|------|----------------|-------------|------|-----------|-------------------------|------|-------------|------|
| Sample ID                   | 1212159-001ams       |      | SampType:      | MS          |      | TestCode: | Volatiles by 8260B/1311 |      |             |      |
| Client ID:                  | BZ Strip-Soil Confir |      | Batch ID:      | 5145        |      | RunNo:    | 7501                    |      |             |      |
| Prep Date:                  | 12/6/2012            |      | Analysis Date: | 12/14/2012  |      | SeqNo:    | 217713                  |      | Units: mg/L |      |
| Analyte                     | Result               | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit               | %RPD | RPDLimit    | Qual |
| Benzene                     | 0.40                 | 0.30 | 0.4000         | 0           | 100  | 51.1      | 171                     |      |             |      |
| Chlorobenzene               | 0.42                 | 0.30 | 0.4000         | 0           | 105  | 36.1      | 191                     |      |             |      |
| 1,1-Dichloroethene          | 0.42                 | 0.30 | 0.4000         | 0           | 106  | 49.1      | 162                     |      |             |      |
| Trichloroethene (TCE)       | 0.34                 | 0.30 | 0.4000         | 0           | 84.3 | 41.2      | 166                     |      |             |      |
| Surr: 1,2-Dichloroethane-d4 | 0.18                 |      | 0.2000         |             | 92.0 | 69.9      | 130                     |      |             |      |
| Surr: 4-Bromofluorobenzene  | 0.20                 |      | 0.2000         |             | 101  | 71.2      | 123                     |      |             |      |

## Qualifiers:

|   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
|   | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P | Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

|                            |                      |                |            |             |                         |          |           |      |          |      |
|----------------------------|----------------------|----------------|------------|-------------|-------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1212159-001ams       | SampType:      | MS         | TestCode:   | Volatiles by 8260B/1311 |          |           |      |          |      |
| Client ID:                 | BZ Strip-Soil Confir | Batch ID:      | 5145       | RunNo:      | 7501                    |          |           |      |          |      |
| Prep Date:                 | 12/6/2012            | Analysis Date: | 12/14/2012 | SeqNo:      | 217713                  | Units:   | mg/L      |      |          |      |
| Analyte                    | Result               | PQL            | SPK value  | SPK Ref Val | %REC                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: Dibromofluoromethane | 0.18                 |                | 0.2000     |             | 87.7                    | 73.9     | 134       |      |          |      |
| Surr: Toluene-d8           | 0.19                 |                | 0.2000     |             | 95.1                    | 81.9     | 122       |      |          |      |

|                             |                      |                |            |             |                         |          |           |      |          |      |
|-----------------------------|----------------------|----------------|------------|-------------|-------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1212159-001amsd      | SampType:      | MSD        | TestCode:   | Volatiles by 8260B/1311 |          |           |      |          |      |
| Client ID:                  | BZ Strip-Soil Confir | Batch ID:      | 5145       | RunNo:      | 7501                    |          |           |      |          |      |
| Prep Date:                  | 12/6/2012            | Analysis Date: | 12/14/2012 | SeqNo:      | 217714                  | Units:   | mg/L      |      |          |      |
| Analyte                     | Result               | PQL            | SPK value  | SPK Ref Val | %REC                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 0.40                 | 0.30           | 0.4000     | 0           | 99.3                    | 51.1     | 171       | 1.04 | 0        |      |
| Chlorobenzene               | 0.43                 | 0.30           | 0.4000     | 0           | 107                     | 36.1     | 191       | 2.30 | 0        |      |
| 1,1-Dichloroethene          | 0.40                 | 0.30           | 0.4000     | 0           | 100                     | 49.1     | 162       | 4.88 | 0        |      |
| Trichloroethene (TCE)       | 0.32                 | 0.30           | 0.4000     | 0           | 80.7                    | 41.2     | 166       | 4.33 | 0        |      |
| Surr: 1,2-Dichloroethane-d4 | 0.19                 |                | 0.2000     |             | 92.8                    | 69.9     | 130       | 0    | 0        |      |
| Surr: 4-Bromofluorobenzene  | 0.21                 |                | 0.2000     |             | 103                     | 71.2     | 123       | 0    | 0        |      |
| Surr: Dibromofluoromethane  | 0.17                 |                | 0.2000     |             | 84.9                    | 73.9     | 134       | 0    | 0        |      |
| Surr: Toluene-d8            | 0.20                 |                | 0.2000     |             | 98.6                    | 81.9     | 122       | 0    | 0        |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Call Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

|            |           |     |                |             |      |           |                               |      |          |      |  |
|------------|-----------|-----|----------------|-------------|------|-----------|-------------------------------|------|----------|------|--|
| Sample ID  | MB-5169   |     | SampType:      | MBLK        |      | TestCode: | EPA Method 6010B: TCLP Metals |      |          |      |  |
| Client ID: | PBW       |     | Batch ID:      | 5169        |      | RunNo:    | 7401                          |      |          |      |  |
| Prep Date: | 12/9/2012 |     | Analysis Date: | 12/10/2012  |      | SeqNo:    | 214402                        |      | Units:   | mg/L |  |
| Analyte    | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit | Qual |  |

|          |    |     |  |  |  |  |  |  |  |  |
|----------|----|-----|--|--|--|--|--|--|--|--|
| Arsenic  | ND | 5.0 |  |  |  |  |  |  |  |  |
| Barium   | ND | 100 |  |  |  |  |  |  |  |  |
| Cadmium  | ND | 1.0 |  |  |  |  |  |  |  |  |
| Chromium | ND | 5.0 |  |  |  |  |  |  |  |  |
| Lead     | ND | 5.0 |  |  |  |  |  |  |  |  |
| Selenium | ND | 1.0 |  |  |  |  |  |  |  |  |
| Silver   | ND | 5.0 |  |  |  |  |  |  |  |  |

|            |           |                |            |             |                               |          |           |      |          |      |
|------------|-----------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-5169  | SampType:      | LCS        | TestCode:   | EPA Method 6010B: TCLP Metals |          |           |      |          |      |
| Client ID: | LCSW      | Batch ID:      | 5169       | RunNo:      | 7401                          |          |           |      |          |      |
| Prep Date: | 12/9/2012 | Analysis Date: | 12/10/2012 | SeqNo:      | 214404                        | Units:   | mg/L      |      |          |      |
| Analyte    | Result    | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|          |    |     |        |          |      |    |     |  |  |  |
|----------|----|-----|--------|----------|------|----|-----|--|--|--|
| Arsenic  | ND | 5.0 | 0.5000 | 0.02585  | 107  | 80 | 120 |  |  |  |
| Barium   | ND | 100 | 0.5000 | 0        | 100  | 80 | 120 |  |  |  |
| Cadmium  | ND | 1.0 | 0.5000 | 0        | 103  | 80 | 120 |  |  |  |
| Chromium | ND | 5.0 | 0.5000 | 0        | 99.6 | 80 | 120 |  |  |  |
| Lead     | ND | 5.0 | 0.5000 | 0        | 99.0 | 80 | 120 |  |  |  |
| Selenium | ND | 1.0 | 0.5000 | 0        | 101  | 80 | 120 |  |  |  |
| Silver   | ND | 5.0 | 0.1000 | 0.004430 | 102  | 80 | 120 |  |  |  |

|            |                |                |            |             |                               |          |           |      |          |      |
|------------|----------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1212007-001AMS | SampType:      | MS         | TestCode:   | EPA Method 6010B: TCLP Metals |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 5169       | RunNo:      | 7401                          |          |           |      |          |      |
| Prep Date: | 12/9/2012      | Analysis Date: | 12/10/2012 | SeqNo:      | 214408                        | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|          |    |     |        |          |      |    |     |  |  |  |
|----------|----|-----|--------|----------|------|----|-----|--|--|--|
| Arsenic  | ND | 5.0 | 0.5000 | 0        | 114  | 75 | 125 |  |  |  |
| Cadmium  | ND | 1.0 | 0.5000 | 0        | 103  | 75 | 125 |  |  |  |
| Chromium | ND | 5.0 | 0.5000 | 0.005700 | 95.1 | 75 | 125 |  |  |  |
| Lead     | ND | 5.0 | 0.5000 | 0        | 92.2 | 75 | 125 |  |  |  |
| Selenium | ND | 1.0 | 0.5000 | 0        | 84.2 | 75 | 125 |  |  |  |
| Silver   | ND | 5.0 | 0.1000 | 0        | 106  | 75 | 125 |  |  |  |

|            |                 |     |           |                |            |          |           |                               |          |        |      |
|------------|-----------------|-----|-----------|----------------|------------|----------|-----------|-------------------------------|----------|--------|------|
| Sample ID  | 1212007-001AMSD |     |           | SampType:      | MSD        |          | TestCode: | EPA Method 6010B: TCLP Metals |          |        |      |
| Client ID: | BatchQC         |     |           | Batch ID:      | 5169       |          | RunNo:    | 7401                          |          |        |      |
| Prep Date: | 12/9/2012       |     |           | Analysis Date: | 12/10/2012 |          | SeqNo:    | 214409                        |          | Units: | mg/L |
| Analyte    | Result          | PQL | SPK value | SPK Ref Val    | %REC       | LowLimit | HighLimit | %RPD                          | RPDLimit | Qual   |      |

|          |    |     |        |          |      |    |     |   |    |  |
|----------|----|-----|--------|----------|------|----|-----|---|----|--|
| Arsenic  | ND | 5.0 | 0.5000 | 0        | 112  | 75 | 125 | 0 | 20 |  |
| Cadmium  | ND | 1.0 | 0.5000 | 0        | 102  | 75 | 125 | 0 | 20 |  |
| Chromium | ND | 5.0 | 0.5000 | 0.005700 | 93.0 | 75 | 125 | 0 | 20 |  |
| Lead     | ND | 5.0 | 0.5000 | 0        | 90.9 | 75 | 125 | 0 | 20 |  |

## Qualifiers:

Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1212159

20-Dec-12

Client: Western Refining Southwest, Gallup

Project: BZ Strip Soil Confirmation

|            |                 |     |                |             |      |          |           |                               |          |      |  |
|------------|-----------------|-----|----------------|-------------|------|----------|-----------|-------------------------------|----------|------|--|
| Sample ID  | 1212007-001AMSD |     |                | SampType:   | MSD  |          | TestCode: | EPA Method 6010B: TCLP Metals |          |      |  |
| Client ID: | BatchQC         |     | Batch ID:      | 5169        |      | RunNo:   | 7401      |                               |          |      |  |
| Prep Date: | 12/9/2012       |     | Analysis Date: | 12/10/2012  |      | SeqNo:   | 214409    |                               | Units:   | mg/L |  |
| Analyte    | Result          | PQL | SPK value      | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD                          | RPDLimit | Qual |  |
| Selenium   | ND              | 1.0 | 0.5000         | 0           | 86.7 | 75       | 125       | 0                             | 20       |      |  |
| Silver     | ND              | 5.0 | 0.1000         | 0           | 105  | 75       | 125       | 0                             | 20       |      |  |

|            |                |                |            |             |                               |          |           |      |          |      |
|------------|----------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1212007-001AMS | SampType:      | MS         | TestCode:   | EPA Method 6010B: TCLP Metals |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 5169       | RunNo:      | 7401                          |          |           |      |          |      |
| Prep Date: | 12/9/2012      | Analysis Date: | 12/10/2012 | SeqNo:      | 214427                        | Units:   | mg/L      |      |          |      |
| Analyte    | Result         | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Barium     | ND             | 500            | 0.5000     | 1.240       | 94.3                          | 75       | 125       |      |          |      |

|            |                 |                |            |             |                               |          |           |      |          |      |
|------------|-----------------|----------------|------------|-------------|-------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1212007-001AMSD | SampType:      | MSD        | TestCode:   | EPA Method 6010B: TCLP Metals |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | 5169       | RunNo:      | 7401                          |          |           |      |          |      |
| Prep Date: | 12/9/2012       | Analysis Date: | 12/10/2012 | SeqNo:      | 214428                        | Units:   | mg/L      |      |          |      |
| Analyte    | Result          | PQL            | SPK value  | SPK Ref Val | %REC                          | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Barium     | ND              | 500            | 0.5000     | 1.240       | 93.3                          | 75       | 125       | 0    | 20       |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87105  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1212159

Received by/date: *mg* 12/03/12

Logged By: Ashley Gallegos 12/3/2012 1:20:00 PM

Completed By: Ashley Gallegos 12/4/2012 5:26:44 PM

Reviewed By: *[Signature]* 12/10/12

### Chain of Custody

1. Were seals intact? Yes ☒ No ☐ Not Present
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present
3. How was the sample delivered? Client

### Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA
11. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐ # of preserved bottles checked for pH:  
(<2 or >12 unless noted)
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted?
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by:

### Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
By Whom: \_\_\_\_\_ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person  
Regarding: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_

18. Additional remarks:

### 19. Cooler Information

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|---------|-----------|-------------|---------|-----------|-----------|
| 1         | 2.2     | Good      | Not Present |         |           |           |





District I

1625 N. French Dr., Hobbs, NM 88240

District II

811 S. First St., Artesia, NM 88210

District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

0 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural ResourcesOil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505Form C-141  
Revised August 8, 2011Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

## Release Notification and Corrective Action

## OPERATOR

☒ Initial Report☒ Final Report

|                                                   |                                   |
|---------------------------------------------------|-----------------------------------|
| Name of Company: WESTERN REFINING                 | Contact: Beck Larsen              |
| Address: I-40 / EXIT 39, JAMESTOWN, NM 87347      | Telephone No. (505) 722-0258      |
| Facility Name: WESTERN RENINING (GALLUP REFINERY) | Facility Type: Petroleum Refinery |

|               |               |         |
|---------------|---------------|---------|
| Surface Owner | Mineral Owner | API No. |
|---------------|---------------|---------|

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County   |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|----------|
|             | 28      | 15 N     | 15 W  |               |                  |               |                | MCKINLEY |

Latitude 35° 029' 024" Longitude 108° 024' 024"

## NATURE OF RELEASE

|                                                                                                                                                     |                                                                                 |                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------|
| Type of Release: Overflow of Evaporation Pond 1                                                                                                     | Volume of Release:<br>Approximately 40 bbls (water)                             | Volume Recovered:<br>Approximately 5 bbls (water) |
| Source of Release: Evaporation Pond 1                                                                                                               | Date and Hour of Occurrence<br>11/10/12 9 am                                    | Date and Hour of Discovery<br>11/10/12 1:00 pm    |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?<br>NMED, OCD Brandon Christiansen- left message (866) 428-0535 |                                                   |
| By Whom? Loretta Morgan                                                                                                                             | Date and Hour:<br>11/11/12 9:57 am                                              |                                                   |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                   | If YES, Volume Impacting the Watercourse.                                       |                                                   |

Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

On Saturday 11/10/12 at approximately 0 pm, Evaporation Pond 1 was found overflowing on the northwest corner to Evaporation Pond 2. Offsite Operations opened the transfer valve from Evaporation Pond 1 to Evaporation Pond 2 to 100%.

On Sunday 11/11/12 at approximately 3 am, Offsite found Evaporation Pond 1 had started to overflow again. Transfer hoses were installed to help keep water from overflowing the dikes. Maintenance was called out to build up the dike on Evaporation Pond 1.

It was determined that the transfer valve was partially plugged not allowing full flow from Evaporation Pond 1 to Evaporation Pond 1, hence, causing the overflow

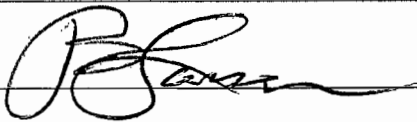
Describe Area Affected and Cleanup Action Taken.\*

Overflow from Evaporation Pond 1 flowed to evaporation Pond 2.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

## OIL CONSERVATION DIVISION

Signature:



Printed Name: Beck Larsen:

Approved by Environmental Specialist:

Title: Environmental Engineer

Approval Date:

Expiration Date:

1 Address: Thurman.larsen@wnr.com

Conditions of Approval:

Attached ☐

Date: 11/20/12

Phone: (505) 722-3833

\* Attach Additional Sheets If Necessary

# **APPENDIX I**

---

## **Perimeter Inspections**

**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 01/10/2012

**NOTE ANY FINDINGS:** No Issues found at time of inspection.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

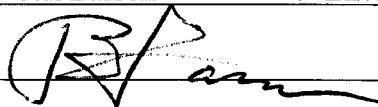
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 01/23/2012

**NOTE ANY FINDINGS:** No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

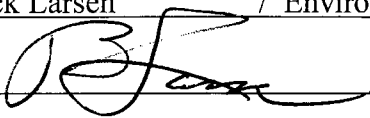
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 02/08/2012

**NOTE ANY FINDINGS:** No Issues found at time of inspection; purge water drums

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

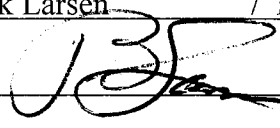
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 02/23/2012

**NOTE ANY FINDINGS:** No Issues found.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

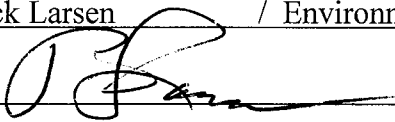
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 03/09/2012

**NOTE ANY FINDINGS:** No Issues found.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 



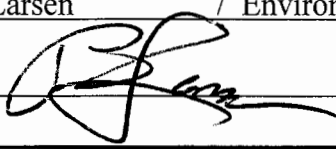
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 3/20/2012

**NOTE ANY FINDINGS:** No Issues

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

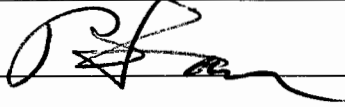
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 04/10/2012

**NOTE ANY FINDINGS:** No Issues Found at time of Inspection.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

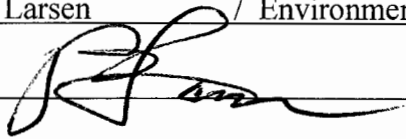
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 04/18/2012

**NOTE ANY FINDINGS:** No Issues found at time of inspection. ; purge water drums

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 05/10/2012

**NOTE ANY FINDINGS:** No Issues found at time of inspection.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

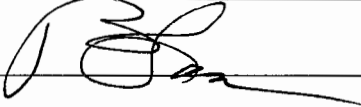
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 05/22/2012

**NOTE ANY FINDINGS:** No Issues Found at time of Inspection.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

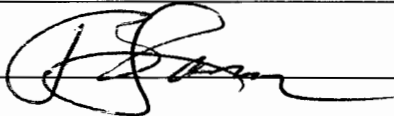
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 06/11/2012

**NOTE ANY FINDINGS:** Purge water drums are around site in several outer locations.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

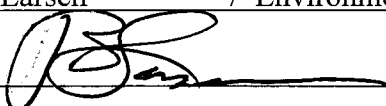
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 06/19/2012

**NOTE ANY FINDINGS:** Purge water drums are around site in several outer locations.

Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

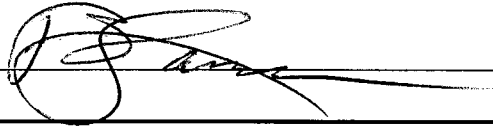
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 07/09/2012

**NOTE ANY FINDINGS:** No Issues found at time of inspection.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 



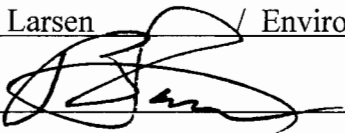
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 07/18/2012

**NOTE ANY FINDINGS:** No Issues Found at time of Inspection.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:**  \_\_\_\_\_

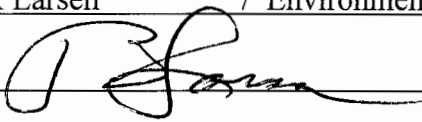
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 08/09/2012

**NOTE ANY FINDINGS:** No Issues Found at time of Inspection.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

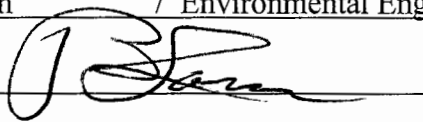
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008).The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 08/21/2012

**NOTE ANY FINDINGS:** No Issues Found at time of Inspection.

**Print Name / Title::** Beck Larsen / Environmental Engineer

**Signature of Inspector:** 

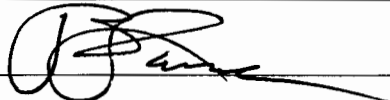
**WESTERN REFINING**  
**OCD DISCHARGE PERMIT (GW-032)**  
**BI-MONTHLY PERIMETER INSPECTION**

**Instructions:** Inspection shall be conducted on a bimonthly basis or as needed in accordance with OCD Discharge Permit (GW-032)(Section #20)(Revision of: March 12,2008). The inspection is to focus on hydrocarbon staining or any release that could potentially result in contamination leaving the property boundaries.

**DATE OF INSPECTION:** 09/26/2012

**NOTE ANY FINDINGS:** No Issues Found at time of Inspection; Units shut down and construction around site due to Turnaround Activities.

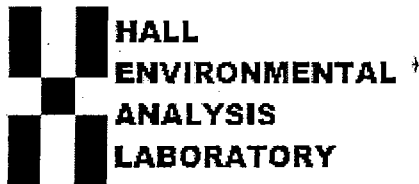
Print Name / Title:: Beck Larsen / Environmental Engineer

Signature of Inspector: 

## **APPENDIX J**

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### **Temporary Land Farm Analytical Data**



*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

April 23, 2012

Ed Riege

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling

OrderNo.: 1203888

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 10 sample(s) on 3/23/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-01-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 11:45:00 AM

Lab ID: 1203888-001

Matrix: SOIL

Received Date: 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: NSB          |
| Benzene                            | ND     | 0.047  |      | mg/Kg | 1  | 3/27/2012 11:47:34 PM |
| Toluene                            | ND     | 0.047  |      | mg/Kg | 1  | 3/27/2012 11:47:34 PM |
| Ethylbenzene                       | ND     | 0.047  |      | mg/Kg | 1  | 3/27/2012 11:47:34 PM |
| Xylenes, Total                     | ND     | 0.095  |      | mg/Kg | 1  | 3/27/2012 11:47:34 PM |
| Surr: 4-Bromofluorobenzene         | 93.9   | 80-120 |      | %REC  | 1  | 3/27/2012 11:47:34 PM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: BRM          |
| Chloride                           | 210    | 7.5    |      | mg/Kg | 5  | 4/4/2012 12:01:15 PM  |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: JMP          |
| Petroleum Hydrocarbons, TR         | ND     | 20     |      | mg/Kg | 1  | 3/27/2012             |

Qualifiers: \*/X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

**Analytical Report**

Lab Order 1203888

Date Reported: 4/23/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-02-032212**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 3/22/2012 11:00:00 AM**Lab ID:** 1203888-002**Matrix:** SOIL**Received Date:** 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>NSB</b>   |
| Benzene                            | ND     | 0.048  |      | mg/Kg | 1  | 3/28/2012 12:16:19 AM |
| Toluene                            | ND     | 0.048  |      | mg/Kg | 1  | 3/28/2012 12:16:19 AM |
| Ethylbenzene                       | ND     | 0.048  |      | mg/Kg | 1  | 3/28/2012 12:16:19 AM |
| Xylenes, Total                     | ND     | 0.095  |      | mg/Kg | 1  | 3/28/2012 12:16:19 AM |
| Surr: 4-Bromofluorobenzene         | 94.0   | 80-120 |      | %REC  | 1  | 3/28/2012 12:16:19 AM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: <b>BRM</b>   |
| Chloride                           | 200    | 7.5    |      | mg/Kg | 5  | 4/4/2012 12:38:30 PM  |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: <b>JMP</b>   |
| Petroleum Hydrocarbons, TR         | ND     | 20     |      | mg/Kg | 1  | 3/27/2012             |

**Qualifiers:**   \*/X   Value exceeds Maximum Contaminant Level.  
                  E    Value above quantitation range  
                  J    Analyte detected below quantitation limits  
                  R    RPD outside accepted recovery limits  
                  S    Spike Recovery outside accepted recovery limits

B   Analyte detected in the associated Method Blank  
H   Holding times for preparation or analysis exceeded  
ND   Not Detected at the Reporting Limit  
RL   Reporting Detection Limit



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** CentralOCD-03-032212

**Project:** OCD Central Landfarm Semiannual Sam

**Collection Date:** 3/22/2012 10:05:00 AM

**Lab ID:** 1203888-003

**Matrix:** SOIL

**Received Date:** 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>NSB</b>   |
| Benzene                            | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 12:45:01 AM |
| Toluene                            | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 12:45:01 AM |
| Ethylbenzene                       | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 12:45:01 AM |
| Xylenes, Total                     | ND     | 0.10   |      | mg/Kg | 1  | 3/28/2012 12:45:01 AM |
| Surr: 4-Bromofluorobenzene         | 93.3   | 80-120 |      | %REC  | 1  | 3/28/2012 12:45:01 AM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: <b>BRM</b>   |
| Chloride                           | 210    | 30     |      | mg/Kg | 20 | 4/4/2012 1:28:08 PM   |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: <b>JMP</b>   |
| Petroleum Hydrocarbons, TR         | ND     | 20     |      | mg/Kg | 1  | 3/27/2012             |

**Qualifiers:**

- \* / X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-04-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 9:30:00 AM

Lab ID: 1203888-004

Matrix: SOIL

Received Date: 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: NSB         |
| Benzene                            | ND     | 0.048  |      | mg/Kg | 1  | 3/28/2012 1:13:42 AM |
| Toluene                            | ND     | 0.048  |      | mg/Kg | 1  | 3/28/2012 1:13:42 AM |
| Ethylbenzene                       | ND     | 0.048  |      | mg/Kg | 1  | 3/28/2012 1:13:42 AM |
| Xylenes, Total                     | ND     | 0.097  |      | mg/Kg | 1  | 3/28/2012 1:13:42 AM |
| Surr: 4-Bromofluorobenzene         | 92.5   | 80-120 |      | %REC  | 1  | 3/28/2012 1:13:42 AM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: BRM         |
| Chloride                           | 160    | 7.5    |      | mg/Kg | 5  | 4/4/2012 1:40:33 PM  |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: JMP         |
| Petroleum Hydrocarbons, TR         | ND     | 20     |      | mg/Kg | 1  | 3/27/2012            |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: BD-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date:

Lab ID: 1203888-005

Matrix: SOIL

Received Date: 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: NSB         |
| Benzene                            | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 1:42:29 AM |
| Toluene                            | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 1:42:29 AM |
| Ethylbenzene                       | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 1:42:29 AM |
| Xylenes, Total                     | ND     | 0.099  |      | mg/Kg | 1  | 3/28/2012 1:42:29 AM |
| Surr: 4-Bromofluorobenzene         | 91.7   | 80-120 |      | %REC  | 1  | 3/28/2012 1:42:29 AM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: BRM         |
| Chloride                           | 210    | 7.5    |      | mg/Kg | 5  | 4/4/2012 1:52:57 PM  |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: JMP         |
| Petroleum Hydrocarbons, TR         | ND     | 21     |      | mg/Kg | 1  | 3/27/2012            |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** CentralOCD-TZ-032212

**Project:** OCD Central Landfarm Semiannual Sam

**Collection Date:** 3/22/2012 11:15:00 AM

**Lab ID:** 1203888-008

**Matrix:** SOIL

**Received Date:** 3/23/2012 11:07:00 AM

| Analyses                                       | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|------------------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8082: PCB'S</b>                  |        |          |      |       |     | Analyst: SCC          |
| Aroclor 1016                                   | ND     | 0.078    |      | mg/Kg | 1   | 4/2/2012 12:56:25 PM  |
| Aroclor 1221                                   | ND     | 0.078    |      | mg/Kg | 1   | 4/2/2012 12:56:25 PM  |
| Aroclor 1232                                   | ND     | 0.078    |      | mg/Kg | 1   | 4/2/2012 12:56:25 PM  |
| Aroclor 1242                                   | ND     | 0.078    |      | mg/Kg | 1   | 4/2/2012 12:56:25 PM  |
| Aroclor 1248                                   | ND     | 0.078    |      | mg/Kg | 1   | 4/2/2012 12:56:25 PM  |
| Aroclor 1254                                   | ND     | 0.078    |      | mg/Kg | 1   | 4/2/2012 12:56:25 PM  |
| Aroclor 1260                                   | ND     | 0.078    |      | mg/Kg | 1   | 4/2/2012 12:56:25 PM  |
| Surr: Decachlorobiphenyl                       | 85.6   | 20.7-114 |      | %REC  | 1   | 4/2/2012 12:56:25 PM  |
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |     | Analyst: JMP          |
| Diesel Range Organics (DRO)                    | 750    | 100      |      | mg/Kg | 10  | 3/26/2012 9:28:05 AM  |
| Motor Oil Range Organics (MRO)                 | 1,100  | 510      |      | mg/Kg | 10  | 3/26/2012 9:28:05 AM  |
| Surr: DNOP                                     | 0      | 77.4-131 | S    | %REC  | 10  | 3/26/2012 9:28:05 AM  |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |     | Analyst: NSB          |
| Gasoline Range Organics (GRO)                  | ND     | 24       |      | mg/Kg | 5   | 3/29/2012 3:49:42 PM  |
| Surr: BFB                                      | 92.7   | 69.7-121 |      | %REC  | 5   | 3/29/2012 3:49:42 PM  |
| <b>EPA METHOD 300.0: ANIONS</b>                |        |          |      |       |     | Analyst: BRM          |
| Fluoride                                       | 17     | 1.5      |      | mg/Kg | 5   | 4/4/2012 2:05:21 PM   |
| Chloride                                       | 100    | 7.5      |      | mg/Kg | 5   | 4/4/2012 2:05:21 PM   |
| Nitrogen, Nitrate (As N)                       | 6.7    | 1.5      |      | mg/Kg | 5   | 4/4/2012 2:05:21 PM   |
| Sulfate                                        | 220    | 7.5      |      | mg/Kg | 5   | 4/4/2012 2:05:21 PM   |
| <b>EPA METHOD 7471: MERCURY</b>                |        |          |      |       |     | Analyst: JLF          |
| Mercury                                        | 0.12   | 0.033    |      | mg/Kg | 1   | 3/27/2012 10:09:28 AM |
| <b>EPA METHOD 6010B: SOIL METALS</b>           |        |          |      |       |     | Analyst: ELS          |
| Arsenic                                        | ND     | 12       |      | mg/Kg | 5   | 4/3/2012 10:57:13 AM  |
| Barium                                         | 320    | 1.0      |      | mg/L  | 10  | 4/2/2012 10:32:58 AM  |
| Cadmium                                        | ND     | 0.50     |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| Chromium                                       | 17     | 1.5      |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| Copper                                         | 4.5    | 1.5      |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| Iron                                           | 17,000 | 500      |      | mg/Kg | 500 | 4/3/2012 10:59:28 AM  |
| Lead                                           | 15     | 1.2      |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| Manganese                                      | 380    | 1.0      |      | mg/L  | 10  | 4/2/2012 10:32:58 AM  |
| Selenium                                       | ND     | 12       |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| Silver                                         | ND     | 1.2      |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| Uranium                                        | ND     | 25       |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| Zinc                                           | 42     | 12       |      | mg/L  | 5   | 4/2/2012 10:29:05 AM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b>         |        |          |      |       |     | Analyst: JDC          |
| Acenaphthene                                   | ND     | 0.40     |      | mg/Kg | 1   | 3/27/2012 11:51:23 AM |
| Acenaphthylene                                 | ND     | 0.40     |      | mg/Kg | 1   | 3/27/2012 11:51:23 AM |
| Aniline                                        | ND     | 0.40     |      | mg/Kg | 1   | 3/27/2012 11:51:23 AM |

**Qualifiers:**

- \*X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 11:15:00 AM

Lab ID: 1203888-008

Matrix: SOIL

Received Date: 3/23/2012 11:07:00 AM

| Analyses                        | Result | RL   | Qual | Units | DF | Date Analyzed         |
|---------------------------------|--------|------|------|-------|----|-----------------------|
| EPA METHOD 8270C: SEMIVOLATILES |        |      |      |       |    | Analyst: JDC          |
| Anthracene                      | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Azobenzene                      | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Benz(a)anthracene               | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Benzo(a)pyrene                  | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Benzo(b)fluoranthene            | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Benzo(g,h,i)perylene            | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Benzo(k)fluoranthene            | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Benzoic acid                    | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Benzyl alcohol                  | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Bis(2-chloroethoxy)methane      | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Bis(2-chloroethyl)ether         | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Bis(2-chloroisopropyl)ether     | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Bis(2-ethylhexyl)phthalate      | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 4-Bromophenyl phenyl ether      | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Butyl benzyl phthalate          | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Carbazole                       | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 4-Chloro-3-methylphenol         | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 4-Chloroaniline                 | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2-Chloronaphthalene             | ND     | 0.50 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2-Chlorophenol                  | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 4-Chlorophenyl phenyl ether     | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Chrysene                        | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Di-n-butyl phthalate            | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Di-n-octyl phthalate            | ND     | 0.50 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Dibenz(a,h)anthracene           | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Dibenzofuran                    | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 1,2-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 1,3-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 1,4-Dichlorobenzene             | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 3,3'-Dichlorobenzidine          | ND     | 0.50 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Diethyl phthalate               | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Dimethyl phthalate              | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2,4-Dichlorophenol              | ND     | 0.80 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2,4-Dimethylphenol              | ND     | 0.60 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 4,6-Dinitro-2-methylphenol      | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2,4-Dinitrophenol               | ND     | 0.80 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2,4-Dinitrotoluene              | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2,6-Dinitrotoluene              | ND     | 1.0  |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Fluoranthene                    | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Fluorene                        | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Hexachlorobenzene               | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Hexachlorobutadiene             | ND     | 0.40 |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 F Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 11:15:00 AM

Lab ID: 1203888-008

Matrix: SOIL

Received Date: 3/23/2012 11:07:00 AM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC          |
| Hexachlorocyclopentadiene              | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Hexachloroethane                       | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Isophorone                             | ND     | 1.0      |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 1-Methylnaphthalene                    | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2-Methylnaphthalene                    | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2-Methylphenol                         | ND     | 1.0      |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 3+4-Methylphenol                       | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| N-Nitrosodi-n-propylamine              | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| N-Nitrosodiphenylamine                 | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Naphthalene                            | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2-Nitroaniline                         | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 3-Nitroaniline                         | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 4-Nitroaniline                         | ND     | 0.80     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Nitrobenzene                           | ND     | 1.0      |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2-Nitrophenol                          | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 4-Nitrophenol                          | ND     | 0.50     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Pentachlorophenol                      | ND     | 0.80     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Phenanthrene                           | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Phenol                                 | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Pyrene                                 | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Pyridine                               | ND     | 1.0      |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 1,2,4-Trichlorobenzene                 | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2,4,5-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| 2,4,6-Trichlorophenol                  | ND     | 0.40     |      | mg/Kg | 1  | 3/27/2012 11:51:23 AM |
| Surr: 2,4,6-Tribromophenol             | 84.8   | 20.1-121 |      | %REC  | 1  | 3/27/2012 11:51:23 AM |
| Surr: 2-Fluorobiphenyl                 | 80.2   | 19-133   |      | %REC  | 1  | 3/27/2012 11:51:23 AM |
| Surr: 2-Fluorophenol                   | 74.8   | 20.2-108 |      | %REC  | 1  | 3/27/2012 11:51:23 AM |
| Surr: 4-Terphenyl-d14                  | 80.6   | 18.9-115 |      | %REC  | 1  | 3/27/2012 11:51:23 AM |
| Surr: Nitrobenzene-d5                  | 75.5   | 20.8-123 |      | %REC  | 1  | 3/27/2012 11:51:23 AM |
| Surr: Phenol-d5                        | 74.4   | 19.8-115 |      | %REC  | 1  | 3/27/2012 11:51:23 AM |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA          |
| Benzene                                | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| Toluene                                | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| Ethylbenzene                           | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| 1,2,4-Trimethylbenzene                 | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| 1,3,5-Trimethylbenzene                 | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| 1,2-Dichloroethane (EDC)               | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| 1,2-Dibromoethane (EDB)                | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |
| Naphthalene                            | ND     | 0.096    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM  |

Qualifiers: \*X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 11:15:00 AM

Lab ID: 1203888-008

Matrix: SOIL

Received Date: 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL    | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|-------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |       |      |       |    | Analyst: RAA         |
| 1-Methylnaphthalene                | ND     | 0.19  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 2-Methylnaphthalene                | ND     | 0.19  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Acetone                            | ND     | 0.72  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Bromobenzene                       | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Bromodichloromethane               | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Bromoform                          | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Bromomethane                       | ND     | 0.14  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 2-Butanone                         | ND     | 0.48  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Carbon disulfide                   | ND     | 0.48  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Carbon tetrachloride               | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Chlorobenzene                      | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Chloroethane                       | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Chloroform                         | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Chloromethane                      | ND     | 0.14  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 2-Chlorotoluene                    | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 4-Chlorotoluene                    | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| cis-1,2-DCE                        | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| cis-1,3-Dichloropropene            | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,2-Dibromo-3-chloropropane        | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Dibromochloromethane               | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Dibromomethane                     | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,2-Dichlorobenzene                | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,3-Dichlorobenzene                | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,4-Dichlorobenzene                | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Dichlorodifluoromethane            | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,1-Dichloroethane                 | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,1-Dichloroethene                 | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,2-Dichloropropane                | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,3-Dichloropropane                | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 2,2-Dichloropropane                | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,1-Dichloropropene                | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Hexachlorobutadiene                | ND     | 0.096 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 2-Hexanone                         | ND     | 0.48  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Isopropylbenzene                   | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 4-Isopropyltoluene                 | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 4-Methyl-2-pentanone               | ND     | 0.48  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Methylene chloride                 | ND     | 0.14  |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| n-Butylbenzene                     | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| n-Propylbenzene                    | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| sec-Butylbenzene                   | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Styrene                            | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| tert-Butylbenzene                  | ND     | 0.048 |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |

Qualifiers: \*/X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 11:15:00 AM

Lab ID: 1203888-008

Matrix: SOIL

Received Date: 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL       | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |          |      |       |    | Analyst: RAA         |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Tetrachloroethene (PCE)            | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| trans-1,2-DCE                      | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| trans-1,3-Dichloropropene          | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,2,3-Trichlorobenzene             | ND     | 0.096    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,2,4-Trichlorobenzene             | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,1,1-Trichloroethane              | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,1,2-Trichloroethane              | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Trichloroethene (TCE)              | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Trichlorofluoromethane             | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| 1,2,3-Trichloropropane             | ND     | 0.096    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Vinyl chloride                     | ND     | 0.048    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Xylenes, Total                     | ND     | 0.096    |      | mg/Kg | 1  | 3/28/2012 4:34:49 PM |
| Surr: 1,2-Dichloroethane-d4        | 100    | 70-130   |      | %REC  | 1  | 3/28/2012 4:34:49 PM |
| Surr: 4-Bromofluorobenzene         | 89.8   | 70-130   |      | %REC  | 1  | 3/28/2012 4:34:49 PM |
| Surr: Dibromofluoromethane         | 99.3   | 71.7-132 |      | %REC  | 1  | 3/28/2012 4:34:49 PM |
| Surr: Toluene-d8                   | 91.8   | 70-130   |      | %REC  | 1  | 3/28/2012 4:34:49 PM |
| <b>EPA METHOD 418.1: TPH</b>       |        |          |      |       |    | Analyst: JMP         |
| Petroleum Hydrocarbons, TR         | 270    | 20       |      | mg/Kg | 1  | 3/27/2012            |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 R RPD outside accepted recovery limits  
 S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Reporting Limit  
 RL Reporting Detection Limit



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: EB-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 8:15:00 AM

Lab ID: 1203888-009

Matrix: AQUEOUS

Received Date: 3/23/2012 11:07:00 AM

| Analyses                    | Result | RL     | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|--------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |        |      |       |    | Analyst: NSB         |
| Benzene                     | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 6:57:28 PM |
| Toluene                     | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 6:57:28 PM |
| Ethylbenzene                | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 6:57:28 PM |
| Xylenes, Total              | ND     | 2.0    |      | µg/L  | 1  | 3/30/2012 6:57:28 PM |
| Surr: 4-Bromofluorobenzene  | 92.6   | 55-140 |      | %REC  | 1  | 3/30/2012 6:57:28 PM |

**Qualifiers:** \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: FB-032212

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 3/22/2012 8:20:00 AM

Lab ID: 1203888-010

Matrix:

Received Date: 3/23/2012 11:07:00 AM

| Analyses                    | Result | RL     | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|--------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |        |      |       |    | Analyst: NSB         |
| Benzene                     | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 7:27:42 PM |
| Toluene                     | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 7:27:42 PM |
| Ethylbenzene                | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 7:27:42 PM |
| Xylenes, Total              | ND     | 2.0    |      | µg/L  | 1  | 3/30/2012 7:27:42 PM |
| Surr: 4-Bromofluorobenzene  | 73.3   | 55-140 |      | %REC  | 1  | 3/30/2012 7:27:42 PM |

Qualifiers: \* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

## Analytical Report

Lab Order 1203888

Date Reported: 4/23/2012

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: Trip Blank

Project: OCD Central Landfarm Semiannual Sam

Collection Date:

Lab ID: 1203888-011

Matrix: TRIP BLANK

Received Date: 3/23/2012 11:07:00 AM

| Analyses                    | Result | RL     | Qual | Units | DF | Date Analyzed        |
|-----------------------------|--------|--------|------|-------|----|----------------------|
| EPA METHOD 8021B: VOLATILES |        |        |      |       |    | Analyst: NSB         |
| Benzene                     | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 7:57:56 PM |
| Toluene                     | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 7:57:56 PM |
| Ethylbenzene                | ND     | 1.0    |      | µg/L  | 1  | 3/30/2012 7:57:56 PM |
| Xylenes, Total              | ND     | 2.0    |      | µg/L  | 1  | 3/30/2012 7:57:56 PM |
| Surr: 4-Bromofluorobenzene  | 95.6   | 55-140 |      | %REC  | 1  | 3/30/2012 7:57:56 PM |

Qualifiers: \*/X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

**Analytical Report**

Lab Order 1203888

Date Reported: 4/23/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** MeOH Blank**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:****Lab ID:** 1203888-012**Matrix:** MEOH (SOIL)**Received Date:** 3/23/2012 11:07:00 AM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: NSB         |
| Benzene                            | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 2:11:18 AM |
| Toluene                            | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 2:11:18 AM |
| Ethylbenzene                       | ND     | 0.050  |      | mg/Kg | 1  | 3/28/2012 2:11:18 AM |
| Xylenes, Total                     | ND     | 0.10   |      | mg/Kg | 1  | 3/28/2012 2:11:18 AM |
| Surr: 4-Bromofluorobenzene         | 92.4   | 80-120 |      | %REC  | 1  | 3/28/2012 2:11:18 AM |

**Qualifiers:** \*/X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com  
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

**Client:** HALL ENVIRONMENTAL ANALYSIS LAB  
**Address:** 4901 HAWKINS NE SUITE D  
ALBUQUERQUE, NM 87109  
**Attn:** ANDY FREEMAN

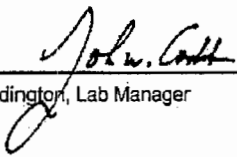
**Batch #:** 120327024  
**Project Name:** 1203888

## Analytical Results Report

|                         |                                      |                        |           |                           |                    |
|-------------------------|--------------------------------------|------------------------|-----------|---------------------------|--------------------|
| <b>Sample Number</b>    | 120327024-001                        | <b>Sampling Date</b>   | 3/22/2012 | <b>Date/Time Received</b> | 3/27/2012 11:10 AM |
| <b>Client Sample ID</b> | 1203888-008D / CENTRALOC-D-TZ-032212 |                        |           | <b>Sampling Time</b>      | 11:15 AM           |
| <b>Matrix</b>           | Soil                                 | <b>Sample Location</b> |           |                           |                    |
| <b>Comments</b>         |                                      |                        |           |                           |                    |

| Parameter | Result | Units   | PQL   | Analysis Date | Analyst | Method    | Qualifier |
|-----------|--------|---------|-------|---------------|---------|-----------|-----------|
| Cyanide   | 0.371  | mg/Kg   | 0.296 | 4/5/2012      | CRW     | EPA 335.4 |           |
| %moisture | 15.7   | Percent |       |               |         | %moisture |           |

Authorized Signature

  
John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level  
ND Not Detected  
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.  
The results reported relate only to the samples indicated.  
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595  
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095

Tuesday, April 10, 2012

Page 1 of 1



Pace Analytical Services, Inc.  
1638 Roseytown Road - Suites 2,3,4  
Greensburg, PA 15601  
(724)850-5600

## ANALYTICAL RESULTS

Project: 1203888  
Pace Project No.: 3065975

Sample: 1203888-008E CentralOCD- Lab ID: 3065975001 Collected: 03/22/12 11:15 Received: 03/27/12 09:30 Matrix: Solid  
TZ-032

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

| Parameters | Method     | Act ± Unc (MDC)      | Units | Analyzed       | CAS No.    | Qual |
|------------|------------|----------------------|-------|----------------|------------|------|
| Radium-226 | EPA 901.1m | 1.03 ± 0.241 (0.211) | pCi/g | 04/21/12 13:52 | 13982-63-3 |      |
| Radium-228 | EPA 901.1m | 1.25 ± 0.327 (0.395) | pCi/g | 04/21/12 13:52 | 15262-20-1 |      |

Date: 04/23/2012 02:27 PM

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.  
1638 Roseytown Road - Suites 2,3,4  
Greensburg, PA 15601  
(724)850-5600

### QUALITY CONTROL DATA

Project: 1203888

Pace Project No.: 3065975

QC Batch: RADC/11521

Analysis Method: EPA 901.1m

QC Batch Method: EPA 901.1m

Analysis Description: 901.1 Gamma Spec

Associated Lab Samples: 3065975001

METHOD BLANK: 422580

Matrix: Solid

Associated Lab Samples: 3065975001

| Parameter  | Act ± Unc (MDC)          | Units | Analyzed       | Qualifiers |
|------------|--------------------------|-------|----------------|------------|
| Radium-226 | 0.00800 ± 0.0150 (0.298) | pCi/g | 04/21/12 18:19 |            |
| Radium-228 | -0.030 ± 0.397 (0.440)   | pCi/g | 04/21/12 18:19 |            |

Date: 04/23/2012 02:27 PM

### REPORT OF LABORATORY ANALYSIS

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

**Client:** Western Refining Southwest, Gallup  
**Project:** OCD Central Landfarm Semiannual Sampling

|                          |          |      |                |             |      |           |                          |      |              |      |
|--------------------------|----------|------|----------------|-------------|------|-----------|--------------------------|------|--------------|------|
| Sample ID                | MB-1353  |      | SampType:      | MBLK        |      | TestCode: | EPA Method 300.0: Anions |      |              |      |
| Client ID:               | PBS      |      | Batch ID:      | 1353        |      | RunNo:    | 1905                     |      |              |      |
| Prep Date:               | 4/3/2012 |      | Analysis Date: | 4/4/2012    |      | SeqNo:    | 53109                    |      | Units: mg/Kg |      |
| Analyte                  | Result   | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit     | Qual |
| Fluoride                 | ND       | 0.30 |                |             |      |           |                          |      |              |      |
| Chloride                 | ND       | 1.5  |                |             |      |           |                          |      |              |      |
| Nitrogen, Nitrate (As N) | ND       | 0.30 |                |             |      |           |                          |      |              |      |
| Sulfate                  | ND       | 1.5  |                |             |      |           |                          |      |              |      |

|                          |          |      |                |             |      |           |                          |      |              |      |
|--------------------------|----------|------|----------------|-------------|------|-----------|--------------------------|------|--------------|------|
| Sample ID                | LCS-1353 |      | SampType:      | LCS         |      | TestCode: | EPA Method 300.0: Anions |      |              |      |
| Client ID:               | LCSS     |      | Batch ID:      | 1353        |      | RunNo:    | 1905                     |      |              |      |
| Prep Date:               | 4/3/2012 |      | Analysis Date: | 4/4/2012    |      | SeqNo:    | 53110                    |      | Units: mg/Kg |      |
| Analyte                  | Result   | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit     | Qual |
| Fluoride                 | 1.4      | 0.30 | 1.500          | 0           | 93.6 | 90        | 110                      |      |              |      |
| Chloride                 | 14       | 1.5  | 15.00          | 0           | 90.0 | 90        | 110                      |      |              |      |
| Nitrogen, Nitrate (As N) | 7.1      | 0.30 | 7.500          | 0           | 94.8 | 90        | 110                      |      |              |      |
| Sulfate                  | 28       | 1.5  | 30.00          | 0           | 94.4 | 90        | 110                      |      |              |      |

|                          |                    |     |                |             |      |           |                          |      |              |      |
|--------------------------|--------------------|-----|----------------|-------------|------|-----------|--------------------------|------|--------------|------|
| Sample ID                | 1203888-001AMS     |     | SampType:      | MS          |      | TestCode: | EPA Method 300.0: Anions |      |              |      |
| Client ID:               | CentralOCD-01-0322 |     | Batch ID:      | 1353        |      | RunNo:    | 1905                     |      |              |      |
| Date:                    | 4/3/2012           |     | Analysis Date: | 4/4/2012    |      | SeqNo:    | 53116                    |      | Units: mg/Kg |      |
| Analyte                  | Result             | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD | RPDLimit     | Qual |
| Fluoride                 | 2.8                | 1.5 | 1.500          | 1.975       | 52.5 | 18.1      | 130                      |      |              |      |
| Chloride                 | 230                | 7.5 | 15.00          | 213.8       | 117  | 74.6      | 118                      |      |              |      |
| Nitrogen, Nitrate (As N) | 6.6                | 1.5 | 7.500          | 0           | 87.9 | 71.1      | 114                      |      |              |      |
| Sulfate                  | 250                | 7.5 | 30.00          | 212.5       | 123  | 27.5      | 134                      |      |              |      |

|                          |                    |     |                |             |      |           |                          |       |              |      |
|--------------------------|--------------------|-----|----------------|-------------|------|-----------|--------------------------|-------|--------------|------|
| Sample ID                | 1203888-001AMSD    |     | SampType:      | MSD         |      | TestCode: | EPA Method 300.0: Anions |       |              |      |
| Client ID:               | CentralOCD-01-0322 |     | Batch ID:      | 1353        |      | RunNo:    | 1905                     |       |              |      |
| Prep Date:               | 4/3/2012           |     | Analysis Date: | 4/4/2012    |      | SeqNo:    | 53117                    |       | Units: mg/Kg |      |
| Analyte                  | Result             | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                | %RPD  | RPDLimit     | Qual |
| Fluoride                 | 2.9                | 1.5 | 1.500          | 1.975       | 58.7 | 18.1      | 130                      | 3.28  | 20           |      |
| Chloride                 | 240                | 7.5 | 15.00          | 213.8       | 158  | 74.6      | 118                      | 2.65  | 20           | S    |
| Nitrogen, Nitrate (As N) | 6.5                | 1.5 | 7.500          | 0           | 87.3 | 71.1      | 114                      | 0.781 | 20           |      |
| Sulfate                  | 290                | 7.5 | 30.00          | 212.5       | 252  | 27.5      | 134                      | 14.5  | 20           | S    |

### Qualifiers:

Value exceeds Maximum Contaminant Level.  
Value above quantitation range  
Analyte detected below quantitation limits  
RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                            |           |                |           |             |                       |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------|----------|-----------|------|----------|------|
| Sample ID                  | MB-1236   | SampType:      | MBLK      | TestCode:   | EPA Method 418.1: TPH |          |           |      |          |      |
| Client ID:                 | PBS       | Batch ID:      | 1236      | RunNo:      | 1703                  |          |           |      |          |      |
| Prep Date:                 | 3/26/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 48027                 | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                  | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | ND        | 20             |           |             |                       |          |           |      |          |      |

|                            |           |                |           |             |                       |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------|----------|-----------|------|----------|------|
| Sample ID                  | LCS-1236  | SampType:      | LCS       | TestCode:   | EPA Method 418.1: TPH |          |           |      |          |      |
| Client ID:                 | LCSS      | Batch ID:      | 1236      | RunNo:      | 1703                  |          |           |      |          |      |
| Prep Date:                 | 3/26/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 48028                 | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                  | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | 100       | 20             | 100.0     | 0           | 103                   | 87.8     | 115       |      |          |      |

|                            |           |                |           |             |                       |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------|----------|-----------|------|----------|------|
| Sample ID                  | LCSD-1236 | SampType:      | LCSD      | TestCode:   | EPA Method 418.1: TPH |          |           |      |          |      |
| Client ID:                 | LCSS02    | Batch ID:      | 1236      | RunNo:      | 1703                  |          |           |      |          |      |
| Prep Date:                 | 3/26/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 48030                 | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                  | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | 100       | 20             | 100.0     | 0           | 99.8                  | 87.8     | 115       | 2.94 | 8.04     |      |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|                                |           |                |           |             |                                         |              |           |      |          |      |
|--------------------------------|-----------|----------------|-----------|-------------|-----------------------------------------|--------------|-----------|------|----------|------|
| Sample ID                      | MB-1227   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Diesel Range Organics |              |           |      |          |      |
| Client ID:                     | PBS       | Batch ID:      | 1227      | RunNo:      | 1666                                    |              |           |      |          |      |
| Prep Date:                     | 3/24/2012 | Analysis Date: | 3/25/2012 | SeqNo:      | 47119                                   | Units: mg/Kg |           |      |          |      |
| Analyte                        | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO)    | ND        | 10             |           |             |                                         |              |           |      |          |      |
| Motor Oil Range Organics (MRO) | ND        | 50             |           |             |                                         |              |           |      |          |      |
| Surr: DNOP                     | 9.2       |                | 10.00     |             | 91.9                                    | 77.4         | 131       |      |          |      |

|                             |           |                |           |             |                                         |              |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------------------|--------------|-----------|------|----------|------|
| Sample ID                   | LCS-1227  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Diesel Range Organics |              |           |      |          |      |
| Client ID:                  | LCSS      | Batch ID:      | 1227      | RunNo:      | 1666                                    |              |           |      |          |      |
| Prep Date:                  | 3/24/2012 | Analysis Date: | 3/25/2012 | SeqNo:      | 47120                                   | Units: mg/Kg |           |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 45        | 10             | 50.00     | 0           | 89.2                                    | 62.7         | 139       |      |          |      |
| Surr: DNOP                  | 4.3       |                | 5.000     |             | 85.7                                    | 77.4         | 131       |      |          |      |

|                             |                |                |           |             |                                         |              |           |      |          |      |
|-----------------------------|----------------|----------------|-----------|-------------|-----------------------------------------|--------------|-----------|------|----------|------|
| Sample ID                   | 1203865-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Diesel Range Organics |              |           |      |          |      |
| Client ID:                  | BatchQC        | Batch ID:      | 1227      | RunNo:      | 1666                                    |              |           |      |          |      |
| Prep Date:                  | 3/24/2012      | Analysis Date: | 3/25/2012 | SeqNo:      | 47122                                   | Units: mg/Kg |           |      |          |      |
| Analyte                     | Result         | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 83             | 9.9            | 49.26     | 36.48       | 94.5                                    | 57.2         | 146       |      |          |      |
| Surr: DNOP                  | 4.9            |                | 4.926     |             | 99.6                                    | 77.4         | 131       |      |          |      |

|                             |                 |                |           |             |                                         |              |           |      |          |      |
|-----------------------------|-----------------|----------------|-----------|-------------|-----------------------------------------|--------------|-----------|------|----------|------|
| Sample ID                   | 1203865-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Diesel Range Organics |              |           |      |          |      |
| Client ID:                  | BatchQC         | Batch ID:      | 1227      | RunNo:      | 1666                                    |              |           |      |          |      |
| Prep Date:                  | 3/24/2012       | Analysis Date: | 3/25/2012 | SeqNo:      | 47123                                   | Units: mg/Kg |           |      |          |      |
| Analyte                     | Result          | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 70              | 9.9            | 49.50     | 36.48       | 68.6                                    | 57.2         | 146       | 16.4 | 26.7     |      |
| Surr: DNOP                  | 4.9             |                | 4.950     |             | 99.1                                    | 77.4         | 131       | 0    | 0        |      |

## Qualifiers:

Value exceeds Maximum Contaminant Level.  
Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |           |                |           |             |                                  |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-1228   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 1228      | RunNo:      | 1739                             |          |           |      |          |      |
| Prep Date: | 3/25/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 49002                            | Units:   | %REC      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 950       |                | 1,000     |             | 95.3                             | 69.7     | 121       |      |          |      |

|            |           |                |           |             |                                  |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-1228  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 1228      | RunNo:      | 1739                             |          |           |      |          |      |
| Prep Date: | 3/25/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 49003                            | Units:   | %REC      |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 1,000     |                | 1,000     |             | 100                              | 69.7     | 121       |      |          |      |

|            |                |                |           |             |                                  |          |           |      |          |      |
|------------|----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1203863-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | BatchQC        | Batch ID:      | 1228      | RunNo:      | 1739                             |          |           |      |          |      |
| Prep Date: | 3/25/2012      | Analysis Date: | 3/27/2012 | SeqNo:      | 49017                            | Units:   | %REC      |      |          |      |
| Analyte    | Result         | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 1,000          |                | 996.0     |             | 103                              | 69.7     | 121       |      |          |      |

|            |                 |                |           |             |                                  |          |           |      |          |      |
|------------|-----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1203863-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | BatchQC         | Batch ID:      | 1228      | RunNo:      | 1739                             |          |           |      |          |      |
| Prep Date: | 3/25/2012       | Analysis Date: | 3/27/2012 | SeqNo:      | 49018                            | Units:   | %REC      |      |          |      |
| Analyte    | Result          | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 1,000           |                | 1,000     |             | 102                              | 69.7     | 121       | 0    | 0        |      |

|                               |           |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | MB-1222   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | PBS       | Batch ID:      | 1222      | RunNo:      | 1770                             |          |           |      |          |      |
| Prep Date:                    | 3/23/2012 | Analysis Date: | 3/28/2012 | SeqNo:      | 49724                            | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND        | 5.0            |           |             |                                  |          |           |      |          |      |
| Surr: BFB                     | 920       |                | 1,000     |             | 92.1                             | 69.7     | 121       |      |          |      |

|                               |           |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | LCS-1222  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | LCSS      | Batch ID:      | 1222      | RunNo:      | 1770                             |          |           |      |          |      |
| Prep Date:                    | 3/23/2012 | Analysis Date: | 3/28/2012 | SeqNo:      | 49725                            | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 28        | 5.0            | 25.00     | 0           | 112                              | 98.5     | 133       |      |          |      |
| Surr: BFB                     | 1,100     |                | 1,000     |             | 112                              | 69.7     | 121       |      |          |      |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|                               |                |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1203871-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC        | Batch ID:      | 1222      | RunNo:      | 1770                             |          |           |      |          |      |
| Prep Date:                    | 3/23/2012      | Analysis Date: | 3/28/2012 | SeqNo:      | 49744                            | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result         | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 25             | 4.9            | 24.41     | 0           | 101                              | 85.4     | 147       |      |          |      |
| Surr: BFB                     | 940            |                | 976.6     |             | 96.1                             | 69.7     | 121       |      |          |      |

|                               |                 |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | 1203871-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | BatchQC         | Batch ID:      | 1222      | RunNo:      | 1770                             |          |           |      |          |      |
| Prep Date:                    | 3/23/2012       | Analysis Date: | 3/28/2012 | SeqNo:      | 49745                            | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result          | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 24              | 4.7            | 23.72     | 0           | 101                              | 85.4     | 147       | 3.60 | 19.2     |      |
| Surr: BFB                     | 930             |                | 948.8     |             | 97.6                             | 69.7     | 121       | 0    | 0        |      |

## Qualifiers:

|                                            |    |                                                    |
|--------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | MB-1228   | SampType:      | MBLK      | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | PBS       | Batch ID:      | 1228      | RunNo:      | 1740                        |          |           |      |          |      |
| Prep Date:                 | 3/25/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 49023                       | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Toluene                    | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Ethylbenzene               | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Xylenes, Total             | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene | 0.95      |                | 1.000     |             | 95.5                        | 80       | 120       |      |          |      |

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | LCS-1228  | SampType:      | LCS       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | LCSS      | Batch ID:      | 1228      | RunNo:      | 1740                        |          |           |      |          |      |
| Prep Date:                 | 3/25/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 49024                       | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 0.91      | 0.050          | 1.000     | 0           | 90.9                        | 83.3     | 107       |      |          |      |
| Toluene                    | 0.92      | 0.050          | 1.000     | 0           | 92.1                        | 74.3     | 115       |      |          |      |
| Ethylbenzene               | 0.94      | 0.050          | 1.000     | 0           | 94.0                        | 80.9     | 122       |      |          |      |
| Xylenes, Total             | 2.8       | 0.10           | 3.000     | 0           | 94.3                        | 85.2     | 123       |      |          |      |
| Surr: 4-Bromofluorobenzene | 0.98      |                | 1.000     |             | 97.7                        | 80       | 120       |      |          |      |

|                            |                    |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1203888-001AMS     | SampType:      | MS        | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | CentralOCD-01-0322 | Batch ID:      | 1228      | RunNo:      | 1740                        |          |           |      |          |      |
| Prep Date:                 | 3/25/2012          | Analysis Date: | 3/27/2012 | SeqNo:      | 49045                       | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result             | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 0.87               | 0.048          | 0.9615    | 0           | 90.3                        | 67.2     | 113       |      |          |      |
| Toluene                    | 0.89               | 0.048          | 0.9615    | 0           | 92.7                        | 62.1     | 116       |      |          |      |
| Ethylbenzene               | 0.89               | 0.048          | 0.9615    | 0           | 93.0                        | 67.9     | 127       |      |          |      |
| Xylenes, Total             | 2.7                | 0.096          | 2.885     | 0           | 93.6                        | 60.6     | 134       |      |          |      |
| Surr: 4-Bromofluorobenzene | 0.93               |                | 0.9615    |             | 96.7                        | 80       | 120       |      |          |      |

|                            |                    |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1203888-001AMSD    | SampType:      | MSD       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | CentralOCD-01-0322 | Batch ID:      | 1228      | RunNo:      | 1740                        |          |           |      |          |      |
| Prep Date:                 | 3/25/2012          | Analysis Date: | 3/27/2012 | SeqNo:      | 49046                       | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result             | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 0.88               | 0.048          | 0.9690    | 0           | 91.3                        | 67.2     | 113       | 1.82 | 14.3     |      |
| Toluene                    | 0.91               | 0.048          | 0.9690    | 0           | 94.1                        | 62.1     | 116       | 2.24 | 15.9     |      |
| Ethylbenzene               | 0.93               | 0.048          | 0.9690    | 0           | 96.3                        | 67.9     | 127       | 4.32 | 14.4     |      |
| Xylenes, Total             | 2.8                | 0.097          | 2.907     | 0           | 96.5                        | 60.6     | 134       | 3.78 | 12.6     |      |
| Surr: 4-Bromofluorobenzene | 0.93               |                | 0.9690    |             | 95.5                        | 80       | 120       | 0    | 0        |      |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | MB-1222   | SampType:      | MBLK      | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | PBS       | Batch ID:      | 1222      | RunNo:      | 1771                        |          |           |      |          |      |
| Prep Date:                 | 3/23/2012 | Analysis Date: | 3/28/2012 | SeqNo:      | 49749                       | Units:   | %REC      |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 0.91      |                | 1.000     |             | 91.4                        | 80       | 120       |      |          |      |

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | LCS-1222  | SampType:      | LCS       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | LCSS      | Batch ID:      | 1222      | RunNo:      | 1771                        |          |           |      |          |      |
| Prep Date:                 | 3/23/2012 | Analysis Date: | 3/28/2012 | SeqNo:      | 49750                       | Units:   | %REC      |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 0.94      |                | 1.000     |             | 94.0                        | 80       | 120       |      |          |      |

|                            |                |                |           |             |                             |          |           |      |          |      |
|----------------------------|----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1203865-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | BatchQC        | Batch ID:      | 1222      | RunNo:      | 1771                        |          |           |      |          |      |
| Prep Date:                 | 3/23/2012      | Analysis Date: | 3/28/2012 | SeqNo:      | 49763                       | Units:   | %REC      |      |          |      |
| Analyte                    | Result         | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 2.0            |                | 1.848     |             | 109                         | 80       | 120       |      |          |      |

|                            |                 |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1203865-001AMSD | SampType:      | MSD       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | BatchQC         | Batch ID:      | 1222      | RunNo:      | 1771                        |          |           |      |          |      |
| Prep Date:                 | 3/23/2012       | Analysis Date: | 3/28/2012 | SeqNo:      | 49764                       | Units:   | %REC      |      |          |      |
| Analyte                    | Result          | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 2.2             |                | 1.842     |             | 117                         | 80       | 120       | 0    | 0        |      |

## Qualifiers:

- |                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range               | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|                            |        |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 5ML RB | SampType:      | MBLK      | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | PBW    | Batch ID:      | R1854     | RunNo:      | 1854                        |          |           |      |          |      |
| Prep Date:                 |        | Analysis Date: | 3/30/2012 | SeqNo:      | 51880                       | Units:   | µg/L      |      |          |      |
| Analyte                    | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Toluene                    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Ethylbenzene               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Xylenes, Total             | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene | 18     |                | 20.00     |             | 92.2                        | 55       | 140       |      |          |      |

|                            |                |                |           |             |                             |          |           |      |          |      |
|----------------------------|----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 100NG BTEX LCS | SampType:      | LCS       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | LCSW           | Batch ID:      | R1854     | RunNo:      | 1854                        |          |           |      |          |      |
| Prep Date:                 |                | Analysis Date: | 3/30/2012 | SeqNo:      | 51881                       | Units:   | µg/L      |      |          |      |
| Analyte                    | Result         | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 21             | 1.0            | 20.00     | 0           | 104                         | 80       | 120       |      |          |      |
| Toluene                    | 22             | 1.0            | 20.00     | 0           | 112                         | 80       | 120       |      |          |      |
| Ethylbenzene               | 22             | 1.0            | 20.00     | 0           | 111                         | 80       | 120       |      |          |      |
| Xylenes, Total             | 67             | 2.0            | 60.00     | 0           | 111                         | 80       | 120       |      |          |      |
| Surr: 4-Bromofluorobenzene | 18             |                | 20.00     |             | 92.0                        | 55       | 140       |      |          |      |

|                            |                |                |           |             |                             |          |           |      |          |      |
|----------------------------|----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1203873-001AMS | SampType:      | MS        | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | BatchQC        | Batch ID:      | R1854     | RunNo:      | 1854                        |          |           |      |          |      |
| Prep Date:                 |                | Analysis Date: | 3/30/2012 | SeqNo:      | 51888                       | Units:   | µg/L      |      |          |      |
| Analyte                    | Result         | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 19             | 1.0            | 20.00     | 0           | 93.4                        | 70.1     | 118       |      |          |      |
| Toluene                    | 21             | 1.0            | 20.00     | 0           | 103                         | 72.3     | 117       |      |          |      |
| Ethylbenzene               | 21             | 1.0            | 20.00     | 0           | 104                         | 73.5     | 117       |      |          |      |
| Xylenes, Total             | 63             | 2.0            | 60.00     | 0           | 104                         | 73.1     | 119       |      |          |      |
| Surr: 4-Bromofluorobenzene | 20             |                | 20.00     |             | 102                         | 55       | 140       |      |          |      |

|                            |                 |     |                |             |      |          |           |                             |          |      |  |
|----------------------------|-----------------|-----|----------------|-------------|------|----------|-----------|-----------------------------|----------|------|--|
| Sample ID                  | 1203873-001AMSD |     |                | SampType:   | MSD  |          | TestCode: | EPA Method 8021B: Volatiles |          |      |  |
| Client ID:                 | BatchQC         |     | Batch ID:      | R1854       |      | RunNo:   | 1854      |                             |          |      |  |
| Prep Date:                 |                 |     | Analysis Date: | 3/30/2012   |      | SeqNo:   | 51889     |                             | Units:   | µg/L |  |
| Analyte                    | Result          | PQL | SPK value      | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD                        | RPDLimit | Qual |  |
| Benzene                    | 19              | 1.0 | 20.00          | 0           | 95.4 | 70.1     | 118       | 2.11                        | 16.4     |      |  |
| Toluene                    | 20              | 1.0 | 20.00          | 0           | 101  | 72.3     | 117       | 1.41                        | 13.9     |      |  |
| Ethylbenzene               | 20              | 1.0 | 20.00          | 0           | 100  | 73.5     | 117       | 3.48                        | 13.5     |      |  |
| Xylenes, Total             | 60              | 2.0 | 60.00          | 0           | 100  | 73.1     | 119       | 3.70                        | 12.9     |      |  |
| Surr: 4-Bromofluorobenzene | 20              |     | 20.00          |             | 98.9 | 55       | 140       | 0                           | 0        |      |  |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

**Client:** Western Refining Southwest, Gallup  
**Project:** OCD Central Landfarm Semiannual Sampling

|                          |           |                |           |                                  |       |              |           |      |          |      |
|--------------------------|-----------|----------------|-----------|----------------------------------|-------|--------------|-----------|------|----------|------|
| Sample ID                | MB-1300   | SampType:      | MBLK      | TestCode: EPA Method 8082: PCB's |       |              |           |      |          |      |
| Client ID:               | PBS       | Batch ID:      | 1300      | RunNo: 1836                      |       |              |           |      |          |      |
| Prep Date:               | 3/29/2012 | Analysis Date: | 4/2/2012  | SeqNo:                           | 51274 | Units: mg/Kg |           |      |          |      |
| Analyte                  | Result    | PQL            | SPK value | SPK Ref Val                      | %REC  | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Aroclor 1016             | ND        | 0.020          |           |                                  |       |              |           |      |          |      |
| Aroclor 1221             | ND        | 0.020          |           |                                  |       |              |           |      |          |      |
| Aroclor 1232             | ND        | 0.020          |           |                                  |       |              |           |      |          |      |
| Aroclor 1242             | ND        | 0.020          |           |                                  |       |              |           |      |          |      |
| Aroclor 1248             | ND        | 0.020          |           |                                  |       |              |           |      |          |      |
| Aroclor 1254             | ND        | 0.020          |           |                                  |       |              |           |      |          |      |
| Aroclor 1260             | ND        | 0.020          |           |                                  |       |              |           |      |          |      |
| Surr: Decachlorobiphenyl | 0.046     |                | 0.06250   |                                  | 74.4  | 20.7         | 114       |      |          |      |

|                          |           |                |           |             |                        |          |           |      |          |      |
|--------------------------|-----------|----------------|-----------|-------------|------------------------|----------|-----------|------|----------|------|
| Sample ID                | LCS-1300  | SampType:      | LCS       | TestCode:   | EPA Method 8082: PCB's |          |           |      |          |      |
| Client ID:               | LCSS      | Batch ID:      | 1300      | RunNo:      | 1836                   |          |           |      |          |      |
| Prep Date:               | 3/29/2012 | Analysis Date: | 4/2/2012  | SeqNo:      | 51486                  | Units:   | mg/Kg     |      |          |      |
| Analyte                  | Result    | PQL            | SPK value | SPK Ref Val | %REC                   | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Aroclor 1260             | 0.098     | 0.020          | 0.1250    | 0           | 78.2                   | 21.4     | 118       |      |          |      |
| Surr: Decachlorobiphenyl | 0.042     |                | 0.06250   |             | 66.4                   | 20.7     | 114       |      |          |      |

|                          |           |                |           |             |                        |          |           |      |          |      |
|--------------------------|-----------|----------------|-----------|-------------|------------------------|----------|-----------|------|----------|------|
| Sample ID                | LCSD-1300 | SampType:      | LCSD      | TestCode:   | EPA Method 8082: PCB's |          |           |      |          |      |
| Client ID:               | LCSS02    | Batch ID:      | 1300      | RunNo:      | 1836                   |          |           |      |          |      |
| Prep Date:               | 3/29/2012 | Analysis Date: | 4/2/2012  | SeqNo:      | 51492                  | Units:   | mg/Kg     |      |          |      |
| Analyte                  | Result    | PQL            | SPK value | SPK Ref Val | %REC                   | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Aroclor 1260             | 0.087     | 0.020          | 0.1250    | 0           | 69.8                   | 21.4     | 118       | 11.3 | 20       |      |
| Surr: Decachlorobiphenyl | 0.037     |                | 0.06250   |             | 59.2                   | 20.7     | 114       | 0    | 0        |      |

### Qualifiers:

- |                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range               | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |



# QC SUMMARY REPORT

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WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |           |                |           |             |                             |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID  | mb-1222   | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 1222      | RunNo:      | 1706                        |          |           |      |          |      |
| Prep Date: | 3/23/2012 | Analysis Date: | 3/26/2012 | SeqNo:      | 48074                       | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                                |    |       |  |  |  |  |  |  |  |  |
|--------------------------------|----|-------|--|--|--|--|--|--|--|--|
| Benzene                        | ND | 0.050 |  |  |  |  |  |  |  |  |
| Toluene                        | ND | 0.050 |  |  |  |  |  |  |  |  |
| Ethylbenzene                   | ND | 0.050 |  |  |  |  |  |  |  |  |
| Methyl tert-butyl ether (MTBE) | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,2,4-Trimethylbenzene         | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,3,5-Trimethylbenzene         | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,2-Dichloroethane (EDC)       | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,2-Dibromoethane (EDB)        | ND | 0.050 |  |  |  |  |  |  |  |  |
| Naphthalene                    | ND | 0.10  |  |  |  |  |  |  |  |  |
| 1-Methylnaphthalene            | ND | 0.20  |  |  |  |  |  |  |  |  |
| 2-Methylnaphthalene            | ND | 0.20  |  |  |  |  |  |  |  |  |
| Acetone                        | ND | 0.75  |  |  |  |  |  |  |  |  |
| Bromobenzene                   | ND | 0.050 |  |  |  |  |  |  |  |  |
| Bromodichloromethane           | ND | 0.050 |  |  |  |  |  |  |  |  |
| Bromoform                      | ND | 0.050 |  |  |  |  |  |  |  |  |
| Bromomethane                   | ND | 0.15  |  |  |  |  |  |  |  |  |
| 2-Butanone                     | ND | 0.50  |  |  |  |  |  |  |  |  |
| Carbon disulfide               | ND | 0.50  |  |  |  |  |  |  |  |  |
| Carbon tetrachloride           | ND | 0.10  |  |  |  |  |  |  |  |  |
| Chlorobenzene                  | ND | 0.050 |  |  |  |  |  |  |  |  |
| Chloroethane                   | ND | 0.10  |  |  |  |  |  |  |  |  |
| Chloroform                     | ND | 0.050 |  |  |  |  |  |  |  |  |
| Chloromethane                  | ND | 0.15  |  |  |  |  |  |  |  |  |
| 2-Chlorotoluene                | ND | 0.050 |  |  |  |  |  |  |  |  |
| 4-Chlorotoluene                | ND | 0.050 |  |  |  |  |  |  |  |  |
| cis-1,2-DCE                    | ND | 0.050 |  |  |  |  |  |  |  |  |
| cis-1,3-Dichloropropene        | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,2-Dibromo-3-chloropropane    | ND | 0.10  |  |  |  |  |  |  |  |  |
| Dibromochloromethane           | ND | 0.050 |  |  |  |  |  |  |  |  |
| Dibromomethane                 | ND | 0.10  |  |  |  |  |  |  |  |  |
| 1,2-Dichlorobenzene            | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,3-Dichlorobenzene            | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,4-Dichlorobenzene            | ND | 0.050 |  |  |  |  |  |  |  |  |
| Dichlorodifluoromethane        | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,1-Dichloroethane             | ND | 0.10  |  |  |  |  |  |  |  |  |
| 1,1-Dichloroethene             | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,2-Dichloropropane            | ND | 0.050 |  |  |  |  |  |  |  |  |
| 1,3-Dichloropropane            | ND | 0.050 |  |  |  |  |  |  |  |  |
| 2,2-Dichloropropane            | ND | 0.10  |  |  |  |  |  |  |  |  |
| 1,1-Dichloropropene            | ND | 0.10  |  |  |  |  |  |  |  |  |
| Hexachlorobutadiene            | ND | 0.10  |  |  |  |  |  |  |  |  |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

| Sample ID                   | mb-1222   | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Client ID:                  | PBS       | Batch ID:      | 1222      | RunNo:      | 1706                        |          |           |      |          |      |
| Prep Date:                  | 3/23/2012 | Analysis Date: | 3/26/2012 | SeqNo:      | 48074                       | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2-Hexanone                  | ND        | 0.50           |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND        | 0.50           |           |             |                             |          |           |      |          |      |
| Methylene chloride          | ND        | 0.15           |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Styrene                     | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Trichloroethane             | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Vinyl chloride              | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.51      |                | 0.5000    |             | 102                         | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.45      |                | 0.5000    |             | 89.6                        | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.51      |                | 0.5000    |             | 102                         | 71.7     | 132       |      |          |      |
| Surr: Toluene-d8            | 0.47      |                | 0.5000    |             | 93.0                        | 70       | 130       |      |          |      |

| Sample ID                   | lcs-1222  | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Client ID:                  | LCSS      | Batch ID:      | 1222      | RunNo:      | 1706                        |          |           |      |          |      |
| Prep Date:                  | 3/23/2012 | Analysis Date: | 3/26/2012 | SeqNo:      | 48076                       | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 1.1       | 0.050          | 1.000     | 0           | 107                         | 70.7     | 123       |      |          |      |
| Toluene                     | 0.93      | 0.050          | 1.000     | 0           | 93.4                        | 80       | 120       |      |          |      |
| Chlorobenzene               | 0.95      | 0.050          | 1.000     | 0           | 95.5                        | 70       | 130       |      |          |      |
| 1,1-Dichloroethene          | 1.1       | 0.050          | 1.000     | 0           | 113                         | 63.1     | 148       |      |          |      |
| Trichloroethene (TCE)       | 0.98      | 0.050          | 1.000     | 0           | 97.6                        | 63.2     | 114       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.51      |                | 0.5000    |             | 102                         | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.43      |                | 0.5000    |             | 85.5                        | 70       | 130       |      |          |      |

## Qualifiers:

|                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range               | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | lcs-1222  | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                 | LCSS      | Batch ID:      | 1222      | RunNo:      | 1706                        |          |           |      |          |      |
| Prep Date:                 | 3/23/2012 | Analysis Date: | 3/26/2012 | SeqNo:      | 48076                       | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: Dibromofluoromethane | 0.49      |                | 0.5000    |             | 98.7                        | 71.7     | 132       |      |          |      |
| Surr: Toluene-d8           | 0.45      |                | 0.5000    |             | 90.9                        | 70       | 130       |      |          |      |

|                             |                |                |           |             |                             |          |           |      |          |      |
|-----------------------------|----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | 1203813-001ams | SampType:      | MS        | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | BatchQC        | Batch ID:      | 1222      | RunNo:      | 1706                        |          |           |      |          |      |
| Prep Date:                  | 3/23/2012      | Analysis Date: | 3/26/2012 | SeqNo:      | 48078                       | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result         | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 0.98           | 0.049          | 0.9709    | 0           | 101                         | 81.3     | 119       |      |          |      |
| Toluene                     | 0.85           | 0.049          | 0.9709    | 0           | 88.0                        | 75       | 121       |      |          |      |
| Chlorobenzene               | 0.89           | 0.049          | 0.9709    | 0           | 91.2                        | 78.5     | 120       |      |          |      |
| 1,1-Dichloroethene          | 1.0            | 0.049          | 0.9709    | 0           | 103                         | 75.3     | 115       |      |          |      |
| Trichloroethene (TCE)       | 0.94           | 0.049          | 0.9709    | 0.05739     | 91.2                        | 67.8     | 119       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.47           |                | 0.4854    |             | 97.1                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.43           |                | 0.4854    |             | 89.2                        | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.47           |                | 0.4854    |             | 96.0                        | 71.7     | 132       |      |          |      |
| Surr: Toluene-d8            | 0.43           |                | 0.4854    |             | 89.3                        | 70       | 130       |      |          |      |

|                             |                 |                          |                                       |             |              |          |           |       |          |      |
|-----------------------------|-----------------|--------------------------|---------------------------------------|-------------|--------------|----------|-----------|-------|----------|------|
| Sample ID                   | 1203813-001amsd | SampType: MSD            | TestCode: EPA Method 8260B: VOLATILES |             |              |          |           |       |          |      |
| Client ID:                  | BatchQC         | Batch ID: 1222           | RunNo: 1706                           |             |              |          |           |       |          |      |
| Prep Date:                  | 3/23/2012       | Analysis Date: 3/26/2012 | SeqNo: 48080                          |             | Units: mg/Kg |          |           |       |          |      |
| Analyte                     | Result          | PQL                      | SPK value                             | SPK Ref Val | %REC         | LowLimit | HighLimit | %RPD  | RPDLimit | Qual |
| Benzene                     | 0.89            | 0.048                    | 0.9588                                | 0           | 93.3         | 81.3     | 119       | 9.53  | 15.7     |      |
| Toluene                     | 0.85            | 0.048                    | 0.9588                                | 0           | 88.9         | 75       | 121       | 0.320 | 16.2     |      |
| Chlorobenzene               | 0.87            | 0.048                    | 0.9588                                | 0           | 90.3         | 78.5     | 120       | 2.21  | 14.9     |      |
| 1,1-Dichloroethene          | 0.92            | 0.048                    | 0.9588                                | 0           | 95.5         | 75.3     | 115       | 8.56  | 31.8     |      |
| Trichloroethene (TCE)       | 0.97            | 0.048                    | 0.9588                                | 0.05739     | 95.5         | 67.8     | 119       | 3.12  | 16.5     |      |
| Surr: 1,2-Dichloroethane-d4 | 0.43            |                          | 0.4794                                |             | 90.4         | 70       | 130       | 0     | 0        |      |
| Surr: 4-Bromofluorobenzene  | 0.44            |                          | 0.4794                                |             | 92.7         | 70       | 130       | 0     | 0        |      |
| Surr: Dibromofluoromethane  | 0.45            |                          | 0.4794                                |             | 93.1         | 71.7     | 132       | 0     | 0        |      |
| Surr: Toluene-d8            | 0.42            |                          | 0.4794                                |             | 88.4         | 70       | 130       | 0     | 0        |      |

## Qualifiers:

\* / X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

**Client:** Western Refining Southwest, Gallup  
**Project:** OCD Central Landfarm Semiannual Sampling

| Sample ID                   | mb-1234   | SampType:      | MBLK      | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Client ID:                  | PBS       | Batch ID:      | 1234      | RunNo:      | 1719                            |          |           |      |          |      |
| Prep Date:                  | 3/26/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 48451                           | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Acenaphthylene              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Aniline                     | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Anthracene                  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Azobenzene                  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benz(a)anthracene           | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(a)pyrene              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(b)fluoranthene        | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(g,h,i)perylene        | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzo(k)fluoranthene        | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Benzoic acid                | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| Benzyl alcohol              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroethoxy)methane  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroethyl)ether     | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-chloroisopropyl)ether | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Bis(2-ethylhexyl)phthalate  | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 4-Bromophenyl phenyl ether  | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| benzyl phthalate            | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Carbazole                   | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 4-Chloro-3-methylphenol     | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 4-Chloroaniline             | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2-Chloronaphthalene         | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| 2-Chlorophenol              | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 4-Chlorophenyl phenyl ether | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Chrysene                    | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Di-n-butyl phthalate        | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| Di-n-octyl phthalate        | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| Dibenz(a,h)anthracene       | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Dibenzofuran                | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,2-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,3-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 1,4-Dichlorobenzene         | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 3,3'-Dichlorobenzidine      | ND        | 0.25           |           |             |                                 |          |           |      |          |      |
| Diethyl phthalate           | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| Dimethyl phthalate          | ND        | 0.20           |           |             |                                 |          |           |      |          |      |
| 2,4-Dichlorophenol          | ND        | 0.40           |           |             |                                 |          |           |      |          |      |
| 2,4-Dimethylphenol          | ND        | 0.30           |           |             |                                 |          |           |      |          |      |
| 4,6-Dinitro-2-methylphenol  | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrophenol           | ND        | 0.40           |           |             |                                 |          |           |      |          |      |
| 2,4-Dinitrotoluene          | ND        | 0.50           |           |             |                                 |          |           |      |          |      |
| 2,6-Dinitrotoluene          | ND        | 0.50           |           |             |                                 |          |           |      |          |      |

## Qualifiers:

|                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range               | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| R RPD outside accepted recovery limits       | RL | Reporting Detection Limit                          |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|            |           |     |                |             |      |           |                                 |      |          |       |  |
|------------|-----------|-----|----------------|-------------|------|-----------|---------------------------------|------|----------|-------|--|
| Sample ID  | mb-1234   |     | SampType:      | MBLK        |      | TestCode: | EPA Method 8270C: Semivolatiles |      |          |       |  |
| Client ID: | PBS       |     | Batch ID:      | 1234        |      | RunNo:    | 1719                            |      |          |       |  |
| Prep Date: | 3/26/2012 |     | Analysis Date: | 3/27/2012   |      | SeqNo:    | 48451                           |      | Units:   | mg/Kg |  |
| Analyte    | Result    | PQL | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                       | %RPD | RPDLimit | Qual  |  |

|                            |     |      |       |  |      |      |     |  |  |  |
|----------------------------|-----|------|-------|--|------|------|-----|--|--|--|
| Fluoranthene               | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Fluorene                   | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Hexachlorobenzene          | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Hexachlorobutadiene        | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Hexachlorocyclopentadiene  | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Hexachloroethane           | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Indeno(1,2,3-cd)pyrene     | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Isophorone                 | ND  | 0.50 |       |  |      |      |     |  |  |  |
| 1-Methylnaphthalene        | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 2-Methylnaphthalene        | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 2-Methylphenol             | ND  | 0.50 |       |  |      |      |     |  |  |  |
| 3+4-Methylphenol           | ND  | 0.20 |       |  |      |      |     |  |  |  |
| N-Nitrosodi-n-propylamine  | ND  | 0.20 |       |  |      |      |     |  |  |  |
| N-Nitrosodiphenylamine     | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Naphthalene                | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 2-Nitroaniline             | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 3-Nitroaniline             | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 4-Nitroaniline             | ND  | 0.40 |       |  |      |      |     |  |  |  |
| Nitrobenzene               | ND  | 0.50 |       |  |      |      |     |  |  |  |
| 2-Nitrophenol              | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 4-Nitrophenol              | ND  | 0.25 |       |  |      |      |     |  |  |  |
| Pentachlorophenol          | ND  | 0.40 |       |  |      |      |     |  |  |  |
| Phenanthrene               | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Phenol                     | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Pyrene                     | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Pyridine                   | ND  | 0.50 |       |  |      |      |     |  |  |  |
| 1,2,4-Trichlorobenzene     | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 2,4,5-Trichlorophenol      | ND  | 0.20 |       |  |      |      |     |  |  |  |
| 2,4,6-Trichlorophenol      | ND  | 0.20 |       |  |      |      |     |  |  |  |
| Surr: 2,4,6-Tribromophenol | 2.9 |      | 3.330 |  | 86.6 | 20.1 | 121 |  |  |  |
| Surr: 2-Fluorobiphenyl     | 1.4 |      | 1.670 |  | 83.2 | 19   | 133 |  |  |  |
| Surr: 2-Fluorophenol       | 2.6 |      | 3.330 |  | 79.2 | 20.2 | 108 |  |  |  |
| Surr: 4-Terphenyl-d14      | 1.3 |      | 1.670 |  | 79.3 | 18.9 | 115 |  |  |  |
| Surr: Nitrobenzene-d5      | 1.5 |      | 1.670 |  | 86.9 | 20.8 | 123 |  |  |  |
| Surr: Phenol-d5            | 2.8 |      | 3.330 |  | 85.3 | 19.8 | 115 |  |  |  |

|            |           |                |           |             |                                 |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|---------------------------------|----------|-----------|------|----------|------|
| Sample ID  | ics-1234  | SampType:      | LCS       | TestCode:   | EPA Method 8270C: Semivolatiles |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 1234      | RunNo:      | 1719                            |          |           |      |          |      |
| Prep Date: | 3/26/2012 | Analysis Date: | 3/27/2012 | SeqNo:      | 48452                           | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                            | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

## Qualifiers:

\*X Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1203888

23-Apr-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

|                            |           |                          |           |             |                                           |          |              |      |          |      |
|----------------------------|-----------|--------------------------|-----------|-------------|-------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                  | ics-1234  | SampType: LCS            |           |             | TestCode: EPA Method 8270C: Semivolatiles |          |              |      |          |      |
| Client ID:                 | LCSS      | Batch ID: 1234           |           |             | RunNo: 1719                               |          |              |      |          |      |
| Prep Date:                 | 3/26/2012 | Analysis Date: 3/27/2012 |           |             | SeqNo: 48452                              |          | Units: mg/Kg |      |          |      |
| Analyte                    | Result    | PQL                      | SPK value | SPK Ref Val | %REC                                      | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Acenaphthene               | 1.0       | 0.20                     | 1.670     | 0           | 61.1                                      | 49.7     | 98.1         |      |          |      |
| 4-Chloro-3-methylphenol    | 2.3       | 0.50                     | 3.330     | 0           | 68.8                                      | 43.8     | 89.1         |      |          |      |
| 2-Chlorophenol             | 2.4       | 0.20                     | 3.330     | 0           | 72.0                                      | 41.1     | 96.9         |      |          |      |
| 1,4-Dichlorobenzene        | 1.0       | 0.20                     | 1.670     | 0           | 61.4                                      | 41       | 97.4         |      |          |      |
| 2,4-Dinitrotoluene         | 1.1       | 0.50                     | 1.670     | 0           | 68.7                                      | 44.4     | 104          |      |          |      |
| N-Nitrosodi-n-propylamine  | 1.1       | 0.20                     | 1.670     | 0           | 64.2                                      | 39.1     | 86.9         |      |          |      |
| 4-Nitrophenol              | 2.3       | 0.25                     | 3.330     | 0           | 70.0                                      | 44.2     | 107          |      |          |      |
| Pentachlorophenol          | 1.9       | 0.40                     | 3.330     | 0           | 56.9                                      | 36.2     | 80           |      |          |      |
| Phenol                     | 2.3       | 0.20                     | 3.330     | 0           | 70.5                                      | 42.7     | 92.7         |      |          |      |
| Pyrene                     | 1.0       | 0.20                     | 1.670     | 0           | 62.4                                      | 34.7     | 98.8         |      |          |      |
| 1,2,4-Trichlorobenzene     | 1.3       | 0.20                     | 1.670     | 0           | 76.1                                      | 37.8     | 98.3         |      |          |      |
| Surr: 2,4,6-Tribromophenol | 2.9       |                          | 3.330     |             | 86.9                                      | 20.1     | 121          |      |          |      |
| Surr: 2-Fluorobiphenyl     | 1.1       |                          | 1.670     |             | 66.9                                      | 19       | 133          |      |          |      |
| Surr: 2-Fluorophenol       | 2.3       |                          | 3.330     |             | 69.0                                      | 20.2     | 108          |      |          |      |
| Surr: 4-Terphenyl-d14      | 1.3       |                          | 1.670     |             | 79.4                                      | 18.9     | 115          |      |          |      |
| Surr: Nitrobenzene-d5      | 1.2       |                          | 1.670     |             | 70.8                                      | 20.8     | 123          |      |          |      |
| Surr: Phenol-d5            | 2.7       |                          | 3.330     |             | 79.7                                      | 19.8     | 115          |      |          |      |

| Sample ID: 1203888-008Bms    |        | SampType: MS             |           | TestCode: EPA Method 8270C: Semivolatiles |      |              |           |      |          |      |
|------------------------------|--------|--------------------------|-----------|-------------------------------------------|------|--------------|-----------|------|----------|------|
| Client ID: CentralOCD-TZ-032 |        | Batch ID: 1234           |           | RunNo: 1719                               |      |              |           |      |          |      |
| Prep Date: 3/26/2012         |        | Analysis Date: 3/27/2012 |           | SeqNo: 48466                              |      | Units: mg/Kg |           |      |          |      |
| Analyte                      | Result | PQL                      | SPK value | SPK Ref Val                               | %REC | LowLimit     | HighLimit | %RPD | RPDLimit | Qual |
| Acenaphthene                 | 1.2    | 0.40                     | 1.678     | 0                                         | 69.5 | 34.9         | 118       |      |          |      |
| 4-Chloro-3-methylphenol      | 2.5    | 1.0                      | 3.347     | 0                                         | 75.9 | 28.8         | 126       |      |          |      |
| 2-Chlorophenol               | 2.7    | 0.40                     | 3.347     | 0                                         | 80.2 | 26.7         | 115       |      |          |      |
| 1,4-Dichlorobenzene          | 1.2    | 0.40                     | 1.678     | 0                                         | 72.0 | 23.1         | 109       |      |          |      |
| 2,4-Dinitrotoluene           | 1.3    | 1.0                      | 1.678     | 0                                         | 78.1 | 14.6         | 109       |      |          |      |
| N-Nitrosodi-n-propylamine    | 1.5    | 0.40                     | 1.678     | 0                                         | 87.2 | 20.9         | 120       |      |          |      |
| 4-Nitrophenol                | 2.5    | 0.50                     | 3.347     | 0                                         | 75.6 | 16           | 171       |      |          |      |
| Pentachlorophenol            | 2.2    | 0.80                     | 3.347     | 0                                         | 65.0 | 26.8         | 134       |      |          |      |
| Phenol                       | 2.6    | 0.40                     | 3.347     | 0                                         | 79.1 | 29.6         | 115       |      |          |      |
| Pyrene                       | 1.4    | 0.40                     | 1.678     | 0                                         | 81.0 | 12.6         | 134       |      |          |      |
| 1,2,4-Trichlorobenzene       | 1.4    | 0.40                     | 1.678     | 0                                         | 85.0 | 24.6         | 124       |      |          |      |
| Surr: 2,4,6-Tribromophenol   | 3.4    |                          | 3.347     |                                           | 101  | 20.1         | 121       |      |          |      |
| Surr: 2-Fluorobiphenyl       | 1.4    |                          | 1.678     |                                           | 86.2 | 19           | 133       |      |          |      |
| Surr: 2-Fluorophenol         | 3.0    |                          | 3.347     |                                           | 90.6 | 20.2         | 108       |      |          |      |
| Surr: 4-Terphenyl-d14        | 1.5    |                          | 1.678     |                                           | 88.5 | 18.9         | 115       |      |          |      |
| Surr: Nitrobenzene-d5        | 1.6    |                          | 1.678     |                                           | 94.0 | 20.8         | 123       |      |          |      |
| Surr: Phenol-d5              | 3.2    |                          | 3.347     |                                           | 94.9 | 19.8         | 115       |      |          |      |

## Qualifiers:

Value exceeds Maximum Contaminant Level.  
Value above quantitation range  
Analyte detected below quantitation limits  
RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
RL Reporting Detection Limit



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87105  
TEL: 505-345-3975 FAX: 505-345-4101  
Website: www.hallenvironmental.com

## Sample Log-In Check List

|                   |                         |                       |                        |
|-------------------|-------------------------|-----------------------|------------------------|
| Client Name:      | Western Refining Gallup | Work Order Number:    | 1203888                |
| Received by/date: | <i>mg</i> 03/23/12      |                       |                        |
| Logged By:        | Michelle Garcia         | 3/23/2012 11:07:00 AM | <i>Michelle Garcia</i> |
| Completed By:     | Michelle Garcia         | 3/23/2012 12:11:51 PM | <i>Michelle Garcia</i> |
| Reviewed By:      | <i>[Signature]</i>      | 03/23/12              |                        |

### Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Client

### Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
6. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☒ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
11. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
12. Were any sample containers received broken? Yes ☐ No ☒
13. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
15. Is it clear what analyses were requested? Yes ☒ No ☐
16. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

|                                              |       |
|----------------------------------------------|-------|
| # of preserved<br>bottles checked<br>for pH: | _____ |
| ( $<2$ or $>12$ unless noted)                |       |
| Adjusted?                                    | _____ |
| Checked by:                                  | _____ |

### Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

|                      |       |       |                                                                                                                               |
|----------------------|-------|-------|-------------------------------------------------------------------------------------------------------------------------------|
| Person Notified:     | _____ | Date: | _____                                                                                                                         |
| By Whom:             | _____ | Via:  | <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person |
| Regarding:           | _____ |       |                                                                                                                               |
| Client Instructions: | _____ |       |                                                                                                                               |

18. Additional remarks:

### 19. Cooler Information

| Cooler No | Temp $^{\circ}\text{C}$ | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|-------------------------|-----------|-------------|---------|-----------|-----------|
| 1         | 1.0                     | Good      | Yes         |         |           |           |







*Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)*

September 24, 2012

Ed Riege

Western Refining Southwest, Gallup

Rt. 3 Box 7

Gallup, NM 87301

TEL: (505) 722-3833

FAX (505) 722-0210

RE: OCD Central Landfarm Semiannual Sampling

OrderNo.: 1208B46

Dear Ed Riege:

Hall Environmental Analysis Laboratory received 9 sample(s) on 8/24/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Analytical Report**

Lab Order 1208B46

Date Reported: 9/24/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-237-8-24-12**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 8/24/2012 9:25:00 AM**Lab ID:** 1208B46-001**Matrix:** SOIL**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>NSB</b>  |
| Benzene                            | ND     | 0.049  |      | mg/Kg | 1  | 8/29/2012 2:31:41 PM |
| Toluene                            | ND     | 0.049  |      | mg/Kg | 1  | 8/29/2012 2:31:41 PM |
| Ethylbenzene                       | ND     | 0.049  |      | mg/Kg | 1  | 8/29/2012 2:31:41 PM |
| Xylenes, Total                     | ND     | 0.097  |      | mg/Kg | 1  | 8/29/2012 2:31:41 PM |
| Surr: 4-Bromofluorobenzene         | 102    | 80-120 |      | %REC  | 1  | 8/29/2012 2:31:41 PM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: <b>SRM</b>  |
| Chloride                           | 350    | 30     |      | mg/Kg | 20 | 8/29/2012 2:01:07 PM |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: <b>JMP</b>  |
| Petroleum Hydrocarbons, TR         | 160    | 20     |      | mg/Kg | 1  | 8/28/2012            |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1208B46

Date Reported: 9/24/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** CentralOCD-794-8-24-12

**Project:** OCD Central Landfarm Semiannual Sam

**Collection Date:** 8/24/2012 9:42:00 AM

**Lab ID:** 1208B46-002

**Matrix:** SOIL

**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>NSB</b>  |
| Benzene                            | ND     | 0.047  |      | mg/Kg | 1  | 8/29/2012 3:00:31 PM |
| Toluene                            | ND     | 0.047  |      | mg/Kg | 1  | 8/29/2012 3:00:31 PM |
| Ethylbenzene                       | ND     | 0.047  |      | mg/Kg | 1  | 8/29/2012 3:00:31 PM |
| Xylenes, Total                     | ND     | 0.094  |      | mg/Kg | 1  | 8/29/2012 3:00:31 PM |
| Surr: 4-Bromofluorobenzene         | 102    | 80-120 |      | %REC  | 1  | 8/29/2012 3:00:31 PM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: <b>SRM</b>  |
| Chloride                           | 170    | 30     |      | mg/Kg | 20 | 8/29/2012 4:30:06 PM |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: <b>JMP</b>  |
| Petroleum Hydrocarbons, TR         | ND     | 19     |      | mg/Kg | 1  | 8/28/2012            |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1208B46

Date Reported: 9/24/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-1748-8-24-12**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 8/24/2012 10:05:00 AM**Lab ID:** 1208B46-003**Matrix:** SOIL**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>NSB</b>  |
| Benzene                            | ND     | 0.048  |      | mg/Kg | 1  | 8/29/2012 3:29:18 PM |
| Toluene                            | ND     | 0.048  |      | mg/Kg | 1  | 8/29/2012 3:29:18 PM |
| Ethylbenzene                       | ND     | 0.048  |      | mg/Kg | 1  | 8/29/2012 3:29:18 PM |
| Xylenes, Total                     | ND     | 0.097  |      | mg/Kg | 1  | 8/29/2012 3:29:18 PM |
| Surr: 4-Bromofluorobenzene         | 102    | 80-120 |      | %REC  | 1  | 8/29/2012 3:29:18 PM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: <b>SRM</b>  |
| Chloride                           | 200    | 30     |      | mg/Kg | 20 | 8/29/2012 4:54:56 PM |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: <b>JMP</b>  |
| Petroleum Hydrocarbons, TR         | 270    | 20     |      | mg/Kg | 1  | 8/28/2012            |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1208B46

Date Reported: 9/24/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** CentralOCD-2341-8-24-12

**Project:** OCD Central Landfarm Semiannual Sam

**Collection Date:** 8/24/2012 10:25:00 AM

**Lab ID:** 1208B46-004

**Matrix:** SOIL

**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: <b>NSB</b>  |
| Benzene                            | ND     | 0.049  |      | mg/Kg | 1  | 8/29/2012 3:58:03 PM |
| Toluene                            | ND     | 0.049  |      | mg/Kg | 1  | 8/29/2012 3:58:03 PM |
| Ethylbenzene                       | ND     | 0.049  |      | mg/Kg | 1  | 8/29/2012 3:58:03 PM |
| Xylenes, Total                     | ND     | 0.097  |      | mg/Kg | 1  | 8/29/2012 3:58:03 PM |
| Surr: 4-Bromofluorobenzene         | 102    | 80-120 |      | %REC  | 1  | 8/29/2012 3:58:03 PM |
| <b>EPA METHOD 300.0: ANIONS</b>    |        |        |      |       |    | Analyst: <b>SRM</b>  |
| Chloride                           | 250    | 30     |      | mg/Kg | 20 | 8/29/2012 6:09:24 PM |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: <b>JMP</b>  |
| Petroleum Hydrocarbons, TR         | 280    | 19     |      | mg/Kg | 1  | 8/28/2012            |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**Lab Order **1208B46**Date Reported: **9/24/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** BD-8-24-12**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 8/24/2012 9:52:00 AM**Lab ID:** 1208B46-005**Matrix:** SOIL**Received Date:** 8/24/2012 3:40:00 PM

| <b>Analyses</b>                    | <b>Result</b> | <b>RL</b> | <b>Qual</b> | <b>Units</b> | <b>DF</b> | <b>Date Analyzed</b> |
|------------------------------------|---------------|-----------|-------------|--------------|-----------|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |               |           |             |              |           | Analyst: <b>NSB</b>  |
| Benzene                            | ND            | 0.048     |             | mg/Kg        | 1         | 8/29/2012 5:24:15 PM |
| Toluene                            | ND            | 0.048     |             | mg/Kg        | 1         | 8/29/2012 5:24:15 PM |
| Ethylbenzene                       | ND            | 0.048     |             | mg/Kg        | 1         | 8/29/2012 5:24:15 PM |
| Xylenes, Total                     | ND            | 0.095     |             | mg/Kg        | 1         | 8/29/2012 5:24:15 PM |
| Surr: 4-Bromofluorobenzene         | 100           | 80-120    |             | %REC         | 1         | 8/29/2012 5:24:15 PM |
| <b>EPA METHOD 300.0: ANIONS</b>    |               |           |             |              |           | Analyst: <b>SRM</b>  |
| Chloride                           | 200           | 7.5       |             | mg/Kg        | 5         | 8/29/2012 6:21:49 PM |
| <b>EPA METHOD 418.1: TPH</b>       |               |           |             |              |           | Analyst: <b>JMP</b>  |
| Petroleum Hydrocarbons, TR         | 56            | 19        |             | mg/Kg        | 1         | 8/28/2012            |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1208B46

Date Reported: 9/24/2012

**CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** CentralOCD-TZ-8-24-12**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 8/24/2012 8:50:00 AM**Lab ID:** 1208B46-006**Matrix:** SOIL**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                                       | Result | RL       | Qual | Units | DF | Date Analyzed        |
|------------------------------------------------|--------|----------|------|-------|----|----------------------|
| <b>EPA METHOD 504.1 MODIFIED: EDB</b>          |        |          |      |       |    | Analyst: <b>LRW</b>  |
| 1,2-Dibromoethane                              | ND     | 0.10     |      | µg/Kg | 1  | 9/5/2012 2:52:10 PM  |
| <b>EPA METHOD 8082: PCB'S</b>                  |        |          |      |       |    | Analyst: <b>SCC</b>  |
| Aroclor 1016                                   | ND     | 0.10     |      | mg/Kg | 1  | 9/4/2012 3:43:40 PM  |
| Aroclor 1221                                   | ND     | 0.10     |      | mg/Kg | 1  | 9/4/2012 3:43:40 PM  |
| Aroclor 1232                                   | ND     | 0.10     |      | mg/Kg | 1  | 9/4/2012 3:43:40 PM  |
| Aroclor 1242                                   | ND     | 0.10     |      | mg/Kg | 1  | 9/4/2012 3:43:40 PM  |
| Aroclor 1248                                   | ND     | 0.10     |      | mg/Kg | 1  | 9/4/2012 3:43:40 PM  |
| Aroclor 1254                                   | ND     | 0.10     |      | mg/Kg | 1  | 9/4/2012 3:43:40 PM  |
| Aroclor 1260                                   | ND     | 0.10     |      | mg/Kg | 1  | 9/4/2012 3:43:40 PM  |
| Surr: Decachlorobiphenyl                       | 66.0   | 17.3-122 |      | %REC  | 1  | 9/4/2012 3:43:40 PM  |
| <b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> |        |          |      |       |    | Analyst: <b>JMP</b>  |
| Diesel Range Organics (DRO)                    | 3000   | 99       |      | mg/Kg | 10 | 8/29/2012 1:06:02 PM |
| Motor Oil Range Organics (MRO)                 | 1300   | 500      |      | mg/Kg | 10 | 8/29/2012 1:06:02 PM |
| Surr: DNOP                                     | 0      | 77.6-140 | S    | %REC  | 10 | 8/29/2012 1:06:02 PM |
| <b>EPA METHOD 8015B: GASOLINE RANGE</b>        |        |          |      |       |    | Analyst: <b>NSB</b>  |
| Gasoline Range Organics (GRO)                  | ND     | 4.8      |      | mg/Kg | 1  | 8/29/2012 5:53:06 PM |
| Surr: BFB                                      | 98.4   | 84-116   |      | %REC  | 1  | 8/29/2012 5:53:06 PM |
| <b>EPA METHOD 8021B: VOLATILES</b>             |        |          |      |       |    | Analyst: <b>NSB</b>  |
| Benzene                                        | ND     | 0.048    |      | mg/Kg | 1  | 8/29/2012 5:53:06 PM |
| Toluene                                        | ND     | 0.048    |      | mg/Kg | 1  | 8/29/2012 5:53:06 PM |
| Ethylbenzene                                   | ND     | 0.048    |      | mg/Kg | 1  | 8/29/2012 5:53:06 PM |
| Xylenes, Total                                 | ND     | 0.096    |      | mg/Kg | 1  | 8/29/2012 5:53:06 PM |
| Surr: 4-Bromofluorobenzene                     | 99.0   | 80-120   |      | %REC  | 1  | 8/29/2012 5:53:06 PM |
| <b>EPA METHOD 8310: PAHS</b>                   |        |          |      |       |    | Analyst: <b>SCC</b>  |
| Naphthalene                                    | ND     | 25       |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| 1-Methylnaphthalene                            | ND     | 25       |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| 2-Methylnaphthalene                            | ND     | 25       |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Acenaphthylene                                 | ND     | 25       |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Acenaphthene                                   | ND     | 25       |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Fluorene                                       | ND     | 3.0      |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Phenanthrene                                   | ND     | 1.5      |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Anthracene                                     | ND     | 1.5      |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Fluoranthene                                   | ND     | 2.0      |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Pyrene                                         | ND     | 2.5      |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Benz(a)anthracene                              | ND     | 0.99     |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Chrysene                                       | 2.1    | 1.1      |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Benzo(b)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Benzo(k)fluoranthene                           | ND     | 0.99     |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |
| Benzo(a)pyrene                                 | ND     | 0.99     |      | mg/Kg | 10 | 9/12/2012 3:39:33 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1208B46

Date Reported: 9/24/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-8-24-12

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 8/24/2012 8:50:00 AM

Lab ID: 1208B46-006

Matrix: SOIL

Received Date: 8/24/2012 3:40:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF  | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|-----|-----------------------|
| <b>EPA METHOD 8310: PAHS</b>           |        |          |      |       |     | Analyst: SCC          |
| Dibenz(a,h)anthracene                  | ND     | 0.99     |      | mg/Kg | 10  | 9/12/2012 3:39:33 PM  |
| Benzo(g,h,i)perylene                   | ND     | 0.99     |      | mg/Kg | 10  | 9/12/2012 3:39:33 PM  |
| Indeno(1,2,3-cd)pyrene                 | ND     | 0.99     |      | mg/Kg | 10  | 9/12/2012 3:39:33 PM  |
| Surr: Benzo(e)pyrene                   | 0      | 35.9-103 | S    | %REC  | 10  | 9/12/2012 3:39:33 PM  |
| <b>EPA METHOD 300.0: ANIONS</b>        |        |          |      |       |     | Analyst: JRR          |
| Fluoride                               | 13     | 1.5      |      | mg/Kg | 5   | 8/31/2012 10:50:00 AM |
| Chloride                               | 240    | 7.5      |      | mg/Kg | 5   | 8/31/2012 10:50:00 AM |
| Nitrogen, Nitrate (As N)               | 9.8    | 1.5      |      | mg/Kg | 5   | 8/31/2012 10:50:00 AM |
| Sulfate                                | 2700   | 30       |      | mg/Kg | 20  | 8/31/2012 11:02:25 AM |
| <b>EPA METHOD 7471: MERCURY</b>        |        |          |      |       |     | Analyst: TES          |
| Mercury                                | 0.41   | 0.17     |      | mg/kg | 5   | 9/6/2012 9:37:59 AM   |
| <b>EPA METHOD 6010B: SOIL METALS</b>   |        |          |      |       |     | Analyst: JLF          |
| Arsenic                                | ND     | 12       |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Barium                                 | 420    | 1.0      |      | mg/Kg | 10  | 8/30/2012 2:28:26 PM  |
| Cadmium                                | ND     | 0.50     |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Chromium                               | 24     | 1.5      |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Copper                                 | 17     | 1.5      |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Iron                                   | 20000  | 500      |      | mg/Kg | 500 | 8/30/2012 2:30:55 PM  |
| Lead                                   | 120    | 1.2      |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Manganese                              | 370    | 1.0      |      | mg/Kg | 10  | 8/30/2012 2:28:26 PM  |
| Selenium                               | ND     | 12       |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Silver                                 | ND     | 1.2      |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Uranium                                | ND     | 25       |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| Zinc                                   | 140    | 12       |      | mg/Kg | 5   | 8/30/2012 2:11:31 PM  |
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |     | Analyst: JDC          |
| 4-Chloro-3-methylphenol                | ND     | 2.5      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2-Chlorophenol                         | ND     | 1.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2,4-Dichlorophenol                     | ND     | 2.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2,4-Dimethylphenol                     | ND     | 1.5      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 4,6-Dinitro-2-methylphenol             | ND     | 2.5      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2,4-Dinitrophenol                      | ND     | 2.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2-Methylphenol                         | ND     | 2.5      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2-Nitrophenol                          | ND     | 1.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 4-Nitrophenol                          | ND     | 1.2      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| Pentachlorophenol                      | ND     | 2.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| Phenol                                 | ND     | 1.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2,4,5-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| 2,4,6-Trichlorophenol                  | ND     | 1.0      |      | mg/Kg | 1   | 9/6/2012 2:49:03 PM   |
| Surr: 2,4,6-Tribromophenol             | 96.9   | 21.3-145 |      | %REC  | 1   | 9/6/2012 2:49:03 PM   |
| Surr: 2-Fluorobiphenyl                 | 104    | 20-131   |      | %REC  | 1   | 9/6/2012 2:49:03 PM   |

**Qualifiers:** \* Value exceeds Maximum Contaminant Level.  
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J Analyte detected below quantitation limits  
P Sample pH greater than 2  
RL Reporting Detection Limit

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S Spike Recovery outside accepted recovery limits



# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1208B46

Date Reported: 9/24/2012

CLIENT: Western Refining Southwest, Gallup

Client Sample ID: CentralOCD-TZ-8-24-12

Project: OCD Central Landfarm Semiannual Sam

Collection Date: 8/24/2012 8:50:00 AM

Lab ID: 1208B46-006

Matrix: SOIL

Received Date: 8/24/2012 3:40:00 PM

| Analyses                               | Result | RL       | Qual | Units | DF | Date Analyzed         |
|----------------------------------------|--------|----------|------|-------|----|-----------------------|
| <b>EPA METHOD 8270C: SEMIVOLATILES</b> |        |          |      |       |    | Analyst: JDC          |
| Surr: 2-Fluorophenol                   | 109    | 11.9-130 |      | %REC  | 1  | 9/6/2012 2:49:03 PM   |
| Surr: 4-Terphenyl-d14                  | 97.5   | 25.1-149 |      | %REC  | 1  | 9/6/2012 2:49:03 PM   |
| Surr: Nitrobenzene-d5                  | 108    | 25.6-137 |      | %REC  | 1  | 9/6/2012 2:49:03 PM   |
| Surr: Phenol-d5                        | 109    | 20.3-132 |      | %REC  | 1  | 9/6/2012 2:49:03 PM   |
| <b>EPA METHOD 8260B: VOLATILES</b>     |        |          |      |       |    | Analyst: RAA          |
| Benzene                                | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Toluene                                | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Ethylbenzene                           | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Methyl tert-butyl ether (MTBE)         | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2,4-Trimethylbenzene                 | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,3,5-Trimethylbenzene                 | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2-Dichloroethane (EDC)               | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2-Dibromoethane (EDB)                | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Naphthalene                            | ND     | 0.096    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1-Methylnaphthalene                    | ND     | 0.19     |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 2-Methylnaphthalene                    | ND     | 0.19     |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Acetone                                | ND     | 0.72     |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Bromobenzene                           | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Bromodichloromethane                   | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Bromoform                              | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Bromomethane                           | ND     | 0.14     |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 2-Butanone                             | ND     | 0.48     |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Carbon disulfide                       | ND     | 0.48     |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Carbon tetrachloride                   | ND     | 0.096    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Chlorobenzene                          | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Chloroethane                           | ND     | 0.096    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Chloroform                             | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Chloromethane                          | ND     | 0.14     |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 2-Chlorotoluene                        | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 4-Chlorotoluene                        | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| cis-1,2-DCE                            | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| cis-1,3-Dichloropropene                | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2-Dibromo-3-chloropropane            | ND     | 0.096    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Dibromochloromethane                   | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Dibromomethane                         | ND     | 0.096    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2-Dichlorobenzene                    | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,3-Dichlorobenzene                    | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,4-Dichlorobenzene                    | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Dichlorodifluoromethane                | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,1-Dichloroethane                     | ND     | 0.096    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,1-Dichloroethene                     | ND     | 0.048    |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1208B46

Date Reported: 9/24/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** CentralOCD-TZ-8-24-12

**Project:** OCD Central Landfarm Semiannual Sam

**Collection Date:** 8/24/2012 8:50:00 AM

**Lab ID:** 1208B46-006

**Matrix:** SOIL

**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed         |
|------------------------------------|--------|--------|------|-------|----|-----------------------|
| <b>EPA METHOD 8260B: VOLATILES</b> |        |        |      |       |    | Analyst: RAA          |
| 1,2-Dichloropropane                | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,3-Dichloropropane                | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 2,2-Dichloropropane                | ND     | 0.096  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,1-Dichloropropene                | ND     | 0.096  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Hexachlorobutadiene                | ND     | 0.096  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 2-Hexanone                         | ND     | 0.48   |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Isopropylbenzene                   | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 4-Isopropyltoluene                 | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 4-Methyl-2-pentanone               | ND     | 0.48   |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Methylene chloride                 | ND     | 0.14   |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| n-Butylbenzene                     | ND     | 0.14   |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| n-Propylbenzene                    | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| sec-Butylbenzene                   | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Styrene                            | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| tert-Butylbenzene                  | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,1,1,2-Tetrachloroethane          | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,1,2,2-Tetrachloroethane          | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Tetrachloroethene (PCE)            | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| trans-1,2-DCE                      | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| trans-1,3-Dichloropropene          | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2,3-Trichlorobenzene             | ND     | 0.096  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2,4-Trichlorobenzene             | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,1,1-Trichloroethane              | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,1,2-Trichloroethane              | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Trichloroethene (TCE)              | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Trichlorofluoromethane             | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| 1,2,3-Trichloropropane             | ND     | 0.096  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Vinyl chloride                     | ND     | 0.048  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Xylenes, Total                     | ND     | 0.096  |      | mg/Kg | 1  | 8/31/2012 12:33:43 AM |
| Surr: 1,2-Dichloroethane-d4        | 86.3   | 70-130 |      | %REC  | 1  | 8/31/2012 12:33:43 AM |
| Surr: 4-Bromofluorobenzene         | 82.0   | 70-130 |      | %REC  | 1  | 8/31/2012 12:33:43 AM |
| Surr: Dibromofluoromethane         | 98.7   | 70-130 |      | %REC  | 1  | 8/31/2012 12:33:43 AM |
| Surr: Toluene-d8                   | 74.4   | 70-130 |      | %REC  | 1  | 8/31/2012 12:33:43 AM |
| <b>EPA METHOD 418.1: TPH</b>       |        |        |      |       |    | Analyst: JMP          |
| Petroleum Hydrocarbons, TR         | 3900   | 400    |      | mg/Kg | 20 | 8/28/2012             |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1208B46

Date Reported: 9/24/2012

**CLIENT:** Western Refining Southwest, Gallup

**Client Sample ID:** EB-20120824

**Project:** OCD Central Landfarm Semiannual Sam

**Collection Date:** 8/24/2012 11:00:00 AM

**Lab ID:** 1208B46-007

**Matrix:** AQUEOUS

**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: NSB         |
| Benzene                            | ND     | 1.0    |      | µg/L  | 1  | 8/29/2012 7:00:23 PM |
| Toluene                            | ND     | 1.0    |      | µg/L  | 1  | 8/29/2012 7:00:23 PM |
| Ethylbenzene                       | ND     | 1.0    |      | µg/L  | 1  | 8/29/2012 7:00:23 PM |
| Xylenes, Total                     | ND     | 2.0    |      | µg/L  | 1  | 8/29/2012 7:00:23 PM |
| Surr: 4-Bromofluorobenzene         | 98.5   | 55-140 |      | %REC  | 1  | 8/29/2012 7:00:23 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**Lab Order **1208B46**Date Reported: **9/24/2012****Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** FB-20120824**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:** 8/24/2012 10:55:00 AM**Lab ID:** 1208B46-008**Matrix:** AQUEOUS**Received Date:** 8/24/2012 3:40:00 PM

| <b>Analyses</b>                    | <b>Result</b> | <b>RL</b> | <b>Qual</b> | <b>Units</b> | <b>DF</b> | <b>Date Analyzed</b> |
|------------------------------------|---------------|-----------|-------------|--------------|-----------|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |               |           |             |              |           | Analyst: <b>NSB</b>  |
| Benzene                            | ND            | 1.0       |             | µg/L         | 1         | 8/29/2012 7:30:36 PM |
| Toluene                            | ND            | 1.0       |             | µg/L         | 1         | 8/29/2012 7:30:36 PM |
| Ethylbenzene                       | ND            | 1.0       |             | µg/L         | 1         | 8/29/2012 7:30:36 PM |
| Xylenes, Total                     | ND            | 2.0       |             | µg/L         | 1         | 8/29/2012 7:30:36 PM |
| Surr: 4-Bromofluorobenzene         | 99.6          | 55-140    |             | %REC         | 1         | 8/29/2012 7:30:36 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

**Analytical Report**

Lab Order 1208B46

Date Reported: 9/24/2012

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Western Refining Southwest, Gallup**Client Sample ID:** Trip Blank**Project:** OCD Central Landfarm Semiannual Sam**Collection Date:****Lab ID:** 1208B46-009**Matrix:** AQUEOUS**Received Date:** 8/24/2012 3:40:00 PM

| Analyses                           | Result | RL     | Qual | Units | DF | Date Analyzed        |
|------------------------------------|--------|--------|------|-------|----|----------------------|
| <b>EPA METHOD 8021B: VOLATILES</b> |        |        |      |       |    | Analyst: NSB         |
| Benzene                            | ND     | 1.0    |      | µg/L  | 1  | 8/29/2012 8:00:44 PM |
| Toluene                            | ND     | 1.0    |      | µg/L  | 1  | 8/29/2012 8:00:44 PM |
| Ethylbenzene                       | ND     | 1.0    |      | µg/L  | 1  | 8/29/2012 8:00:44 PM |
| Xylenes, Total                     | ND     | 2.0    |      | µg/L  | 1  | 8/29/2012 8:00:44 PM |
| Surr: 4-Bromofluorobenzene         | 116    | 55-140 |      | %REC  | 1  | 8/29/2012 8:00:44 PM |

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2
- RL Reporting Detection Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits



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Est. 1970

REPORT OF ANALYSIS

August 31, 2012

Anne Thorne  
Hall Environmental Analysis Laborat  
4901 Hawkins NE  
Albuquerque, NM 87109

Date Received : August 28, 2012  
Description :  
Sample ID : 1208B46-006B CENTRALOCD-TZ-8-24-12  
Collected By :  
Collection Date : 08/24/12 08:50

ESC Sample # : L592138-01

Site ID :

Project # :

| Parameter | Result | Det. Limit | Units | Method | Date     | Dil. |
|-----------|--------|------------|-------|--------|----------|------|
| Cyanide   | 0.56   | 0.25       | mg/kg | 9012B  | 08/31/12 | 1    |

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 08/31/12 15:42 Printed: 08/31/12 15:42



YOUR LAB OF CHOICE

Hall Environmental Analysis Laboratory  
Anne Thorne  
4901 Hawkins NE  
Albuquerque, NM 87109

Quality Assurance Report  
Level II

L592138

12065 Lebanon Rd.  
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(615) 758-5858  
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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

August 31, 2012

|                                     |        | Laboratory Blank |           |       |          |                |            |            |          |
|-------------------------------------|--------|------------------|-----------|-------|----------|----------------|------------|------------|----------|
| Analyte                             | Result | Units            | % Rec     | Limit | Batch    | Date Analyzed  |            |            |          |
| Cyanide                             | < .25  | mg/kg            |           |       | WG610363 | 08/31/12 12:14 |            |            |          |
| Duplicate                           |        |                  |           |       |          |                |            |            |          |
| Analyte                             | Units  | Result           | Duplicate | RPD   | Limit    | Ref Samp       | Batch      |            |          |
| Cyanide                             | mg/kg  | 0                | 0         | 0     | 20       | L592564-02     | WG610363   |            |          |
| Laboratory Control Sample           |        |                  |           |       |          |                |            |            |          |
| Analyte                             | Units  | Known Val        | Result    | % Rec | Limit    | Batch          |            |            |          |
| Cyanide                             | mg/kg  | 10               | 10.6      | 106.  | 50-150   | WG610363       |            |            |          |
| Laboratory Control Sample Duplicate |        |                  |           |       |          |                |            |            |          |
| Analyte                             | Units  | Result           | Ref       | %Rec  | Limit    | RPD            | Limit      | Batch      |          |
| Cyanide                             | mg/kg  | 10.0             | 10.6      | 100.  | 50-150   | 5.83           | 20         | WG610363   |          |
| Matrix Spike                        |        |                  |           |       |          |                |            |            |          |
| Analyte                             | Units  | MS Res           | Ref Res   | TV    | % Rec    | Limit          | Ref Samp   | Batch      |          |
| Cyanide                             | mg/kg  | 3.42             | 0         | 3.33  | 103.     | 80-120         | L592564-01 | WG610363   |          |
| Matrix Spike Duplicate              |        |                  |           |       |          |                |            |            |          |
| Analyte                             | Units  | MSD              | Ref       | %Rec  | Limit    | RPD            | Limit      | Ref_Samp   | Batch    |
| Cyanide                             | mg/kg  | 3.37             | 3.42      | 101.  | 80-120   | 1.47           | 20         | L592564-01 | WG610363 |

Batch number /Run number / Sample number cross reference

WG610363: R2326193: L592138-01

\* \* Calculations are performed prior to rounding of reported values.

\* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



Pace Analytical Services, Inc.  
1638 Roseytown Road - Suites 2,3,4  
Greensburg, PA 15601  
(724)850-5600

## ANALYTICAL RESULTS

Project: 1208B46

Pace Project No.: 3076229

Sample: 1208B46-006 CentralOCD- Lab ID: 3076229001 Collected: 08/24/12 08:50 Received: 08/28/12 10:00 Matrix: Solid  
TZ-8-24

PWS: Site ID: Sample Type:

Results reported on a "dry-weight" basis

| Parameters | Method     | Act ± Unc (MDC)       | Units | Analyzed       | CAS No.    | Qual |
|------------|------------|-----------------------|-------|----------------|------------|------|
| Radium-226 | EPA 901.1m | 0.930 ± 0.175 (0.174) | pCi/g | 09/21/12 08:36 | 13982-63-3 |      |
| Radium-228 | EPA 901.1m | 1.391 ± 0.318 (0.200) | pCi/g | 09/21/12 08:36 | 15262-20-1 |      |

Date: 09/24/2012 02:20 PM

## REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.  
1638 Roseytown Road - Suites 2,3,4  
Greensburg, PA 15601  
(724)850-5800

### QUALITY CONTROL DATA

Project: 1208B46

Pace Project No.: 3076229

QC Batch: RADC/13044

Analysis Method: EPA 901.1m

QC Batch Method: EPA 901.1m

Analysis Description: 901.1 Gamma Spec

Associated Lab Samples: 3076229001

METHOD BLANK: 481261

Matrix: Solid

Associated Lab Samples: 3076229001

| Parameter  | Act ± Unc (MDC)        | Units | Analyzed       | Qualifiers |
|------------|------------------------|-------|----------------|------------|
| Radium-226 | -0.044 ± 0.709 (0.353) | pCi/g | 09/21/12 10:44 |            |
| Radium-228 | -0.076 ± 1.032 (0.479) | pCi/g | 09/21/12 10:44 |            |

Date: 09/24/2012 02:20 PM

### REPORT OF LABORATORY ANALYSIS

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |           |                |           |             |                          |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-3530   | SampType:      | MBLK      | TestCode:   | EPA Method 300.0: Anions |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 3530      | RunNo:      | 5190                     |          |           |      |          |      |
| Prep Date: | 8/29/2012 | Analysis Date: | 8/29/2012 | SeqNo:      | 147605                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Fluoride ND 0.30

Chloride ND 1.5

Sulfate ND 1.5

|            |           |                |           |             |                          |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-3530  | SampType:      | LCS       | TestCode:   | EPA Method 300.0: Anions |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 3530      | RunNo:      | 5190                     |          |           |      |          |      |
| Prep Date: | 8/29/2012 | Analysis Date: | 8/29/2012 | SeqNo:      | 147606                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Fluoride 1.5 0.30 1.500 0 99.1 90 110

Chloride 14 1.5 15.00 0 95.9 90 110

Sulfate 29 1.5 30.00 0 97.0 90 110

|            |                    |                |           |             |                          |          |           |      |          |      |
|------------|--------------------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1208B46-004BMS     | SampType:      | MS        | TestCode:   | EPA Method 300.0: Anions |          |           |      |          |      |
| Client ID: | CentralOCD-2341-8- | Batch ID:      | 3530      | RunNo:      | 5190                     |          |           |      |          |      |
| Prep Date: | 8/29/2012          | Analysis Date: | 8/29/2012 | SeqNo:      | 147625                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result             | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Fluoride 7.8 0.30 1.500 8.716 -61.0 18.1 130 S

|            |                    |                |           |             |                          |          |           |      |          |      |
|------------|--------------------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1208B46-004BMSD    | SampType:      | MSD       | TestCode:   | EPA Method 300.0: Anions |          |           |      |          |      |
| Client ID: | CentralOCD-2341-8- | Batch ID:      | 3530      | RunNo:      | 5190                     |          |           |      |          |      |
| Prep Date: | 8/29/2012          | Analysis Date: | 8/29/2012 | SeqNo:      | 147626                   | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result             | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

Fluoride 8.0 0.30 1.500 8.716 -50.1 18.1 130 2.06 20 S

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH greater than 2

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                            |           |                |           |             |                       |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------|----------|-----------|------|----------|------|
| Sample ID                  | MB-3498   | SampType:      | MBLK      | TestCode:   | EPA Method 418.1: TPH |          |           |      |          |      |
| Client ID:                 | PBS       | Batch ID:      | 3498      | RunNo:      | 5136                  |          |           |      |          |      |
| Prep Date:                 | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 146008                | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                  | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | ND        | 20             |           |             |                       |          |           |      |          |      |

|                            |           |                |           |             |                       |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------|----------|-----------|------|----------|------|
| Sample ID                  | LCS-3498  | SampType:      | LCS       | TestCode:   | EPA Method 418.1: TPH |          |           |      |          |      |
| Client ID:                 | LCSS      | Batch ID:      | 3498      | RunNo:      | 5136                  |          |           |      |          |      |
| Prep Date:                 | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 146009                | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                  | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | 100       | 20             | 100.0     | 0           | 102                   | 80       | 120       |      |          |      |

|                            |                    |                |           |             |                       |          |           |      |          |      |
|----------------------------|--------------------|----------------|-----------|-------------|-----------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1208B46-004AMS     | SampType:      | MS        | TestCode:   | EPA Method 418.1: TPH |          |           |      |          |      |
| Client ID:                 | CentralOCD-2341-8- | Batch ID:      | 3498      | RunNo:      | 5136                  |          |           |      |          |      |
| Prep Date:                 | 8/27/2012          | Analysis Date: | 8/28/2012 | SeqNo:      | 146016                | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result             | PQL            | SPK value | SPK Ref Val | %REC                  | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | 300                | 19             | 96.06     | 277.1       | 18.8                  | 80       | 120       |      |          | S    |

|                            |                    |                |           |             |                       |          |           |      |          |      |
|----------------------------|--------------------|----------------|-----------|-------------|-----------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1208B46-004AMSD    | SampType:      | MSD       | TestCode:   | EPA Method 418.1: TPH |          |           |      |          |      |
| Client ID:                 | CentralOCD-2341-8- | Batch ID:      | 3498      | RunNo:      | 5136                  |          |           |      |          |      |
| Prep Date:                 | 8/27/2012          | Analysis Date: | 8/28/2012 | SeqNo:      | 146017                | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result             | PQL            | SPK value | SPK Ref Val | %REC                  | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Petroleum Hydrocarbons, TR | 210                | 21             | 103.1     | 277.1       | -62.1                 | 80       | 120       | 32.3 | 20       | SR   |

## Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| V | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P | Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                   |          |                |           |             |                                |          |           |      |          |      |
|-------------------|----------|----------------|-----------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID         | MB-3622  | SampType:      | MBLK      | TestCode:   | EPA Method 504.1 Modified: EDB |          |           |      |          |      |
| Client ID:        | PBS      | Batch ID:      | 3622      | RunNo:      | 5315                           |          |           |      |          |      |
| Prep Date:        | 9/5/2012 | Analysis Date: | 9/5/2012  | SeqNo:      | 151310                         | Units:   | µg/Kg     |      |          |      |
| Analyte           | Result   | PQL            | SPK value | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2-Dibromoethane | ND       | 0.10           |           |             |                                |          |           |      |          |      |

|                   |          |                |           |             |                                |          |           |      |          |      |
|-------------------|----------|----------------|-----------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID         | LCS-3622 | SampType:      | LCS       | TestCode:   | EPA Method 504.1 Modified: EDB |          |           |      |          |      |
| Client ID:        | LCSS     | Batch ID:      | 3622      | RunNo:      | 5315                           |          |           |      |          |      |
| Prep Date:        | 9/5/2012 | Analysis Date: | 9/5/2012  | SeqNo:      | 151311                         | Units:   | µg/Kg     |      |          |      |
| Analyte           | Result   | PQL            | SPK value | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2-Dibromoethane | 1.0      | 0.10           | 1.000     | 0           | 104                            | 70       | 130       |      |          |      |

|                   |                    |                |           |             |                                |          |           |      |          |      |
|-------------------|--------------------|----------------|-----------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID         | 1208B46-006AMS     | SampType:      | MS        | TestCode:   | EPA Method 504.1 Modified: EDB |          |           |      |          |      |
| Client ID:        | CentralOCD-TZ-8-24 | Batch ID:      | 3622      | RunNo:      | 5315                           |          |           |      |          |      |
| Prep Date:        | 9/5/2012           | Analysis Date: | 9/5/2012  | SeqNo:      | 151314                         | Units:   | µg/Kg     |      |          |      |
| Analyte           | Result             | PQL            | SPK value | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2-Dibromoethane | 1.1                | 0.10           | 1.006     | 0           | 111                            | 70       | 130       |      |          |      |

|                   |                    |                |           |             |                                |          |           |      |          |      |
|-------------------|--------------------|----------------|-----------|-------------|--------------------------------|----------|-----------|------|----------|------|
| Sample ID         | 1208B46-006AMSD    | SampType:      | MSD       | TestCode:   | EPA Method 504.1 Modified: EDB |          |           |      |          |      |
| Client ID:        | CentralOCD-TZ-8-24 | Batch ID:      | 3622      | RunNo:      | 5315                           |          |           |      |          |      |
| Prep Date:        | 9/5/2012           | Analysis Date: | 9/5/2012  | SeqNo:      | 151315                         | Units:   | µg/Kg     |      |          |      |
| Analyte           | Result             | PQL            | SPK value | SPK Ref Val | %REC                           | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 1,2-Dibromoethane | 0.96               | 0.099          | 0.9943    | 0           | 96.2                           | 70       | 130       | 15.4 | 20       |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |           |                |           |             |                                         |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-3497   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | PBS       | Batch ID:      | 3497      | RunNo:      | 5130                                    |          |           |      |          |      |
| Prep Date: | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 145851                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                                |    |    |       |  |     |      |     |  |  |  |
|--------------------------------|----|----|-------|--|-----|------|-----|--|--|--|
| Diesel Range Organics (DRO)    | ND | 10 |       |  |     |      |     |  |  |  |
| Motor Oil Range Organics (MRO) | ND | 50 |       |  |     |      |     |  |  |  |
| Surr: DNOP                     | 11 |    | 10.00 |  | 108 | 77.6 | 140 |  |  |  |

|            |           |                |           |             |                                         |          |           |      |          |      |
|------------|-----------|----------------|-----------|-------------|-----------------------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-3497  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Diesel Range Organics |          |           |      |          |      |
| Client ID: | LCSS      | Batch ID:      | 3497      | RunNo:      | 5130                                    |          |           |      |          |      |
| Prep Date: | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 146003                                  | Units:   | mg/Kg     |      |          |      |
| Analyte    | Result    | PQL            | SPK value | SPK Ref Val | %REC                                    | LowLimit | HighLimit | %RPD | RPDLimit | Qual |

|                             |     |    |       |   |      |      |     |  |  |  |
|-----------------------------|-----|----|-------|---|------|------|-----|--|--|--|
| Diesel Range Organics (DRO) | 44  | 10 | 50.00 | 0 | 88.4 | 52.6 | 130 |  |  |  |
| Surr: DNOP                  | 4.3 |    | 5.000 |   | 86.4 | 77.6 | 140 |  |  |  |

## Qualifiers:

- |                                            |    |                                                    |
|--------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |        |                |           |             |                                  |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 5ML RB | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | PBS    | Batch ID:      | R5146     | RunNo:      | 5146                             |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 8/28/2012 | SeqNo:      | 146743                           | Units:   | %REC      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 970    |                | 1000      |             | 96.6                             | 84       | 116       |      |          |      |

|            |               |                |           |             |                                  |          |           |      |          |      |
|------------|---------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 2.5UG GRO LCS | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | LCSS          | Batch ID:      | R5146     | RunNo:      | 5146                             |          |           |      |          |      |
| Prep Date: |               | Analysis Date: | 8/28/2012 | SeqNo:      | 146744                           | Units:   | %REC      |      |          |      |
| Analyte    | Result        | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 1000          |                | 1000      |             | 101                              | 84       | 116       |      |          |      |

|                               |           |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | MB-3494   | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | PBS       | Batch ID:      | 3494      | RunNo:      | 5146                             |          |           |      |          |      |
| Prep Date:                    | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 146758                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND        | 5.0            |           |             |                                  |          |           |      |          |      |
| Surr: BFB                     | 960       |                | 1000      |             | 96.4                             | 84       | 116       |      |          |      |

|                               |           |                |           |             |                                  |          |           |      |          |      |
|-------------------------------|-----------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID                     | LCS-3494  | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID:                    | LCSS      | Batch ID:      | 3494      | RunNo:      | 5146                             |          |           |      |          |      |
| Prep Date:                    | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 146759                           | Units:   | mg/Kg     |      |          |      |
| Analyte                       | Result    | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 22        | 5.0            | 25.00     | 0           | 86.8                             | 74       | 117       |      |          |      |
| Surr: BFB                     | 1000      |                | 1000      |             | 102                              | 84       | 116       |      |          |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |        |                |           |             |                                  |          |           |      |          |      |
|------------|--------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 5ML RB | SampType:      | MBLK      | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | PBW    | Batch ID:      | R5200     | RunNo:      | 5200                             |          |           |      |          |      |
| Prep Date: |        | Analysis Date: | 8/29/2012 | SeqNo:      | 147935                           | Units:   | %REC      |      |          |      |
| Analyte    | Result | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 20     |                | 20.00     |             | 102                              | 69.8     | 119       |      |          |      |

|            |               |                |           |             |                                  |          |           |      |          |      |
|------------|---------------|----------------|-----------|-------------|----------------------------------|----------|-----------|------|----------|------|
| Sample ID  | 2.5UG GRO LCS | SampType:      | LCS       | TestCode:   | EPA Method 8015B: Gasoline Range |          |           |      |          |      |
| Client ID: | LCSW          | Batch ID:      | R5200     | RunNo:      | 5200                             |          |           |      |          |      |
| Prep Date: |               | Analysis Date: | 8/29/2012 | SeqNo:      | 147937                           | Units:   | %REC      |      |          |      |
| Analyte    | Result        | PQL            | SPK value | SPK Ref Val | %REC                             | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: BFB  | 18            |                | 20.00     |             | 92.2                             | 69.8     | 119       |      |          |      |

## Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| V | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P | Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                            |        |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 5ML RB | SampType:      | MBLK      | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | PBS    | Batch ID:      | R5146     | RunNo:      | 5146                        |          |           |      |          |      |
| Prep Date:                 |        | Analysis Date: | 8/28/2012 | SeqNo:      | 146803                      | Units:   | %REC      |      |          |      |
| Analyte                    | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 0.98   |                | 1.000     |             | 98.2                        | 80       | 120       |      |          |      |

|                            |                |                |           |             |                             |          |           |      |          |      |
|----------------------------|----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 100NG BTEX LCS | SampType:      | LCS       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | LCSS           | Batch ID:      | R5146     | RunNo:      | 5146                        |          |           |      |          |      |
| Prep Date:                 |                | Analysis Date: | 8/28/2012 | SeqNo:      | 146804                      | Units:   | %REC      |      |          |      |
| Analyte                    | Result         | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Surr: 4-Bromofluorobenzene | 1.0            |                | 1.000     |             | 104                         | 80       | 120       |      |          |      |

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | MB-3494   | SampType:      | MBLK      | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | PBS       | Batch ID:      | 3494      | RunNo:      | 5146                        |          |           |      |          |      |
| Prep Date:                 | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 146847                      | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Toluene                    | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Ethylbenzene               | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Xylenes, Total             | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene | 0.99      |                | 1.000     |             | 99.5                        | 80       | 120       |      |          |      |

|                            |           |                |           |             |                             |          |           |      |          |      |
|----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | LCS-3494  | SampType:      | LCS       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | LCSS      | Batch ID:      | 3494      | RunNo:      | 5146                        |          |           |      |          |      |
| Prep Date:                 | 8/27/2012 | Analysis Date: | 8/28/2012 | SeqNo:      | 146848                      | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 0.94      | 0.050          | 1.000     | 0           | 93.9                        | 76.3     | 117       |      |          |      |
| Toluene                    | 0.97      | 0.050          | 1.000     | 0           | 97.3                        | 80       | 120       |      |          |      |
| Ethylbenzene               | 0.98      | 0.050          | 1.000     | 0           | 98.4                        | 77       | 116       |      |          |      |
| Xylenes, Total             | 3.0       | 0.10           | 3.000     | 0           | 99.3                        | 76.7     | 117       |      |          |      |
| Surr: 4-Bromofluorobenzene | 1.0       |                | 1.000     |             | 104                         | 80       | 120       |      |          |      |

|                            |                    |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1208B46-004AMS     | SampType:      | MS        | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | CentralOCD-2341-8- | Batch ID:      | 3494      | RunNo:      | 5174                        |          |           |      |          |      |
| Prep Date:                 | 8/27/2012          | Analysis Date: | 8/29/2012 | SeqNo:      | 147924                      | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result             | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 0.91               | 0.048          | 0.9634    | 0           | 94.4                        | 67.2     | 113       |      |          |      |
| Toluene                    | 0.91               | 0.048          | 0.9634    | 0           | 94.7                        | 62.1     | 116       |      |          |      |
| Ethylbenzene               | 0.94               | 0.048          | 0.9634    | 0           | 97.9                        | 67.9     | 127       |      |          |      |
| Xylenes, Total             | 2.9                | 0.096          | 2.890     | 0           | 98.6                        | 60.6     | 134       |      |          |      |
| Surr: 4-Bromofluorobenzene | 1.0                |                | 0.9634    |             | 104                         | 80       | 120       |      |          |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits



# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                            |                    |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 1208B46-004AMSD    | SampType:      | MSD       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | CentralOCD-2341-8- | Batch ID:      | 3494      | RunNo:      | 5174                        |          |           |      |          |      |
| Prep Date:                 | 8/27/2012          | Analysis Date: | 8/29/2012 | SeqNo:      | 147925                      | Units:   | mg/Kg     |      |          |      |
| Analyte                    | Result             | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 0.92               | 0.048          | 0.9634    | 0           | 95.7                        | 67.2     | 113       | 1.34 | 14.3     |      |
| Toluene                    | 0.95               | 0.048          | 0.9634    | 0           | 98.9                        | 62.1     | 116       | 4.31 | 15.9     |      |
| Ethylbenzene               | 0.97               | 0.048          | 0.9634    | 0           | 101                         | 67.9     | 127       | 3.25 | 14.4     |      |
| Xylenes, Total             | 2.9                | 0.096          | 2.890     | 0           | 102                         | 60.6     | 134       | 3.33 | 12.6     |      |
| Surr: 4-Bromofluorobenzene | 1.0                |                | 0.9634    |             | 108                         | 80       | 120       | 0    | 0        |      |

## Qualifiers:

|   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
|   | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P | Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                            |        |                |           |             |                             |          |           |      |          |      |
|----------------------------|--------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 5ML RB | SampType:      | MBLK      | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | PBW    | Batch ID:      | R5200     | RunNo:      | 5200                        |          |           |      |          |      |
| Prep Date:                 |        | Analysis Date: | 8/29/2012 | SeqNo:      | 147952                      | Units:   | µg/L      |      |          |      |
| Analyte                    | Result | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Toluene                    | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Ethylbenzene               | ND     | 1.0            |           |             |                             |          |           |      |          |      |
| Xylenes, Total             | ND     | 2.0            |           |             |                             |          |           |      |          |      |
| Surr: 4-Bromofluorobenzene | 21     |                | 20.00     |             | 106                         | 55       | 140       |      |          |      |

|                            |                |                |           |             |                             |          |           |      |          |      |
|----------------------------|----------------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                  | 100NG BTEX LCS | SampType:      | LCS       | TestCode:   | EPA Method 8021B: Volatiles |          |           |      |          |      |
| Client ID:                 | LCSW           | Batch ID:      | R5200     | RunNo:      | 5200                        |          |           |      |          |      |
| Prep Date:                 |                | Analysis Date: | 8/29/2012 | SeqNo:      | 147953                      | Units:   | µg/L      |      |          |      |
| Analyte                    | Result         | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                    | 23             | 1.0            | 20.00     | 0           | 113                         | 80       | 120       |      |          |      |
| Toluene                    | 23             | 1.0            | 20.00     | 0           | 113                         | 80       | 120       |      |          |      |
| Ethylbenzene               | 23             | 1.0            | 20.00     | 0           | 114                         | 80       | 120       |      |          |      |
| Xylenes, Total             | 69             | 2.0            | 60.00     | 0           | 115                         | 80       | 120       |      |          |      |
| Surr: 4-Bromofluorobenzene | 21             |                | 20.00     |             | 105                         | 55       | 140       |      |          |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                          |           |                |           |             |                        |          |           |      |          |      |
|--------------------------|-----------|----------------|-----------|-------------|------------------------|----------|-----------|------|----------|------|
| Sample ID                | MB-3574   | SampType:      | MBLK      | TestCode:   | EPA Method 8082: PCB's |          |           |      |          |      |
| Client ID:               | PBS       | Batch ID:      | 3574      | RunNo:      | 5278                   |          |           |      |          |      |
| Prep Date:               | 8/31/2012 | Analysis Date: | 9/4/2012  | SeqNo:      | 150347                 | Units:   | mg/Kg     |      |          |      |
| Analyte                  | Result    | PQL            | SPK value | SPK Ref Val | %REC                   | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Aroclor 1016             | ND        | 0.020          |           |             |                        |          |           |      |          |      |
| Aroclor 1221             | ND        | 0.020          |           |             |                        |          |           |      |          |      |
| Aroclor 1232             | ND        | 0.020          |           |             |                        |          |           |      |          |      |
| Aroclor 1242             | ND        | 0.020          |           |             |                        |          |           |      |          |      |
| Aroclor 1248             | ND        | 0.020          |           |             |                        |          |           |      |          |      |
| Aroclor 1254             | ND        | 0.020          |           |             |                        |          |           |      |          |      |
| Aroclor 1260             | ND        | 0.020          |           |             |                        |          |           |      |          |      |
| Surr: Decachlorobiphenyl | 0.058     |                | 0.06250   |             | 93.2                   | 17.3     | 122       |      |          |      |

|                          |           |                |           |             |                        |          |           |      |          |      |
|--------------------------|-----------|----------------|-----------|-------------|------------------------|----------|-----------|------|----------|------|
| Sample ID                | LCS-3574  | SampType:      | LCS       | TestCode:   | EPA Method 8082: PCB's |          |           |      |          |      |
| Client ID:               | LCSS      | Batch ID:      | 3574      | RunNo:      | 5278                   |          |           |      |          |      |
| Prep Date:               | 8/31/2012 | Analysis Date: | 9/4/2012  | SeqNo:      | 150348                 | Units:   | mg/Kg     |      |          |      |
| Analyte                  | Result    | PQL            | SPK value | SPK Ref Val | %REC                   | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Aroclor 1260             | 0.087     | 0.020          | 0.1250    | 0           | 69.2                   | 25.1     | 115       |      |          |      |
| Surr: Decachlorobiphenyl | 0.056     |                | 0.06250   |             | 90.4                   | 17.3     | 122       |      |          |      |

## Qualifiers:

- |                                              |    |                                                    |
|----------------------------------------------|----|----------------------------------------------------|
| Value exceeds Maximum Contaminant Level.     | B  | Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

**Client:** Western Refining Southwest, Gallup  
**Project:** OCD Central Landfarm Semiannual Sampling

|                                |           |                |           |             |                             |          |           |      |          |      |
|--------------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                      | mb-3494   | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                     | PBS       | Batch ID:      | 3494      | RunNo:      | 5213                        |          |           |      |          |      |
| Prep Date:                     | 8/27/2012 | Analysis Date: | 8/30/2012 | SeqNo:      | 148726                      | Units:   | mg/Kg     |      |          |      |
| Analyte                        | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                        | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Toluene                        | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Ethylbenzene                   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Methyl tert-butyl ether (MTBE) | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,4-Trimethylbenzene         | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3,5-Trimethylbenzene         | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dichloroethane (EDC)       | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dibromoethane (EDB)        | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Naphthalene                    | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| 1-Methylnaphthalene            | ND        | 0.20           |           |             |                             |          |           |      |          |      |
| 2-Methylnaphthalene            | ND        | 0.20           |           |             |                             |          |           |      |          |      |
| Acetone                        | ND        | 0.75           |           |             |                             |          |           |      |          |      |
| Bromobenzene                   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Bromodichloromethane           | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Bromoform                      | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Bromomethane                   | ND        | 0.15           |           |             |                             |          |           |      |          |      |
| 2-Butanone                     | ND        | 0.50           |           |             |                             |          |           |      |          |      |
| Carbon disulfide               | ND        | 0.50           |           |             |                             |          |           |      |          |      |
| Carbon tetrachloride           | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Chlorobenzene                  | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Chloroethane                   | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Chloroform                     | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Chloromethane                  | ND        | 0.15           |           |             |                             |          |           |      |          |      |
| 2-Chlorotoluene                | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Chlorotoluene                | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| cis-1,2-DCE                    | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| cis-1,3-Dichloropropene        | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dibromo-3-chloropropane    | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Dibromochloromethane           | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Dibromomethane                 | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2-Dichlorobenzene            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3-Dichlorobenzene            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,4-Dichlorobenzene            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Dichlorodifluoromethane        | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethane             | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloroethene             | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2-Dichloropropane            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,3-Dichloropropane            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 2,2-Dichloropropane            | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| 1,1-Dichloropropene            | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Hexachlorobutadiene            | ND        | 0.10           |           |             |                             |          |           |      |          |      |

### Qualifiers:

- |                                              |                                                      |
|----------------------------------------------|------------------------------------------------------|
| * Value exceeds Maximum Contaminant Level.   | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit               |
| P Sample pH greater than 2                   | R RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | mb-3494   | SampType:      | MBLK      | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | PBS       | Batch ID:      | 3494      | RunNo:      | 5213                        |          |           |      |          |      |
| Prep Date:                  | 8/27/2012 | Analysis Date: | 8/30/2012 | SeqNo:      | 148726                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| 2-Hexanone                  | ND        | 0.50           |           |             |                             |          |           |      |          |      |
| Isopropylbenzene            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Isopropyltoluene          | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 4-Methyl-2-pentanone        | ND        | 0.50           |           |             |                             |          |           |      |          |      |
| Methylene chloride          | ND        | 0.15           |           |             |                             |          |           |      |          |      |
| n-Butylbenzene              | ND        | 0.15           |           |             |                             |          |           |      |          |      |
| n-Propylbenzene             | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| sec-Butylbenzene            | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Styrene                     | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| tert-Butylbenzene           | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1,2-Tetrachloroethane   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2,2-Tetrachloroethane   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Tetrachloroethene (PCE)     | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,2-DCE               | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| trans-1,3-Dichloropropene   | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichlorobenzene      | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| 1,2,4-Trichlorobenzene      | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,1-Trichloroethane       | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,1,2-Trichloroethane       | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Trichloroethene (TCE)       | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Trichlorofluoromethane      | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| 1,2,3-Trichloropropane      | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Vinyl chloride              | ND        | 0.050          |           |             |                             |          |           |      |          |      |
| Xylenes, Total              | ND        | 0.10           |           |             |                             |          |           |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.41      |                | 0.5000    |             | 83.0                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.40      |                | 0.5000    |             | 80.7                        | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.46      |                | 0.5000    |             | 91.4                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.36      |                | 0.5000    |             | 71.3                        | 70       | 130       |      |          |      |

|                             |           |                |           |             |                             |          |           |      |          |      |
|-----------------------------|-----------|----------------|-----------|-------------|-----------------------------|----------|-----------|------|----------|------|
| Sample ID                   | lcs-3494  | SampType:      | LCS       | TestCode:   | EPA Method 8260B: VOLATILES |          |           |      |          |      |
| Client ID:                  | LCSS      | Batch ID:      | 3494      | RunNo:      | 5213                        |          |           |      |          |      |
| Prep Date:                  | 8/27/2012 | Analysis Date: | 8/30/2012 | SeqNo:      | 148751                      | Units:   | mg/Kg     |      |          |      |
| Analyte                     | Result    | PQL            | SPK value | SPK Ref Val | %REC                        | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Benzene                     | 0.98      | 0.050          | 1.000     | 0           | 97.8                        | 70       | 130       |      |          |      |
| Toluene                     | 0.93      | 0.050          | 1.000     | 0           | 92.7                        | 80       | 120       |      |          |      |
| Surr: 1,2-Dichloroethane-d4 | 0.41      |                | 0.5000    |             | 82.5                        | 70       | 130       |      |          |      |
| Surr: 4-Bromofluorobenzene  | 0.39      |                | 0.5000    |             | 78.8                        | 70       | 130       |      |          |      |
| Surr: Dibromofluoromethane  | 0.43      |                | 0.5000    |             | 86.5                        | 70       | 130       |      |          |      |
| Surr: Toluene-d8            | 0.38      |                | 0.5000    |             | 75.3                        | 70       | 130       |      |          |      |

## Qualifiers:

Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

**Client:** Western Refining Southwest, Gallup  
**Project:** OCD Central Landfarm Semiannual Sampling

|                            |                 |      |                |                 |      |           |                                        |      |                     |      |
|----------------------------|-----------------|------|----------------|-----------------|------|-----------|----------------------------------------|------|---------------------|------|
| Sample ID                  | <b>mb-3616</b>  |      | SampType:      | <b>MBLK</b>     |      | TestCode: | <b>EPA Method 8270C: Semivolatiles</b> |      |                     |      |
| Client ID:                 | <b>PBS</b>      |      | Batch ID:      | <b>3616</b>     |      | RunNo:    | <b>5365</b>                            |      |                     |      |
| Prep Date:                 | <b>9/5/2012</b> |      | Analysis Date: | <b>9/6/2012</b> |      | SeqNo:    | <b>152820</b>                          |      | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result          | PQL  | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                              | %RPD | RPDLimit            | Qual |
| 4-Chloro-3-methylphenol    | ND              | 0.50 |                |                 |      |           |                                        |      |                     |      |
| 2-Chlorophenol             | ND              | 0.20 |                |                 |      |           |                                        |      |                     |      |
| 2,4-Dichlorophenol         | ND              | 0.40 |                |                 |      |           |                                        |      |                     |      |
| 2,4-Dimethylphenol         | ND              | 0.30 |                |                 |      |           |                                        |      |                     |      |
| 4,6-Dinitro-2-methylphenol | ND              | 0.50 |                |                 |      |           |                                        |      |                     |      |
| 2,4-Dinitrophenol          | ND              | 0.40 |                |                 |      |           |                                        |      |                     |      |
| 2-Methylphenol             | ND              | 0.50 |                |                 |      |           |                                        |      |                     |      |
| 2-Nitrophenol              | ND              | 0.20 |                |                 |      |           |                                        |      |                     |      |
| 4-Nitrophenol              | ND              | 0.25 |                |                 |      |           |                                        |      |                     |      |
| Pentachlorophenol          | ND              | 0.40 |                |                 |      |           |                                        |      |                     |      |
| Phenol                     | ND              | 0.20 |                |                 |      |           |                                        |      |                     |      |
| 2,4,5-Trichlorophenol      | ND              | 0.20 |                |                 |      |           |                                        |      |                     |      |
| 2,4,6-Trichlorophenol      | ND              | 0.20 |                |                 |      |           |                                        |      |                     |      |
| Surr: 2,4,6-Tribromophenol | 2.0             |      | 3.330          |                 | 61.4 | 21.3      | 145                                    |      |                     |      |
| Surr: 2-Fluorobiphenyl     | 0.80            |      | 1.670          |                 | 48.1 | 20        | 131                                    |      |                     |      |
| Surr: 2-Fluorophenol       | 1.5             |      | 3.330          |                 | 44.4 | 11.9      | 130                                    |      |                     |      |
| Surr: 4-Terphenyl-d14      | 0.83            |      | 1.670          |                 | 49.8 | 25.1      | 149                                    |      |                     |      |
| Surr: Nitrobenzene-d5      | 0.73            |      | 1.670          |                 | 43.6 | 25.6      | 137                                    |      |                     |      |
| Surr: Phenol-d5            | 1.5             |      | 3.330          |                 | 46.3 | 20.3      | 132                                    |      |                     |      |

|                            |                 |      |                |                 |      |           |                                        |      |                     |      |
|----------------------------|-----------------|------|----------------|-----------------|------|-----------|----------------------------------------|------|---------------------|------|
| Sample ID                  | <b>lcs-3616</b> |      | SampType:      | <b>LCS</b>      |      | TestCode: | <b>EPA Method 8270C: Semivolatiles</b> |      |                     |      |
| Client ID:                 | <b>LCSS</b>     |      | Batch ID:      | <b>3616</b>     |      | RunNo:    | <b>5365</b>                            |      |                     |      |
| Prep Date:                 | <b>9/5/2012</b> |      | Analysis Date: | <b>9/6/2012</b> |      | SeqNo:    | <b>152822</b>                          |      | Units: <b>mg/Kg</b> |      |
| Analyte                    | Result          | PQL  | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                              | %RPD | RPDLimit            | Qual |
| 4-Chloro-3-methylphenol    | 2.1             | 0.50 | 3.330          | 0               | 63.3 | 43.8      | 89.1                                   |      |                     |      |
| 2-Chlorophenol             | 1.8             | 0.20 | 3.330          | 0               | 52.9 | 41.1      | 96.9                                   |      |                     |      |
| 4-Nitrophenol              | 2.5             | 0.25 | 3.330          | 0               | 75.2 | 44.2      | 107                                    |      |                     |      |
| Pentachlorophenol          | 2.0             | 0.40 | 3.330          | 0               | 61.1 | 36.2      | 80                                     |      |                     |      |
| Phenol                     | 1.8             | 0.20 | 3.330          | 0               | 55.3 | 42.7      | 92.7                                   |      |                     |      |
| Surr: 2,4,6-Tribromophenol | 2.7             |      | 3.330          |                 | 80.5 | 21.3      | 145                                    |      |                     |      |
| Surr: 2-Fluorobiphenyl     | 1.0             |      | 1.670          |                 | 59.9 | 20        | 131                                    |      |                     |      |
| Surr: 2-Fluorophenol       | 1.7             |      | 3.330          |                 | 49.7 | 11.9      | 130                                    |      |                     |      |
| Surr: 4-Terphenyl-d14      | 1.2             |      | 1.670          |                 | 71.0 | 25.1      | 149                                    |      |                     |      |
| Surr: Nitrobenzene-d5      | 0.91            |      | 1.670          |                 | 54.4 | 25.6      | 137                                    |      |                     |      |
| Surr: Phenol-d5            | 2.0             |      | 3.330          |                 | 60.2 | 20.3      | 132                                    |      |                     |      |

|            |                  |     |                |                 |      |           |                                        |      |                     |      |
|------------|------------------|-----|----------------|-----------------|------|-----------|----------------------------------------|------|---------------------|------|
| Sample ID  | <b>lcsd-3616</b> |     | SampType:      | <b>LCSD</b>     |      | TestCode: | <b>EPA Method 8270C: Semivolatiles</b> |      |                     |      |
| Client ID: | <b>LCSS02</b>    |     | Batch ID:      | <b>3616</b>     |      | RunNo:    | <b>5365</b>                            |      |                     |      |
| Prep Date: | <b>9/5/2012</b>  |     | Analysis Date: | <b>9/6/2012</b> |      | SeqNo:    | <b>152823</b>                          |      | Units: <b>mg/Kg</b> |      |
| Analyte    | Result           | PQL | SPK value      | SPK Ref Val     | %REC | LowLimit  | HighLimit                              | %RPD | RPDLimit            | Qual |

### Qualifiers:

- |                                              |                                                      |
|----------------------------------------------|------------------------------------------------------|
| * Value exceeds Maximum Contaminant Level.   | B Analyte detected in the associated Method Blank    |
| E Value above quantitation range             | H Holding times for preparation or analysis exceeded |
| J Analyte detected below quantitation limits | ND Not Detected at the Reporting Limit               |
| P Sample pH greater than 2                   | R RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|                            |           |      |                         |             |                                           |          |              |      |          |      |
|----------------------------|-----------|------|-------------------------|-------------|-------------------------------------------|----------|--------------|------|----------|------|
| Sample ID                  | Icsd-3616 |      | SampType: LCSD          |             | TestCode: EPA Method 8270C: Semivolatiles |          |              |      |          |      |
| Client ID:                 | LCSS02    |      | Batch ID: 3616          |             | RunNo: 5365                               |          |              |      |          |      |
| Prep Date:                 | 9/5/2012  |      | Analysis Date: 9/6/2012 |             | SeqNo: 152823                             |          | Units: mg/Kg |      |          |      |
| Analyte                    | Result    | PQL  | SPK value               | SPK Ref Val | %REC                                      | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| 4-Chloro-3-methylphenol    | 2.6       | 0.50 | 3.330                   | 0           | 78.7                                      | 43.8     | 89.1         | 21.7 | 20       | R    |
| 2-Chlorophenol             | 2.3       | 0.20 | 3.330                   | 0           | 67.6                                      | 41.1     | 96.9         | 24.4 | 20       | R    |
| 4-Nitrophenol              | 3.3       | 0.25 | 3.330                   | 0           | 98.5                                      | 44.2     | 107          | 26.8 | 20       | R    |
| Pentachlorophenol          | 2.7       | 0.40 | 3.330                   | 0           | 82.3                                      | 36.2     | 80           | 29.6 | 20       | SR   |
| Phenol                     | 2.4       | 0.20 | 3.330                   | 0           | 72.1                                      | 42.7     | 92.7         | 26.3 | 20       | R    |
| Surr: 2,4,6-Tribromophenol | 3.4       |      | 3.330                   |             | 102                                       | 21.3     | 145          | 0    | 0        |      |
| Surr: 2-Fluorobiphenyl     | 1.2       |      | 1.670                   |             | 70.5                                      | 20       | 131          | 0    | 0        |      |
| Surr: 2-Fluorophenol       | 1.9       |      | 3.330                   |             | 57.7                                      | 11.9     | 130          | 0    | 0        |      |
| Surr: 4-Terphenyl-d14      | 1.4       |      | 1.670                   |             | 84.8                                      | 25.1     | 149          | 0    | 0        |      |
| Surr: Nitrobenzene-d5      | 1.2       |      | 1.670                   |             | 70.2                                      | 25.6     | 137          | 0    | 0        |      |
| Surr: Phenol-d5            | 2.5       |      | 3.330                   |             | 75.9                                      | 20.3     | 132          | 0    | 0        |      |

## Qualifiers:

Value exceeds Maximum Contaminant Level.  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH greater than 2

B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

**Client:** Western Refining Southwest, Gallup  
**Project:** OCD Central Landfarm Semiannual Sampling

|                        |                 |       |                |                  |      |           |                              |      |                     |      |
|------------------------|-----------------|-------|----------------|------------------|------|-----------|------------------------------|------|---------------------|------|
| Sample ID              | <b>MB-3614</b>  |       | SampType:      | <b>MBLK</b>      |      | TestCode: | <b>EPA Method 8310: PAHs</b> |      |                     |      |
| Client ID:             | <b>PBS</b>      |       | Batch ID:      | <b>3614</b>      |      | RunNo:    | <b>5386</b>                  |      |                     |      |
| Prep Date:             | <b>9/5/2012</b> |       | Analysis Date: | <b>9/10/2012</b> |      | SeqNo:    | <b>154322</b>                |      | Units: <b>mg/Kg</b> |      |
| Analyte                | Result          | PQL   | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                    | %RPD | RPDLimit            | Qual |
| Naphthalene            | ND              | 0.25  |                |                  |      |           |                              |      |                     |      |
| 1-Methylnaphthalene    | ND              | 0.25  |                |                  |      |           |                              |      |                     |      |
| 2-Methylnaphthalene    | ND              | 0.25  |                |                  |      |           |                              |      |                     |      |
| Acenaphthylene         | ND              | 0.25  |                |                  |      |           |                              |      |                     |      |
| Acenaphthene           | ND              | 0.25  |                |                  |      |           |                              |      |                     |      |
| Fluorene               | ND              | 0.030 |                |                  |      |           |                              |      |                     |      |
| Phenanthrene           | ND              | 0.015 |                |                  |      |           |                              |      |                     |      |
| Anthracene             | ND              | 0.015 |                |                  |      |           |                              |      |                     |      |
| Fluoranthene           | ND              | 0.020 |                |                  |      |           |                              |      |                     |      |
| Pyrene                 | ND              | 0.025 |                |                  |      |           |                              |      |                     |      |
| Benz(a)anthracene      | ND              | 0.010 |                |                  |      |           |                              |      |                     |      |
| Chrysene               | ND              | 0.011 |                |                  |      |           |                              |      |                     |      |
| Benzo(b)fluoranthene   | ND              | 0.010 |                |                  |      |           |                              |      |                     |      |
| Benzo(k)fluoranthene   | ND              | 0.010 |                |                  |      |           |                              |      |                     |      |
| Benzo(a)pyrene         | ND              | 0.010 |                |                  |      |           |                              |      |                     |      |
| Dibenz(a,h)anthracene  | ND              | 0.010 |                |                  |      |           |                              |      |                     |      |
| Benzo(g,h,i)perylene   | ND              | 0.010 |                |                  |      |           |                              |      |                     |      |
| Indeno(1,2,3-cd)pyrene | ND              | 0.010 |                |                  |      |           |                              |      |                     |      |
| Surr: Benzo(e)pyrene   | 0.42            |       | 0.5000         |                  | 83.1 | 35.9      | 103                          |      |                     |      |

|                       |                 |       |                |                  |      |           |                              |      |                     |      |
|-----------------------|-----------------|-------|----------------|------------------|------|-----------|------------------------------|------|---------------------|------|
| Sample ID             | <b>LCS-3614</b> |       | SampType:      | <b>LCS</b>       |      | TestCode: | <b>EPA Method 8310: PAHs</b> |      |                     |      |
| Client ID:            | <b>LCSS</b>     |       | Batch ID:      | <b>3614</b>      |      | RunNo:    | <b>5460</b>                  |      |                     |      |
| Prep Date:            | <b>9/5/2012</b> |       | Analysis Date: | <b>9/12/2012</b> |      | SeqNo:    | <b>156035</b>                |      | Units: <b>mg/Kg</b> |      |
| Analyte               | Result          | PQL   | SPK value      | SPK Ref Val      | %REC | LowLimit  | HighLimit                    | %RPD | RPDLimit            | Qual |
| Naphthalene           | 1.4             | 0.25  | 2.000          | 0                | 70.4 | 32.4      | 87                           |      |                     |      |
| 1-Methylnaphthalene   | 1.4             | 0.25  | 2.000          | 0                | 70.9 | 36.9      | 86.9                         |      |                     |      |
| 2-Methylnaphthalene   | 1.4             | 0.25  | 2.000          | 0                | 70.8 | 34.4      | 87.4                         |      |                     |      |
| Acenaphthylene        | 1.4             | 0.25  | 2.000          | 0                | 68.8 | 38.9      | 84.7                         |      |                     |      |
| Acenaphthene          | 1.5             | 0.25  | 2.000          | 0                | 74.9 | 41.7      | 83.4                         |      |                     |      |
| Fluorene              | 0.11            | 0.030 | 0.2000         | 0                | 54.6 | 27.8      | 72.5                         |      |                     |      |
| Phenanthrene          | 0.074           | 0.015 | 0.1006         | 0                | 73.8 | 31.9      | 79.1                         |      |                     |      |
| Anthracene            | 0.071           | 0.015 | 0.1006         | 0                | 70.6 | 38.8      | 81.2                         |      |                     |      |
| Fluoranthene          | 0.18            | 0.020 | 0.2006         | 0                | 90.7 | 40.9      | 86                           |      |                     | S    |
| Pyrene                | 0.14            | 0.025 | 0.2000         | 0                | 67.8 | 21.4      | 90.4                         |      |                     |      |
| Benz(a)anthracene     | 0.016           | 0.010 | 0.02000        | 0                | 78.8 | 40.9      | 92.3                         |      |                     |      |
| Chrysene              | 0.069           | 0.011 | 0.1006         | 0                | 68.3 | 35.3      | 86.6                         |      |                     |      |
| Benzo(b)fluoranthene  | 0.020           | 0.010 | 0.02500        | 0                | 79.0 | 42.9      | 98.1                         |      |                     |      |
| Benzo(k)fluoranthene  | 0.012           | 0.010 | 0.01250        | 0                | 96.0 | 50.6      | 99                           |      |                     |      |
| Benzo(a)pyrene        | 0.011           | 0.010 | 0.01250        | 0                | 84.0 | 39.4      | 105                          |      |                     |      |
| Dibenz(a,h)anthracene | 0.020           | 0.010 | 0.02500        | 0                | 81.0 | 40.5      | 100                          |      |                     |      |

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits



# QC SUMMARY REPORT

Full Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup  
Project: OCD Central Landfarm Semiannual Sampling

| Sample ID              | LCS-3614 |       | SampType:      | LCS         |      | TestCode: | EPA Method 8310: PAHs |      |              |      |
|------------------------|----------|-------|----------------|-------------|------|-----------|-----------------------|------|--------------|------|
| Client ID:             | LCSS     |       | Batch ID:      | 3614        |      | RunNo:    | 5460                  |      |              |      |
| Prep Date:             | 9/5/2012 |       | Analysis Date: | 9/12/2012   |      | SeqNo:    | 156035                |      | Units: mg/Kg |      |
| Analyte                | Result   | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit             | %RPD | RPDLimit     | Qual |
| Benzo(g,h,i)perylene   | 0.020    | 0.010 | 0.02500        | 0           | 82.0 | 39.4      | 90.3                  |      |              |      |
| Indeno(1,2,3-cd)pyrene | 0.038    | 0.010 | 0.05002        | 0           | 75.5 | 39.3      | 94.7                  |      |              |      |
| Surr: Benzo(e)pyrene   | 0.44     |       | 0.5000         |             | 88.1 | 35.9      | 103                   |      |              |      |

| Sample ID              | LCSD-3614 |       | SampType:      | LCSD        |      | TestCode: | EPA Method 8310: PAHs |       |              |      |
|------------------------|-----------|-------|----------------|-------------|------|-----------|-----------------------|-------|--------------|------|
| Client ID:             | LCSS02    |       | Batch ID:      | 3614        |      | RunNo:    | 5460                  |       |              |      |
| Prep Date:             | 9/5/2012  |       | Analysis Date: | 9/12/2012   |      | SeqNo:    | 156036                |       | Units: mg/Kg |      |
| Analyte                | Result    | PQL   | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit             | %RPD  | RPDLimit     | Qual |
| Naphthalene            | 1.2       | 0.25  | 2.000          | 0           | 60.2 | 32.4      | 87                    | 15.6  | 20           |      |
| 1-Methylnaphthalene    | 1.3       | 0.25  | 2.000          | 0           | 62.6 | 36.9      | 86.9                  | 12.4  | 20           |      |
| 2-Methylnaphthalene    | 1.3       | 0.25  | 2.000          | 0           | 64.6 | 34.4      | 87.4                  | 9.19  | 20           |      |
| Acenaphthylene         | 1.4       | 0.25  | 2.000          | 0           | 69.3 | 38.9      | 84.7                  | 0.652 | 20           |      |
| Acenaphthene           | 1.4       | 0.25  | 2.000          | 0           | 69.5 | 41.7      | 83.4                  | 7.52  | 20           |      |
| Fluorene               | 0.11      | 0.030 | 0.2000         | 0           | 56.8 | 27.8      | 72.5                  | 3.82  | 20           |      |
| Phenanthrene           | 0.064     | 0.015 | 0.1006         | 0           | 63.4 | 31.9      | 79.1                  | 15.2  | 20           |      |
| Anthracene             | 0.071     | 0.015 | 0.1006         | 0           | 70.3 | 38.8      | 81.2                  | 0.353 | 20           |      |
| Pyrene                 | 0.18      | 0.020 | 0.2006         | 0           | 91.6 | 40.9      | 86                    | 0.957 | 20           | S    |
| Benzo(a)anthracene     | 0.12      | 0.025 | 0.2000         | 0           | 61.6 | 21.4      | 90.4                  | 9.47  | 20           |      |
| Chrysene               | 0.016     | 0.010 | 0.02000        | 0           | 77.5 | 40.9      | 92.3                  | 1.60  | 20           |      |
| Benzo(b)fluoranthene   | 0.068     | 0.011 | 0.1006         | 0           | 67.6 | 35.3      | 86.6                  | 1.10  | 20           |      |
| Benzo(k)fluoranthene   | 0.020     | 0.010 | 0.02500        | 0           | 79.0 | 42.9      | 98.1                  | 0     | 20           |      |
| Benzo(a)pyrene         | 0.012     | 0.010 | 0.01250        | 0           | 98.0 | 50.6      | 99                    | 2.06  | 20           |      |
| Dibenz(a,h)anthracene  | 0.011     | 0.010 | 0.01250        | 0           | 84.0 | 39.4      | 105                   | 0     | 20           |      |
| Benzo(g,h,i)perylene   | 0.020     | 0.010 | 0.02500        | 0           | 80.0 | 40.5      | 100                   | 1.24  | 20           |      |
| Indeno(1,2,3-cd)pyrene | 0.020     | 0.010 | 0.02500        | 0           | 81.0 | 39.4      | 90.3                  | 1.23  | 20           |      |
| Surr: Benzo(e)pyrene   | 0.037     | 0.010 | 0.05002        | 0           | 74.5 | 39.3      | 94.7                  | 1.33  | 20           |      |
|                        | 0.45      |       | 0.5000         |             | 89.8 | 35.9      | 103                   | 0     |              |      |

## Qualifiers:

- |   |                                            |    |                                                    |
|---|--------------------------------------------|----|----------------------------------------------------|
| V | Value exceeds Maximum Contaminant Level.   | B  | Analyte detected in the associated Method Blank    |
| E | Value above quantitation range             | H  | Holding times for preparation or analysis exceeded |
| J | Analyte detected below quantitation limits | ND | Not Detected at the Reporting Limit                |
| P | Sample pH greater than 2                   | R  | RPD outside accepted recovery limits               |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |          |                |           |             |                          |          |           |      |          |      |
|------------|----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | MB-3620  | SampType:      | MBLK      | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | PBS      | Batch ID:      | 3620      | RunNo:      | 5338                     |          |           |      |          |      |
| Prep Date: | 9/5/2012 | Analysis Date: | 9/6/2012  | SeqNo:      | 152014                   | Units:   | mg/kg     |      |          |      |
| Analyte    | Result   | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | ND       | 0.033          |           |             |                          |          |           |      |          |      |

|            |          |                |           |             |                          |          |           |      |          |      |
|------------|----------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | LCS-3620 | SampType:      | LCS       | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | LCSS     | Batch ID:      | 3620      | RunNo:      | 5338                     |          |           |      |          |      |
| Prep Date: | 9/5/2012 | Analysis Date: | 9/6/2012  | SeqNo:      | 152015                   | Units:   | mg/kg     |      |          |      |
| Analyte    | Result   | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.16     | 0.033          | 0.1667    | 0           | 97.5                     | 80       | 120       |      |          |      |

|            |                    |                |           |             |                          |          |           |      |          |      |
|------------|--------------------|----------------|-----------|-------------|--------------------------|----------|-----------|------|----------|------|
| Sample ID  | 1208B46-006AMS     | SampType:      | MS        | TestCode:   | EPA Method 7471: Mercury |          |           |      |          |      |
| Client ID: | CentralOCD-TZ-8-24 | Batch ID:      | 3620      | RunNo:      | 5338                     |          |           |      |          |      |
| Prep Date: | 9/5/2012           | Analysis Date: | 9/6/2012  | SeqNo:      | 152023                   | Units:   | mg/kg     |      |          |      |
| Analyte    | Result             | PQL            | SPK value | SPK Ref Val | %REC                     | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
| Mercury    | 0.56               | 0.16           | 0.1608    | 0.4085      | 92.3                     | 75       | 125       |      |          |      |

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1208B46

24-Sep-12

Client: Western Refining Southwest, Gallup

Project: OCD Central Landfarm Semiannual Sampling

|            |           |      |                |             |      |           |                               |      |              |      |  |
|------------|-----------|------|----------------|-------------|------|-----------|-------------------------------|------|--------------|------|--|
| Sample ID  | MB-3508   |      | SampType:      | MBLK        |      | TestCode: | EPA Method 6010B: Soil Metals |      |              |      |  |
| Client ID: | PBS       |      | Batch ID:      | 3508        |      | RunNo:    | 5203                          |      |              |      |  |
| Prep Date: | 8/28/2012 |      | Analysis Date: | 8/30/2012   |      | SeqNo:    | 147982                        |      | Units: mg/Kg |      |  |
| Analyte    | Result    | PQL  | SPK value      | SPK Ref Val | %REC | LowLimit  | HighLimit                     | %RPD | RPDLimit     | Qual |  |
| Arsenic    | ND        | 2.5  |                |             |      |           |                               |      |              |      |  |
| Barium     | ND        | 0.10 |                |             |      |           |                               |      |              |      |  |
| Cadmium    | ND        | 0.10 |                |             |      |           |                               |      |              |      |  |
| Chromium   | ND        | 0.30 |                |             |      |           |                               |      |              |      |  |
| Copper     | ND        | 0.30 |                |             |      |           |                               |      |              |      |  |
| Iron       | ND        | 1.0  |                |             |      |           |                               |      |              |      |  |
| Lead       | ND        | 0.25 |                |             |      |           |                               |      |              |      |  |
| Manganese  | ND        | 0.10 |                |             |      |           |                               |      |              |      |  |
| Selenium   | ND        | 2.5  |                |             |      |           |                               |      |              |      |  |
| Silver     | ND        | 0.25 |                |             |      |           |                               |      |              |      |  |
| Uranium    | ND        | 5.0  |                |             |      |           |                               |      |              |      |  |
| Zinc       | ND        | 2.5  |                |             |      |           |                               |      |              |      |  |

|            |           |      |                          |             |                                         |          |              |      |          |      |
|------------|-----------|------|--------------------------|-------------|-----------------------------------------|----------|--------------|------|----------|------|
| Sample ID  | LCS-3508  |      | SampType: LCS            |             | TestCode: EPA Method 6010B: Soil Metals |          |              |      |          |      |
| Client ID: | LCSS      |      | Batch ID: 3508           |             | RunNo: 5203                             |          |              |      |          |      |
| Prep Date: | 8/28/2012 |      | Analysis Date: 8/30/2012 |             | SeqNo: 147983                           |          | Units: mg/Kg |      |          |      |
| alyte      | Result    | PQL  | SPK value                | SPK Ref Val | %REC                                    | LowLimit | HighLimit    | %RPD | RPDLimit | Qual |
| Arsenic    | 25        | 2.5  | 25.00                    | 0           | 98.3                                    | 80       | 120          |      |          |      |
| Barium     | 22        | 0.10 | 25.00                    | 0           | 89.9                                    | 80       | 120          |      |          |      |
| Cadmium    | 23        | 0.10 | 25.00                    | 0           | 91.8                                    | 80       | 120          |      |          |      |
| Chromium   | 23        | 0.30 | 25.00                    | 0           | 91.7                                    | 80       | 120          |      |          |      |
| Copper     | 22        | 0.30 | 25.00                    | 0           | 89.6                                    | 80       | 120          |      |          |      |
| Iron       | 23        | 1.0  | 25.00                    | 0           | 91.8                                    | 80       | 120          |      |          |      |
| Lead       | 23        | 0.25 | 25.00                    | 0           | 91.7                                    | 80       | 120          |      |          |      |
| Manganese  | 22        | 0.10 | 25.00                    | 0           | 88.3                                    | 80       | 120          |      |          |      |
| Selenium   | 26        | 2.5  | 25.00                    | 0           | 104                                     | 80       | 120          |      |          |      |
| Silver     | 4.6       | 0.25 | 5.000                    | 0           | 92.5                                    | 80       | 120          |      |          |      |
| Uranium    | 21        | 5.0  | 25.00                    | 0           | 85.9                                    | 80       | 120          |      |          |      |
| Zinc       | 24        | 2.5  | 25.00                    | 0           | 95.0                                    | 80       | 120          |      |          |      |

## Qualifiers:

- V Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH greater than 2

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87105  
TEL: 505-345-3975 FAX: 505-345-4105  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Western Refining Gallup Work Order Number: 1208B46

Received by/date: LMA 08/24/12

Logged By: Anne Thorne 8/24/2012 3:40:00 PM

Completed By: Anne Thorne 8/27/2012

Reviewed By: AT/IMG 08/27/12

### Chain of Custody

1. Were seals intact? Yes ☒ No ☐ Not Present ☐  
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐  
3. How was the sample delivered? Client

### Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☒ No ☐ NA ☐  
5. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐  
6. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐  
7. Sample(s) in proper container(s)? Yes ☒ No ☐  
8. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐  
9. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐  
10. Was preservative added to bottles? Yes ☐ No ☒ NA ☐  
11. VOA vials have zero headspace? Yes ☒ No ☐ No VOA Vials ☐  
12. Were any sample containers received broken? Yes ☐ No ☒  
13. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐  
14. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐  
15. Is it clear what analyses were requested? Yes ☒ No ☐  
16. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

### Special Handling (If applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

18. Additional remarks:

### 19. Cooler Information

| Cooler No | Temp $^{\circ}\text{C}$ | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|-----------|-------------------------|-----------|-------------|---------|-----------|-----------|
| 1         | 1.0                     | Good      | Yes         |         |           |           |

# Chain-of-Custody Record

Client: Westport Refining

Mailing Address: Route 3 Box 7

Gallup, NM 87301

Phone #: 505-722-3833

email or Fax#: 505-722-0210

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation:

☐ NELAP ☐ Other

☐ EDD (Type) Please provide EDD

Sampler: C. Morgan

On Ice ☒ Yes ☐ No

Sample Temperature: 17.0

Project Name: OCD Central Landfarm Semiannual Sampling

Project #: 697-039-002

Project Manager: Ed Riege

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: OCD Central Landfarm Semiannual Sampling

Project #: 697-039-002

Project Manager: Ed Riege

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: OCD Central Landfarm Semiannual Sampling

Project #: 697-039-002

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Project #: 697-039-002

Project Manager: Ed Riege

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: OCD Central Landfarm Semiannual Sampling

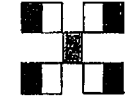
Project #: 697-039-002

Project Manager: Ed Riege

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: OCD Central Landfarm Semiannual Sampling

Project #: 697-039-002



**HALL ENVIRONMENTAL ANALYSIS LABORATORY**

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

| Date    | Time | Matrix | Sample Request ID         | Container Type and # | Preservative Type | HEAL No | TPH (418.1) | BTEX (8021) | Chlorides (300.1) | DRO and GRO (8015M) | A and B of NMAC 3103 (see attached) | Air Bubbles (Y or N) |
|---------|------|--------|---------------------------|----------------------|-------------------|---------|-------------|-------------|-------------------|---------------------|-------------------------------------|----------------------|
| 8-24-12 | 0925 | soil   | CentralOCD-09-8-24-12     | 4oz - 2              | none              | 1208B46 | X           | X           | X                 |                     |                                     |                      |
|         | 0942 | soil   | CentralOCD-09-8-24-12     | 4oz - 2              | none              | -001    | X           | X           | X                 |                     |                                     |                      |
|         | 1005 | soil   | CentralOCD-09-8-24-12     | 4oz - 2              | none              | -003    | X           | X           | X                 |                     |                                     |                      |
|         | 1025 | soil   | CentralOCD-09-8-24-12     | 4oz - 2              | none              | -004    | X           | X           | X                 |                     |                                     |                      |
|         | 0952 | soil   | BD-8-24-12                | 4oz - 2              | none              | -005    | X           | X           | X                 |                     |                                     |                      |
|         | 1035 | soil   | CentralOCD-234-8-24-12MS  | 4oz - 1              | none              | -004    | X           | X           | X                 |                     |                                     |                      |
|         | 1035 | soil   | CentralOCD-234-8-24-12MSD | 4oz - 1              | none              | -004    | X           | X           | X                 |                     |                                     |                      |
| 8-24-12 | 0850 | soil   | CentralOCD-17-8-24-12     | 4oz - 2              | none              | -006    | X           | X           | X                 | X                   |                                     |                      |
|         | 1100 | water  | EB-20120824               | VOA - 3              | HCL               | -007    | X           |             |                   |                     |                                     |                      |
|         | 1055 | water  | FB-20120824               | VOA - 3              | HCL               | -008    | X           |             |                   |                     |                                     |                      |
|         |      | water  | Trip Blank                | VOA - 3              | HCL               | -009    | X           |             |                   |                     |                                     |                      |

Remarks: Please cc Grant Price (gprice@trihydro.com) with results. Call Grant @ 307-745-7474 w/ questions.

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.