|                                |  | SIT  | ΓΕ INFORM <i>A</i>   | ATION  |  |
|--------------------------------|--|--|--|--|--|
|                                |  | Report   | Type: Closi  | ure Report   |  |
| General Site info              | ormation:  |  |  |  |  |
| Site:                          | <u> </u>   |  | line (Skelly Area)   |  |  |
| Company:                       |  | COG Operatin   |  |  |  |
| Section, Towns                 | hip and Range                                      |  | 17S, R31 E Unit  | Letter - H   |  |
| Lease Number:                  |  |  |  |  |  |
| County:                        |  | Eddy County  |  | <u> </u>   |  |
| GPS:                           |  | 32.82162° N, 10  | 03.85110° W  |  |  |
| Surface Owner:                 |  | BLM  | 75100110   |  |  |
| Mineral Owner:                 |  |  |  |  |  |
| Directions:                    |  | From intersectio (0.1m) to locatio   |  | o east on 82 (1.3m), turn le   | eft north - stay right, go (0.1m), right   |
| Release Data:                  |  |  |  |  | The state of the s |
| Date Released:                 | W. C. 100 M. Mary                                  | 8/7/2009   |  |  | Access to the second se |
| Type Release:                  |  | Produced water   |  |  |  |
| Source of Contar               | mination:  | Leak in 8" mair  | nline  |  |  |
| Fluid Released:                |  | 60 barrels   |  |  |  |
| Fluids Recovered               | d:   | 20 barrels   | and the second of the second o | The state of the s | and the second s |
| Official Commu                 | nication:  | and the second of the second   | a to the design of   |  |  |
| Name:                          | Pat Ellis  |  |  | Ike Tavarez  |  |
| Company:                       | COG Operating, LL                                  | LC   |  | Tetra Tech   |  |
| Address:                       | 550 W. Texas Ave.                                  |  |  | 1910 N. Big Spring   |  |
| P.O. Box                       |  |  | +  |  |  |
| City:                          | Midland, Texas - 79                                | 9701   |  | Midland, Texas - 79705   |  |
| Phone number:                  | (432) 686-3023                                     | 3701   |  | 432-628-4559   |  |
| Friorie number.<br>Fax:        | (432) 684-7137                                     |  |  | (432) 682-3946   |  |
| Email:                         | pellis@conchoreso                                  |  |  | <del>  `                                   </del>  |  |
| Emaii:                         | penis@conchoreso                                   | urces.com  |  | ike.tavarez@tetratech.   | <u>com</u>   |
| Ranking Criteria               |  | The second secon |  |  |  |
| Depth to Groundy               | water:   |  | Ranking Score  |  |  |
| <50 ft                         |  |  | 20   | )Af . 1)   |  |
| 50-99 ft<br>>100 ft.           |  |  | <b>10</b>  | Well d   | data reports at 80'  |
|                                |  |  |  | <u></u>  |  |
| WellHead Protect               | <del></del>  |  | Ranking Score  |  |  |
|                                | 000 ft., Private <200 f<br>000 ft., Private >200 f |  | 20   |  |  |
|                                |  | Ι.   | 0  |  |  |
| Surface Body of V              | Nater:   |  | Ranking Score  |  |  |
| <200 ft.<br>200 ft - 1,000 ft. |  |  | 20   |  | RECEIVED   |
| >1,000 ft.                     |  |  | 10   |  | JAN 1 4 2013   |
| 7,000 11.                      |  |  |  | L  | 07/17 ± ± 2010   |
|                                | Total Ranki  | ing Score:   | 10 💎   |  | NMOCD ARTESIA  |
|                                |  | Acceptal   | ble Soil RRAL (m   | g/kg)  |  |
| ł                              |  | Benzene  | Total BTEX   | TPH  |  |
|                                |  | 10   | 50   | 1,000  |  |



January 9, 2013

Mr. Mike Bratcher **Environmental Engineer Specialist** Oil Conservation Division, District 2 811 S. First Street Artesia, New Mexico 88210

Re: Closure Report for the COG Operating LLC., SWD 8" Mainline (Skelly Area), Unit H, Section 22, Township 17 South, Range 31 East, Eddy County, New Mexico.

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the SWD 8" Mainline (Skelly Area) located in Unit H, Section 22, Township 17 South, Range 31 East, Eddy County, New Mexico. The spill site coordinates are N 32.82162°, W 103.85110°. The site location is shown on Figures 1 and 2.

#### Background

According to the State of New Mexico C-141 Initial Report, the leak was discovered on August 7, 2009, and released approximately sixty (60) barrels of produced water from a mainline. To alleviate the problem, COG personnel repaired the line. Twenty (20) barrels of standing fluids were recovered. The spill originated from the mainline and migrated southeast towards the lease road less than 15' from source. Once on the lease road, the spill impacted an area measuring 100' x 15'. The initial C-141 form is enclosed in Appendix A.

#### Groundwater

No water wells were listed within Section 22. According to the Geology and Groundwater Resources of Eddy County, New Mexico (Report 3), one well is located in Section 34, with reported depth to water of 271'



below surface. According to the NMOCD groundwater map, the average depth to groundwater in this area is greater than 300' below surface. The Geology and Groundwater Resources of Eddy County, New Mexico (Report 3) well report data is shown in Appendix B.

#### Regulatory

A risk-based evaluation was performed for the Site in accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills and Releases, dated August 13, 1993. The guidelines require a risk-based evaluation of the site to determine recommended remedial action levels (RRAL) for benzene, toluene, ethylbenzene and xylene (collectively referred to as BTEX) and total petroleum hydrocarbons (TPH) in soil. The proposed RRAL for benzene was determined to be 10 parts per million (ppm) or milligrams per kilogram (mg/kg) and 50 ppm for total BTEX (sum of benzene, toluene, ethylbenzene, and xylene). Based upon the depth to groundwater, the proposed RRAL for TPH is 5,000 mg/kg.

#### **Soil Assessment and Analytical Results**

On August 13, 2009, Tetra Tech personnel inspected and sampled the spill area. A total of seven (7) auger holes (AH-1 through AH-7) were installed using a stainless steel hand auger to assess the impacted soils. Select samples were analyzed for TPH analysis by EPA method 8015 modified, BTEX by EPA Method 8021B and chloride by EPA method 300.0. Copies of laboratory analysis and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all of the submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected for AH-2 of 16,000 mg/kg (8'), AH-3 of 8,750 mg/kg (9-9.5), and AH-4 of 17,100 mg/kg (9-9.5') and the chloride impact was not vertically defined.

Due to the buried flow lines and a Chevron high pressure line located 10' to 15' west of the COG line, only one soil boring was installed to evaluate the deeper soils. On January 21, 2010, Tetra Tech personnel supervised the installation of one (1) soil boring (SB-1) to a depth of 61' feet below surface utilizing the air rotary rig. Due to safety concerns and congested pipelines, only one soil boring was installed between the previous auger holes AH-2, AH-3, and AH-4. Samples were collected at selected depth intervals for analysis. The samples were submitted to the laboratory for analysis of chlorides. Copies of laboratory analysis and chain-of-custody



documentation are included in Appendix C. The sampling results are summarized in Table 2. The soil boring location is shown on Figure 3.

Referring to Table 2, the chloride impact at SB-1 decreased with depth below 5,000 mg/kg at 40.0' below surface and declined to 346 mg/kg at 60-61'. According to the site lithology, a dense red clay with some silty/sand was encountered from 20' to 60' below surface. The borehole log is enclosed in Appendix B.

#### **Closure Activities**

In November 18, 2010, Tetra Tech supervised the excavation of the site. The spill footprint and final excavation depths of the soil remediation were met as stated in the approved work plan. Approximately 2,000 cubic yards of the excavated soil were transported to Lea Land Disposal for proper disposal.

Based on the buried lines, limited impacted area and safety concerns, the excavation depths ranged from 1.0' to 20.0' below surface. The deeper excavations at 20.0' were performed first and then backfilled to approximately 5.0' below surface. The remaining impacted areas were then excavated to a depth of 4.0' to 5.0' below surface and exposed the active lines. Once completed, the excavation bottoms were capped with a 40 mil liner at 4.0 to 5.0' below surface. The excavation depths and liners are highlighted in Table 1 and shown on Figure 4. Once inspected, the BLM approved the backfilling of the site. The excavations were then backfilled with clean soil to grade.

Based on the remediation activities performed at this location, COG requests closure for this site. The C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities performed at the site, please call me at (432) 682-4559.

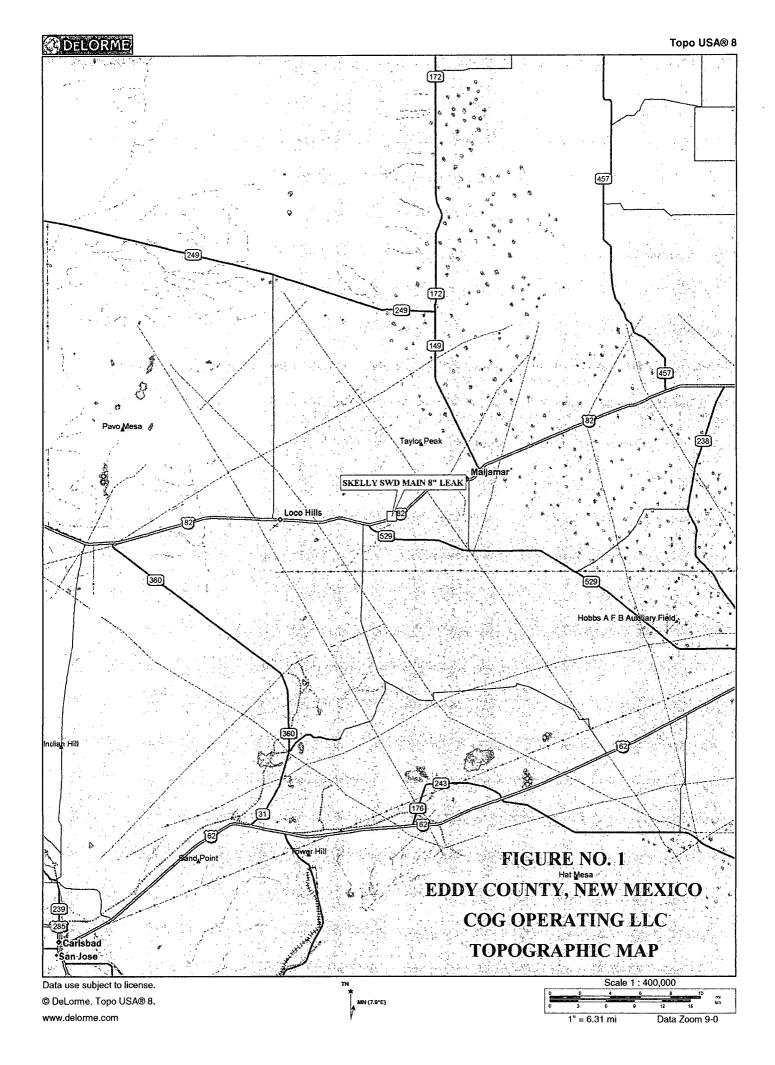
Respectfully submitted,

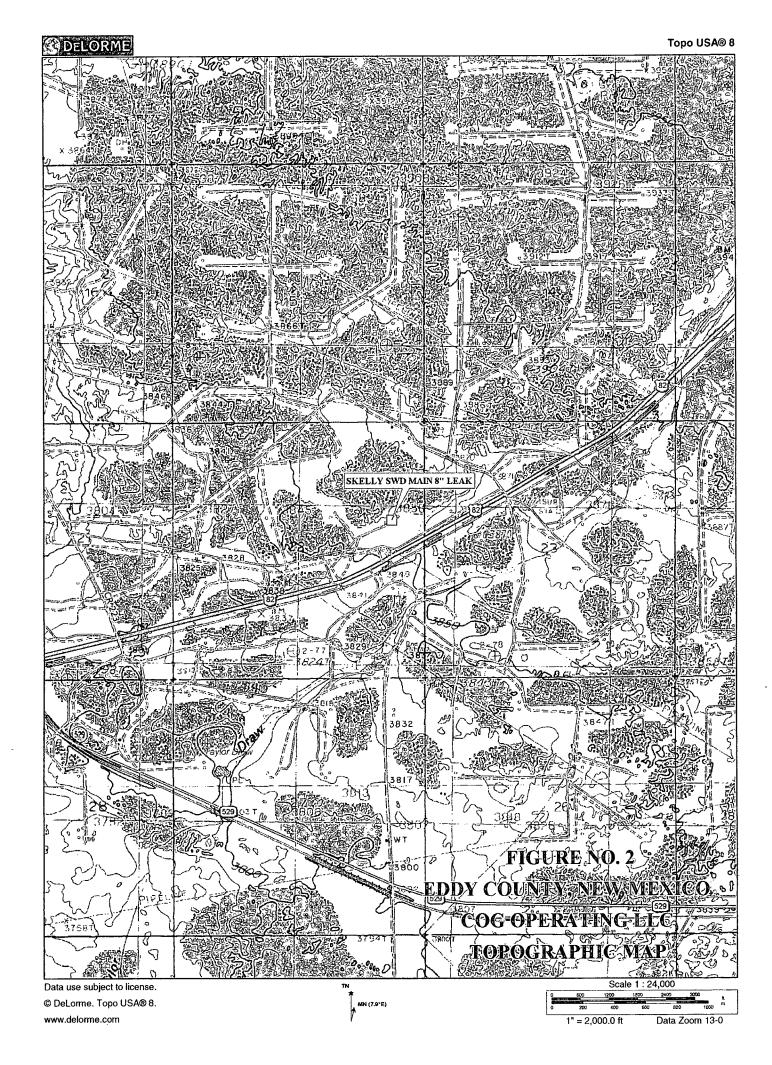
TETRA TECH

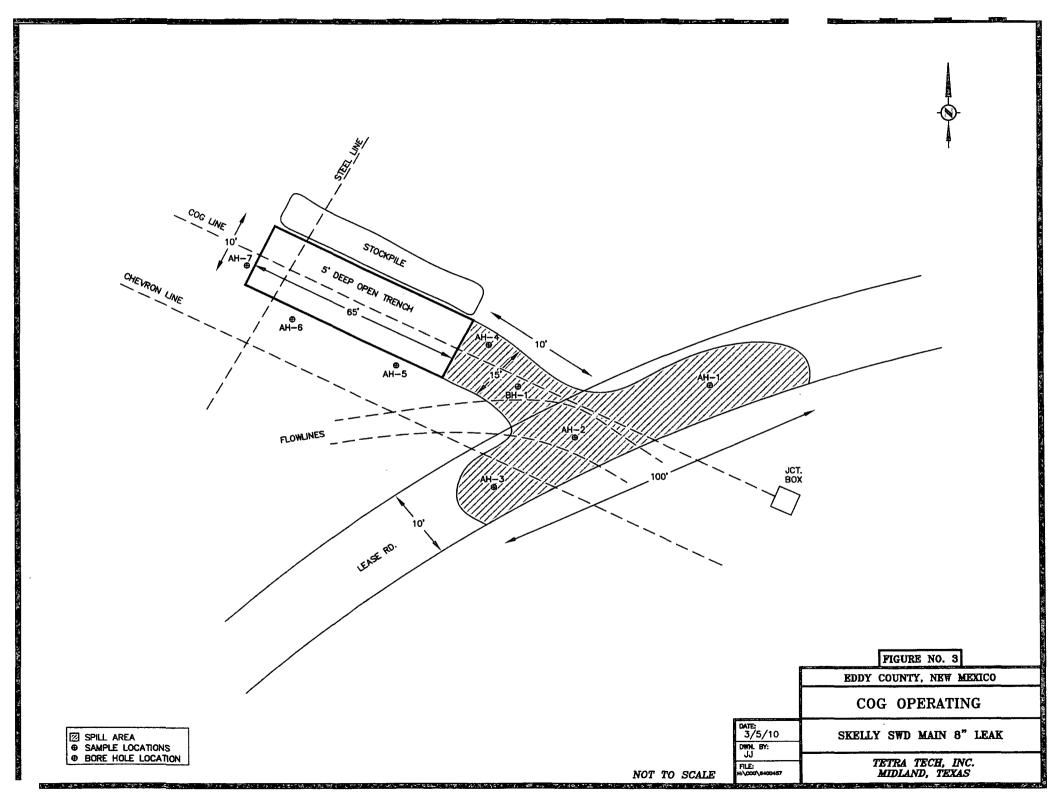
łke Tavarez

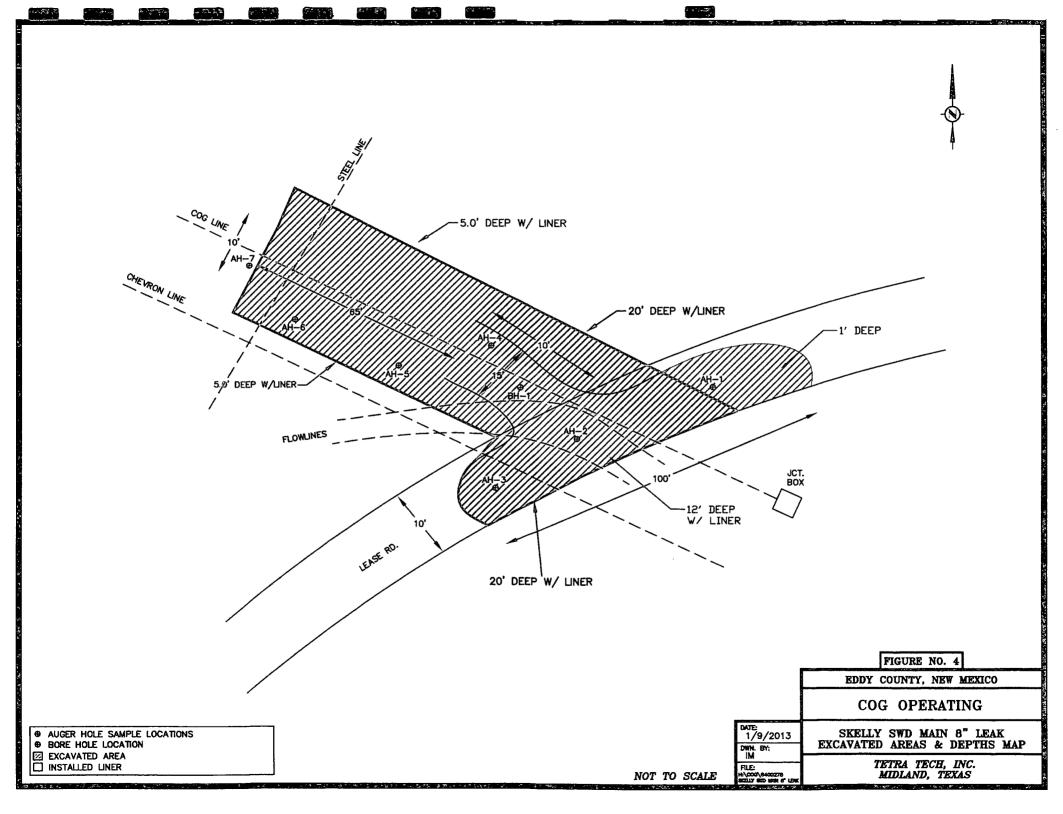
Senior Geologist

# Figures









# Tables

Table 1
COG Operating LLC.
New Mexico 8" Main SWD (Skelly)
EDDY COUNTY, NEW MEXICO

| Sample | Sample  | Sample     |      | Soi     | l Status | TF           | PH (mg/k                                  | (g)    | Benzene                                 | Toluene        | Ethlybenzene  | Xylene                            | Chlasida |
|--------|---------|------------|------|---------|----------|--------------|---|--------|---|----------------|---------------|-----------------------------------|----------|
| ID     | Date    | Depth (ft) | BEB  | In-Situ | Removed  | GRO          | DRO                                       | Total  | (mg/kg)                                 | (mg/kg)        | (mg/kg)       | (mg/kg)                           | Chloride |
| AH-1   | 8/13/09 | 0-1        |      |         | X        | 5.70         | <50.0                                     | 5.70   | <0.0100                                 | <0.0100        | <0.0100       | <0.0100                           | 3,350    |
|        |         | 1-1.5'     |      | Х       |          | -            | -   | -      | -                                       | -              | -             | -                                 | <200     |
|        |         | 2-2.5'     |      | Х       |          | -            | _   | -      | -                                       | -              |               | -                                 | <200     |
|        |         | 3-3.5'     |      | Х       |          | -            | -   | -      | -                                       | -              | -             | -                                 | <200     |
| AH-2   | 8/13/09 | 0-1'       | 1 10 |         | X        | <1.00        | <50.0                                     | <50.0  | -                                       |                |               |                                   | 7,400    |
|        |         | 1-1.5'     |      | 2       | Х        | _            | -   | -      | <u>.</u>                                | · <del>-</del> | <b>.</b>      |                                   | 9,820    |
|        |         | 2-2.5'     |      |         | Х        | - ;          |   |        |   |                | - 3           |                                   | 9,650    |
|        |         | 3-3.5'     | 7 NA |         | X        | · -          | , <u> </u>                                | · -    | <u>.</u>                                |                | -             |                                   | 10,300   |
|        |         | 4-4.5'     |      | -       | X        |              | -   | -      | -                                       | -              | -             | -                                 | 14,800   |
| Liner  |         | 5-5.5      | ,    |         | Х        | -            | -   | -      | •                                       |                |               |                                   | 15,100   |
|        |         | 6-6.5'     |      |         | X        | · <u>-</u> ; |   | . ·-   | -                                       | , <u>.</u>     | - :           | - 4                               | 12,000   |
|        |         | 7-7.5'     |      | J. 1    | X        | •            | - 3                                       |        |   |                |               | - 17<br>- 18                      | 14,000   |
|        |         | 8,         |      |         | X        | -            | -   |        | -                                       | -              | <u>-</u>      | ill.                              | 16,000   |
| АН-З   | 8/13/09 | 0-1'       |      | *       | Х        | 7.44         | 472                                       | 479.44 | <0.0100                                 | <0.0100        | <0.0100       | <0.0100                           | 5,070    |
|        |         | 1-1.5'     |      |         | X        | 1 2 2        | 2734                                      | -      |   |                | 1 <b>4</b> 3  |                                   | 5,480    |
|        |         | 2-2.5'     | 191  | 2.      | X        | 11,12        | - 35.5                                    | -      |   | -              | -3,           | γ <sup>2</sup> <sub>g</sub> = go. | 10,100   |
| ·      |         | 3-3.5'     |      |         | X        | -            | -   | -      | -                                       |                | Lavie Transce | 19 cz . e . (1)                   | 8,480    |
|        |         | 4-4.5'     |      |         | X        | 7            | 7 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | -      | -                                       |                | -             | **                                | 11,600   |
| Liner  |         | 5-5.5'     |      | 1       | х        | - ::         | - :                                       | -      |   | -              | -             | 4                                 | 14,300   |
|        |         | 6-6.5'     |      | 1 121   | X        |              | ير الم<br>عار دوان                        |        | · • • • • • • • • • • • • • • • • • • • |                |               |                                   | 10,700   |
|        |         | 7-7.5      |      |         | Х        | -            | •   | -      |   | ·              | -             |                                   | 10,300   |
|        |         | 8-8.5'     |      |         | Х        | ] -          |   | -      | -                                       | -              |               | -                                 | 11,000   |
|        |         | 9-9.5'     | ,    | 7       | X        | 1 1 2 2 2 3  | - 4.7                                     | 1 - 1  | Sec. 1                                  | Ag. 3          |               | (2) _ · W                         | 8,750    |

# Table 1 COG Operating LLC. New Mexico 8" Main SWD (Skelly) EDDY COUNTY, NEW MEXICO

| Sample | Sample  | Sample     |      | Soi     | l Status   | TF   | H (mg/k    | (g)             | Benzene        | Toluene   | Ethlybenzene          | Xylene                 | Chloride |
|--------|---------|------------|------|---------|------------|--|------------|-----------------|----------------|-----------|-----------------------|------------------------|----------|
| ID     | Date    | Depth (ft) | BEB  | In-Situ | Removed    | GRO  | DRO        | Total           | (mg/kg)        | (mg/kg)   | (mg/kg)               | (mg/kg)                | Cilionae |
| AH-4   | 8/13/09 | 0-1'       | 1.3  |         | X          | 8.85   | 94.5       | 103.35          | <0.0100        | <0.0100   | <0.0100               | <0.0100                | 4,680    |
|        |         | 1-1.5      |      |         | Х          | , <u>, ,                                </u> | - *        | 1               | -              |           |                       |                        | 4,300    |
|        |         | 2-2.5      |      |         | X          | e e e e e e e e e e e e e e e e e e e        | - 1,       | · ·             | 1, 44.         | •         |                       | est sur                | 5,400    |
|        |         | 3-3.5'     |      |         | . X        | -  | •          | -               |                |           |                       | i garanga<br>Santangan | 6,260    |
|        |         | 4-4.5'     |      |         | X          |  |            | Na <sup>†</sup> | · . <u>-</u>   | ·         |                       |                        | 10,200   |
| Liner  |         | 5-5.5'     | ,    |         | Х          | -  | <u>.</u> . | -               |                |           | 1 n n)                |                        | 12,600   |
|        |         | 6-6.5      |      |         | Х          | - 1  |            | 7               |                | - <u></u> |                       | 4 3 - 4                | 13,300   |
|        |         | 7-7.5'     |      |         | Х          | - :  | - 1 de     | · -             | ·. •           |           |                       |                        | 8,650    |
|        |         | 8-8.5'     |      |         | . X        | :  | - 4        | -               | ; <del>-</del> | - A       |                       |                        | 12,800   |
|        |         | 9-9.5'     |      |         | Х          |  | - :        |                 | -              | -         |                       |                        | 17,100   |
|        |         |            |      |         |            |  |            |                 |                |           |                       |                        |          |
| AH-5   | 8/13/09 | 0-1'       |      | Х       |            | 8.02   | <50.0      | 8.02            | <0.0100        | <0.0100   | <0.0100               | <0.0100                | <200     |
| Liner  |         | 1-1.5'     |      | Х       | ·          | <b>-</b> ,                                   | -          | -               | -              | •         |                       |                        | <200     |
| AH-6   | 8/13/09 | 0-1'       | 4. 2 | , X     | A. J. Jan. | 4.61   | <50:0:     | 4.61            |                |           | . see from the second | 11 <del>5</del> 44     | <200     |
| Liner  |         | 1-1.5'     |      | Х       | *          | •  | - 1        | •               |                |           | <u>-</u> . 23         | -                      | <200     |
| AH-7   | 8/13/09 | 0-1'       |      | Х       |            | 5.28   | <50.0      | 5.28            |                |           | <u>.</u>              | -                      | <200     |

(-) Not Analyzed

BEB Below Excavated Bottom

Excavation Depths

Area capped with 40 mile liner @ 4.0' below surface

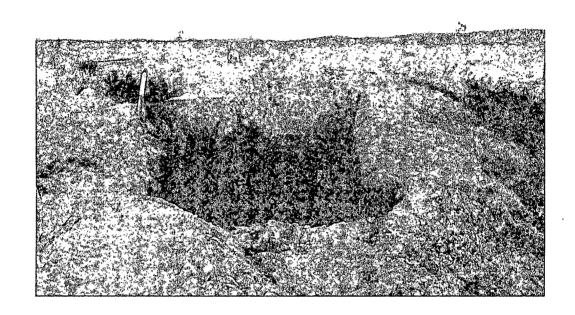
Table 2
COG Operating LLC.
New Mexico 8" Main SWD (Skelly)
Eddy County, New Mexico

| Sample | Date                                     | Sample     | Soi   | Status       | T        | PH (mg/l            | (g)   | Benzene          | Toluene | Ethlybenzene   | Xylene  | Chloride |
|--------|--|------------|---|--------------|----------|---------------------|-------|------------------|---------|--|---------|----------|
| ID     | Sampled                                  | Depth (ft) | In-Situ   | Removed      | GRO      | DRO                 | Total | (mg/kg)          | (mg/kg) | (mg/kg)  | (mg/kg) | (mg/kg)  |
| SB-1   | 1/21/2010                                | 6-7        | AND THE   | <b>X</b> *** |          | 4 1 E               |       |                  |         |  | 是認定。多數  | 6,420    |
|        |  | 8-9        |   | X            |          |                     |       |                  |         | and the second s |         | 6,260    |
|        | 172                                      | 10-11      |   | X            | 4. (4.4) | 1 <u>60</u> , 5, 64 | 10.47 | and a surject of |         |  |         | 4,730    |
| · -    | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 | 15-16      | ر المراجعة ا<br>المراجعة المراجعة ال | Χ            |          |                     |       |                  |         |  |         | 6,710    |
|        |  | 20-21 °    |   | X            |          | 1                   |       |                  |         |  |         | 7,460    |
|        |  | 25-26      | Х   |              | -        | -                   | -     | -                | -       | -  | **      | 9,040    |
|        |  | 30-31      | Х   |              | -        | -                   | -     | -                | -       | -  | ·       | 7,310    |
|        |  | 35-36      | Х   |              | -        | -                   | -     | -                | -       | -  |         | 10,600   |
|        |  | 40-41      | Х   |              | _        | -                   | -     | -                | -       | -  | •       | 3,330    |
|        |  | 50-51      | Х   |              | -        | -                   | -     | _                | -       | -  | -       | 477      |
|        |  | 60-61      | Х   |              | -        | _                   | -     | -                | -       | -  | -       | 346      |
|        |  |            |   |              |          |                     | -     |                  |         |  |         |          |
|        |  |            |   |              | }        |                     |       |                  |         |  |         |          |

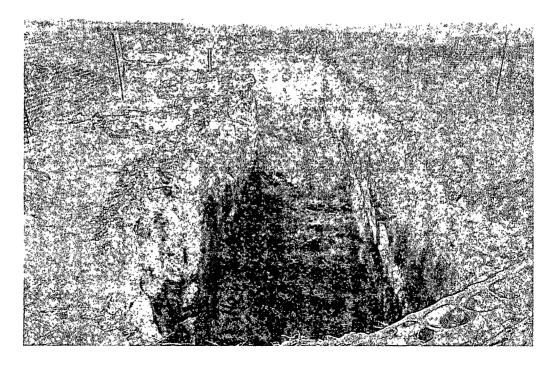
(-) Not Analyzed
Proposed Excavation Depths
Area capped with 40 mile liner @4.0' below surface

# Photos



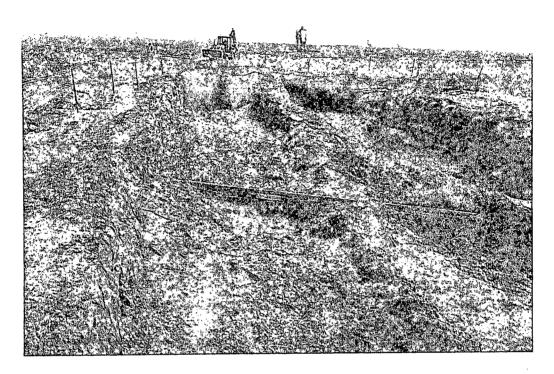


View north of 20' excavations

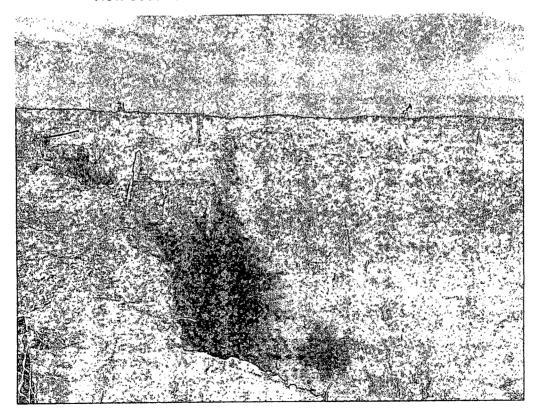


View of 20 'excavation



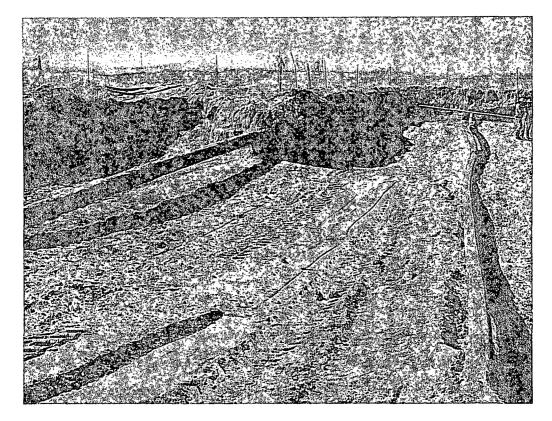


View south of initial 5.0' excavation and 20' excavations

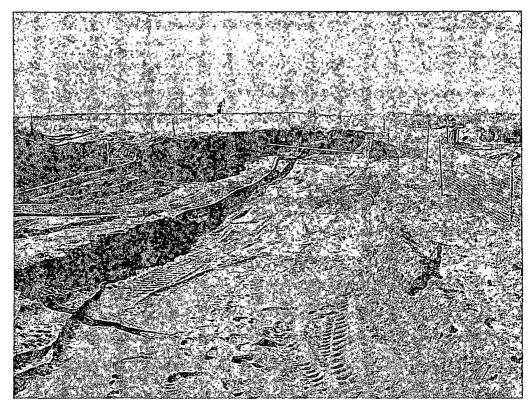


North view of 20' excavations



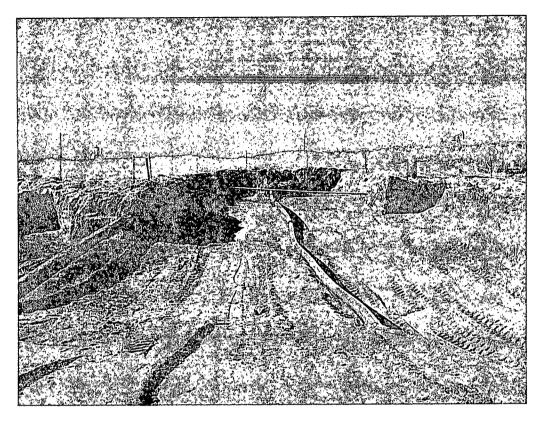


View north excavation

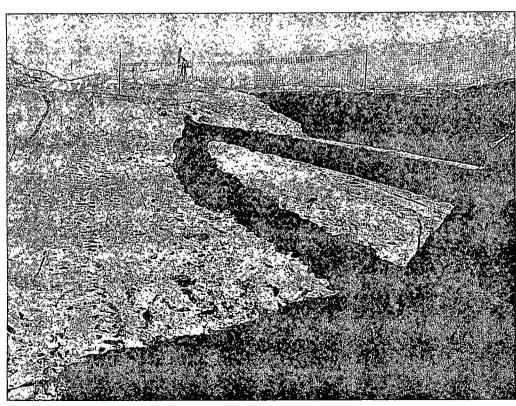


View north excavation



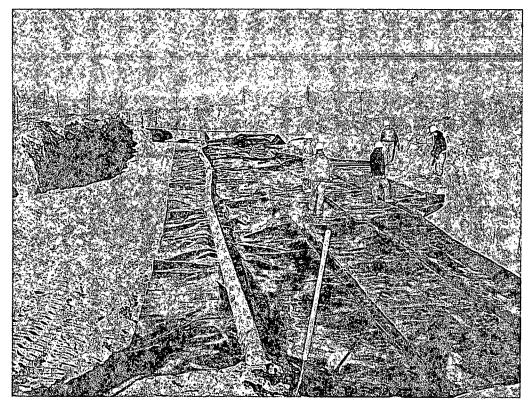


View north excavation

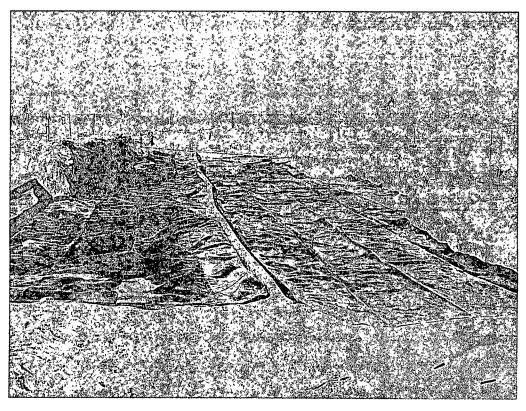


View south excavation



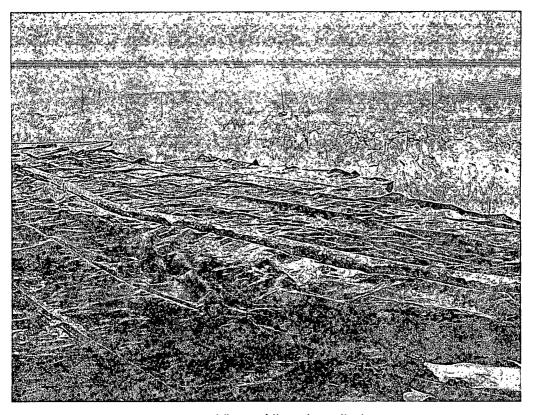


View of liner installation

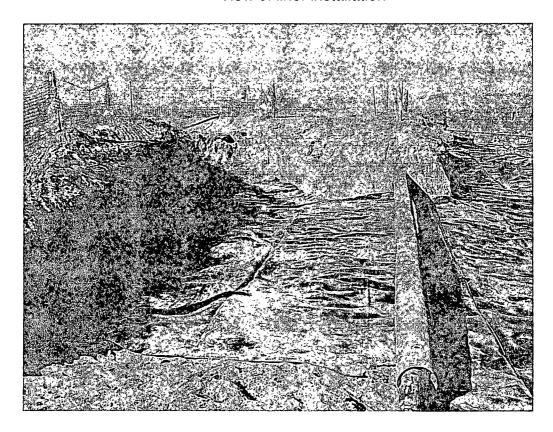


View of liner installation



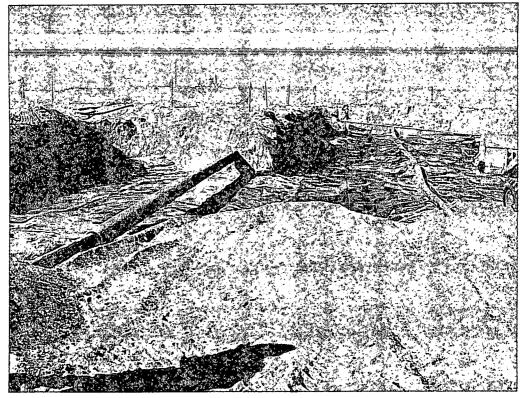


View of liner installation

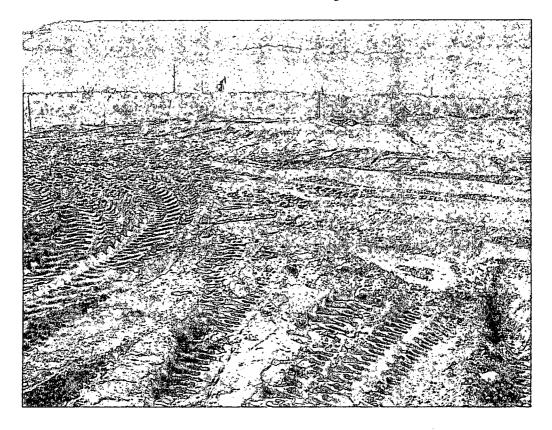


View of liner installation





View of backfilling



View of backfilled site

# Appendix A

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

#### State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division

Santa Fe, NM 87505

JAN 14 2013

Form C-141 Revised October 10, 2003

1220 South St. Francis Dr. | NMOCD ARTESIA

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

|  |   | · · · · · · · · · · · · · · · · · · ·              | Rele   | ase                    | Notific                               | cation                              | and Co                                       | rrective A  | ction                                  |  | <u> </u>                              |                               |                                   |
|--|---|--|--|------------------------|---------------------------------------|-------------------------------------|--|---|--|--|---------------------------------------|-------------------------------|-----------------------------------|
|  |   |  |  |                        |                                       |                                     | <b>OPERA</b>                                 | ΓOR   |  | Initia                                     | al Report                             | $\boxtimes$                   | Final Report                      |
| Name of Co   |   |  | Operatin   |                        |                                       |                                     | Contact                                      |   |  | Pat Ellis                                  |                                       |                               |                                   |
|  |   | xas, Suite 13                                      | ~~   |                        |                                       |                                     | Telephone N                                  |   | <u>`</u>                               | 230-007                                    |                                       |                               |                                   |
| Facility Nar   | ne s  | SWD 8" mai   | nline (Sl  | celly                  | Area)                                 | ]                                   | Facility Typ                                 | e   | SW                                     | D Water                                    | Line                                  |                               |                                   |
| Surface Ow   | ner:  | Federal  |  |                        | Mineral C                             | Owner                               |  |   |  | Lease No. (API#)                           |                                       |                               |                                   |
|  |   |  |  | _                      | LOCA                                  | ATION                               | OF REI                                       | LEASE   |  | <u> </u>                                   | · <del></del>                         |                               |                                   |
| Unit Letter<br>H   | Section<br>22   | Township<br>17S                                    | Range<br>31E                                     | Fee                    | et from the                           | ·                                   | South Line                                   | Feet from the   | East/W                                 | est Line                                   | County                                | Eddy                          | ,                                 |
|  |   |  | Lat  | itud                   | e N 32 49.                            | .296° ]                             | Longitude \                                  | W 103 51.959  | 150°                                   |  |                                       |                               |                                   |
|  |   |  |  | _                      | NAT                                   | URE                                 | OF RELI                                      |   |  |  | -                                     |                               | ·····                             |
| Type of Rele   |   |  |  |                        |                                       |                                     |  | Release 60 bbls   |  |  | Recovered 2                           |                               |                                   |
| Source of Re   |   |  | ***  |                        |                                       |                                     | 08/7/2009                                    | lour of Occurrenc   | e                                      | Date and 08/7/2009                         | Hour of Disc                          | covery                        |                                   |
| Was Immedia  | ite Notice (  |  | Yes 🗌  | No                     | ☐ Not Re                              | equired                             | If YES, To<br>Mike Brate                     | Whom?<br>ther - OCD, Terry  | Gregsto                                | n - BLM                                    |                                       |                               |                                   |
| By Whom?   |   |  |  |                        |                                       |                                     | Date and H                                   | lour 08/10/2009   | 4:25 p.                                | m.   |                                       |                               |                                   |
| Was a Watero   | Was a Watercourse Reached?                                |  |  |                        |                                       |                                     | 1  | olume Impacting t   | he Water                               | rcourse.                                   |                                       |                               |                                   |
|  |   | <u></u>  | Yes 🛚  | No<br>                 |                                       |                                     | N/A  |   |  |  |                                       |                               |                                   |
| If a Watercou  | rse was Im  | pacted, Descri                                     | be Fully.*                                       |                        |                                       |                                     |  |   |  |  |                                       |                               |                                   |
| Describe Cau   | se of Proble  | em and Remed                                       | lial Action                                      | Tak                    | en.*                                  |                                     |  |   |  |  |                                       |                               |                                   |
| Leak in the S  | WD mainli   | ne. Vacuumed                                       | up the wa  | ter a                  | nd repaired                           | leak.                               |  |   |  |  |                                       |                               |                                   |
| Describe Are   | a Affected a  | and Cleanup A                                      | ction Tak  | en.*                   |                                       |                                     |  |   |  |  |                                       |                               |                                   |
| disposal. On   | ce excavate   |  | priate dept                                      | hs, t                  | he site was c                         |                                     |  | nat exceeded the l<br>er and backfilled   |  |  |                                       |                               |                                   |
| regulations al<br>public health<br>should their co<br>or the environ | l operators<br>or the envir<br>perations h<br>nment. In a | are required to<br>conment. The<br>ave failed to a | report an<br>acceptanc<br>dequately<br>CD accept | d/or<br>e of a<br>inve | file certain r<br>a C-141 repositions | elease no<br>ort by the<br>emediate | otifications ar<br>NMOCD ma<br>contamination | knowledge and und perform correct<br>arked as "Final Roon that pose a three the operator of the | tive action<br>eport" do<br>eat to gro | ons for rele<br>ses not reli<br>ound water | eases which eve the oper , surface wa | may en<br>ator of<br>ter, hui | danger<br>liability<br>nan health |
|  |   | 11/  | 1  | 7                      | Ó                                     |                                     |  | OIL CON   | SERV                                   | ATION                                      | DIVISIO                               | <u>N</u>                      |                                   |
| Signature:   | ///   |  | <u> </u>   | _                      |                                       |                                     |  |   |  |  |                                       |                               |                                   |
| Printed Name   | : Ike Tavar   | ez (agent for C                                    | COG)   |                        |                                       | <i>A</i>                            | Approved by                                  | District Supervise  | or:                                    |  |                                       |                               |                                   |
| Title: Project Manager   |   |  |  |                        |                                       |                                     | Approval Dat                                 | e:  | E                                      | Expiration Date:                           |                                       |                               |                                   |
| E-mail Addre   | ss: Ike.Tav   | arez@TetraTe                                       | ch.com   |                        |                                       | (                                   | Conditions of                                | Approval:   |  |  | Attached                              |                               |                                   |
| Date: $\angle$   | 9-1   | 3  | Phone:   | (432                   | ) 682-4559                            |                                     |  |   |  |  |                                       | -                             |                                   |

<sup>\*</sup> Attach Additional Sheets If Necessary

District 1
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
1220 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 O D 7 8

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**

|  |   |  |  |   |                             | OPERAT                                       | ГOR  |   | ■ Initi   | ial Report   |  | Final Repor                           |
|--|---|--|--|---|-----------------------------|--|--|---|---|--|--|---------------------------------------|
| Name of Co   | mpany C   | OG OPERA   | TING LI  | LC .  |                             | Contact K                                    | anicia Carrillo  |   |   |  |  |                                       |
|  |   |  |  | d, TX 79701   |                             | Telephone N                                  | No. 432-685-43   | 32  |   |  |  |                                       |
| Facility Nat   | ne SWD  | 8" mainline  | (Skelly  | Area)   |                             | Facility Typ                                 | e SWD Main v   | vaterlin  | e   |  |  |                                       |
| Surface Ow   | ner Feder   | al   |  | Mineral C   | )wner                       |  |  |   | Lease   | No.  |  |                                       |
| ++70   |   | 11 - 11 - 14 #46                                   | 04   | Fig. 1.0  | . 1                         | LOCATIO                                      | N OF RELE  | ACE   |   |  |  |                                       |
| Unit Letter  | Section   | Township   | Range  | or - Forrest Oi   |                             | h/South Line                                 | Feet from the  |   | Vest Line   | County   |  |                                       |
| H  | 22  | 178  | 31E  | rect from the   | Non                         | n/Soun Line                                  | Teet from the  | Buse  | CSC Emic  | County   | Edd  | У                                     |
|  |   | Latitude   | N 32° 4  | 19.29 <u>6</u>  |                             | Longitude                                    | W 103° 51.07   | 6   |   |  |  |                                       |
|  |   |  |  | NAT   | URI                         | E OF REL                                     | EASE   |   |   |  |  |                                       |
| Type of Rele   | ase Produc  | ed Water   |  |   |                             |  | Release 60bbls   |   | Volume  | Recovered  | 20bbls                                     |                                       |
| Source of Re   |   |  |  |   |                             | Date and H<br>08/07/09                       | lour of Occurrence   | e   | Date and 08/07/09                                     | Hour of Di   | covery                                     | ,                                     |
| Was Immedi   | ate Notice (  |  | Yes [  | No □ Not Re   | equire                      | If YES, To<br>Mike Brate                     | Whom?<br>ther - OCD, Terr  | y Gregst  | on - BLM  |  |  |                                       |
| By Whom?   |   |  |  |   |                             | Date and H                                   | lour   |   |   | и тип.   |  |                                       |
| Kanicia Carr   |   |  |  |   |                             | 08/10/09 4                                   |  |   |   |  |  |                                       |
| Was a Water  | course Read   |  | Yes 🛭  | No  |                             | If YES, Vo                                   | olume Impacting t  | the Wate  | ercourse.   |  |  |                                       |
| If a Watercon  | ırse was İm   | pacted, Descri                                     | be Fully.  | · · · · · · · · · · · · · · · · · · ·                           |                             |  |  |   |   |  |  | <del></del>                           |
|  |   | em and Remedine. Vacuumed                          |  | n Taken.* ater and repaired                                     | leak.                       |  |  |   |   |  |  | · · · · · · · · · · · · · · · · · · · |
| Describe Are   | a Affected  | and Cleanup A                                      | Action Tak                                       | en.*  |                             |  |  |   |   |  |  |                                       |
|  |   |  |  | neate any possible<br>gnificant remedia                         |                             |  | the release and w  | e will pr                                       | esent a rei   | mediation w  | ork plar                                   | to the                                |
| regulations a<br>public health<br>should their or<br>or the enviro | Il operators<br>or the envir<br>operations h<br>nment. In a | are required to<br>conment. The<br>ave failed to a | report ar<br>acceptance<br>dequately<br>CD accep | nd/or file certain r<br>te of a C-141 repo<br>investigate and r | elease<br>on by t<br>emedia | notifications and the NMOCD mate contaminati | knowledge and u<br>nd perform correc<br>arked as "Final R<br>on that pose a thr<br>e the operator of | ctive acti<br>eport" d<br>eat to gr<br>responsi | ons for re<br>oes not re<br>ound wate<br>bility for o | leases which<br>lieve the ope<br>er, surface w<br>compliance | may en<br>rator of<br>ater, hu<br>with any | ndanger<br>f liability<br>man health  |
|  |   |  |  |   |                             |  | OIL CON  | SERV  | ATION   | DIVISIO  | DN   |                                       |
| Signature:   | K   | <u> </u>   | <u> </u>   |   |                             |  |  |   |   |  |  | •                                     |
| Printed Name   | : Kanicia (   | Castillo   |  |   |                             | Approved by                                  | District Supervis  | or:   | <del></del>   |  |  |                                       |
| Title: Regula  | tory Analy:   | st   |  |   |                             | Approval Dat                                 | te:  | I   | Expiration  | Date:  |  |                                       |
| E-mail Addre   | mail Address: kcarrillo@conchoresources.com                 |  |  |   |                             | Conditions of Approval:                      |  |   |   | Attached   |  |                                       |
| Date: 08<br>Attach Addi  | /11/09<br>tional Shee                                       | ts If Necess                                       |  | 432-685-4332  |                             | <del></del>                                  |  |   |   |  |  |                                       |

# Appendix B

# Water Well Data Average Depth to Groundwater (ft) COG - SWD 8" Mainline (Skelly Area) Eddy County, New Mexico

|              | 16   | South  |    | 30 East | ì           | ·                | 16  | South | 3         | 1 Eas    | :   |                 | 16               | South       | 32               | East        |            |
|--------------|------|--------|----|---------|-------------|------------------|-----|-------|-----------|----------|-----|-----------------|------------------|-------------|------------------|-------------|------------|
| 6            | 5    | 4      | 3  | 2       | 1           | 6                | 5   | 4     | 3         | 2        | 1   | 6               | 5                | 4           | 3 65             | 2 275       | 5 1 265    |
| 7            | 8    | 9      | 10 | 11      | 12          | 7                | 8   | 9     | 10        | 11       | 12  | 7               | 8                | 9 248       | 10               | 11          | 12         |
| 18           | 17   | 16     | 15 | 14      | 13          | 18               | 17  | 16    | 15        | 14       | 13  | 18              | 17               | 16          | 15               | 14          | 215<br>13  |
| 10           | ''   | 110    | '" |         | "           | ľ                | ]'' | 1,0   | "         | '        | 113 | ľ               | ''               | 221         |                  |             | 215        |
| 19           | 20   | 21     | 22 | 23      | 24          | 19               | 20  | 21    | 22        | 23       | 24  | 19<br>220       | 20               | 21<br>210   | 22               | 23<br>210   | 24         |
| 30           | 29   | 28     | 27 | 26      | 25          | 30               | 29  | 28    | 27        | 26       | 25  | 30              | 29               | 28          | 27               | 26<br>205   | 25         |
| 31           | 32   | 33     | 34 | 35      | 36          | 31<br><b>290</b> | 32  | 33    | 34        | 35       | 36  | 31              | 32               | 33          | 34               | 35          | 36<br>260  |
| <del>-</del> |      | L<br>- |    |         |             | 290              |     |       |           |          |     | -               | <u> </u>         |             | l                | L           | 200        |
|              |      | South  |    | 30 East |             |                  |     | South |           | 1 East   |     | <u> </u>        |                  | South       |                  | East        |            |
| 6            | 5    | 4      | 3  | 2       | ]1          | 6                | 5   | 4     | 3         | 2        | 1 ] | 6               | 5                | 4 82        | 3<br><b>175</b>  | 2 60        | 0 1<br>225 |
| 7            | 8    | 9      | 10 | 11      | 12          | 7                | 8   | 9     | 10        | 11       | 12  | 7               | 8                | 9           | 10               | 11 70<br>88 | 12         |
| 18           | 17   | 16     | 15 | 14      | 13          | 18               | 17  | 16    | 15        | 14       | 13  | 18              | 17               | 16          | 15               | 14          | 13         |
| 19           | 20   | 21     | 22 | 23      | 24          | 19               | 20  | 21    | 22        | 23       | 24  | 19              | 20               | 21          | 22               | 23          | 24         |
|              |      |        |    |         | <u> </u>    |                  |     |       | SITE      | <u> </u> |     |                 |                  | <del></del> |                  |             | -          |
| 30           | 29   | 28     | 27 | 26      | 25          | 30               | 29  | 28    | 27        | 26       | 25  | 30<br>180 diy   | 29               | 28          | 27               | 26          | 25         |
| 31           | 32   | 33     | 34 | 35      | 36          | 31               | 32  | 33    | 34<br>271 | 35       | 36  | 31              | 32               | 33          | 34               | 35          | 36         |
| -            | 18 9 | South  |    | 30 East | <del></del> | <u></u>          | 10  | South |           | 1 East   |     |                 | 10               | South       | 32               | East        |            |
| 6            | 5    | 4      | 3  | 2       | 1           | 6                | 5   | 4     | 3         | 2        | 1   | 6               | 5                | 4 65        | 3 TMW            |             | 1          |
| 7            | 8    | 9      | 10 | 11      | 12          | 7                | 8   | 9     | 10        | 11       | 12  | 7 460           | 8                | 9           | 10               | 11          | 12         |
| 18           | 17   | 16     | 15 | 14      | 13          | 18               | 17  | 16    | 15        | 14       | 13  | <b>82</b><br>18 | 17               | 16          | 15               | 14          | 13         |
|              |      | _ [ "  |    |         |             |                  | ''  | ],,   | '         | 317      |     |                 | ''               | 84          | ,~               |             | Ĭ          |
| 19           | 20   | 21     | 22 | 23      | 24          | 19               | 20  | 21    | 22        | 23       | 24  | 19              | 20<br><b>164</b> |             | 22<br><b>429</b> | 23          | 24         |
| 30           | 29   | 28     | 27 | 26      | 25          | 30               | 29  | 28    | 27        | 26       | 25  | 30              | 29               |             | 27               | 26          | 25         |
| 31           | 32   | 33     | 34 | 35      | 36          | 31               | 32  | 33    | 34        | 35       | 36  | 31              | 32               | 33          | 34               | 35          | 36         |
|              |      |        |    |         |             |                  |     |       | l         | 261      |     |                 |                  |             | 117              | l           | 1          |

| Í |              | New   | Mexico  | State | Engineers  | Well      | Reports   |
|---|--------------|-------|---------|-------|------------|-----------|-----------|
|   | 1 1 1 Cart 1 | 14014 | MICHICO | Olulo | Linginocio | * * • • • | 1 1000113 |

USGS Well Reports

Geology and Groundwater Conditions in Southern Eddy, County, NM

NMOCD - Groundwater Data

Field water level

New Mexico Water and Infrastructure Data System

tern

AL RESOURCES

GROUND WATER

EDDY COUNTY

Blackион Теггасе

See explanation at beginning of table.

18.25.23.111

|                    | WAT                       | er level               |                   |                      |                    |  |
|--------------------|---------------------------|------------------------|-------------------|----------------------|--------------------|--|
| LOCATION<br>NUMBER | BELOW LAND SURFACE (feet) | DATE OF<br>MEASUREMENT | YIELD<br>(g.p.m.) | METHOD<br>OF<br>LIFT | USE<br>OF<br>WATER | REMARKS  |
| 17.28.2.240        | 27.6                      | Dec. 1, 1948           | 3                 | w                    | S                  | Depth to water measured while pump-<br>ing.                                      |
| 14.220             | 80                        | <b></b>                | 61                | W                    | S & D              | Driller: Cy Hinshaw. See analysis, Table 3.                                      |
| 19.200             | 224.3                     | Dec. 2, 1948           | 1.2               | W                    | S                  | Depth to water measured while pump-<br>ing.                                      |
| 22.230             | 45.5                      | Dec. I, 1948           | _                 | N                    | N                  | Abandoned stock well.  |
| 17.29.22.110       | 79.7                      | Nov. 29, 1948          | 3 E.              | W                    | N<br>S             | Depth to water measured while pump-<br>ing.                                      |
| 29.400             | 210                       | Dec. 3, 1948           | 1.1               | w                    | S                  | do.  |
| 17.31.34.000       | 271+                      | Dec. 6, 1948           | 3.5               | W                    | S                  | do. See analysis, Table 3.   |
| 18.21.13.310       | 505                       | _                      | 10 R.             | W                    | S & D              | Formerly C.C.C. well. Cased to 30 ft.  |
| 27.440             | 530                       | -                      | -                 | W                    | S                  | Cased to 120 ft.   |
| 32.430             | 800 (?)                   | _                      | 12 R.             | w                    | S & D              | Lowered cylinder 5 ft. in 1948 because<br>water level declined. Cased to 380 ft. |
| 18.23.6.140        | 440                       | Jan. 12, 1950          | -                 | w                    | S & D              |  |
| 18.25.23.111       | 117.8                     | Jan. 1950              | _                 | W                    | S                  |  |

See explanation at beginning of table.

1 Measured Dec. 3, 1948.



# New Mexico Office of the State Engineer Wells with Well Log Information

### No wells found.

PLSS Search:

Section(s):

1-36

Township:

17S

Range:

31E

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, or suitability for any particular purpose of the data.

4/7/10 8:05 AM

#### **SOIL SAMPLE LOG**

Boring/Well:

SB-1

**Project Number:** 

114-6400278

Client:

**COG Operating LLC** 

**Site Location:** 

SWD 8" Mainline (Skelly Area)

**Location:** 

**Eddy County, New Mexico** 

**Total Depth:** 

61 feet

**Installation Method:** 

**Air Rotary Drilling** 

**Date Installed:** 

01/21/10

| DEPTH (Ft) | OVM | SAMPLE DESCRIPTION           |
|------------|-----|------------------------------|
| 0-5'       | N/A | Brown sand                   |
| 6-7'       | N/A | Red sandy clay               |
| 8-9'       | N/A | Red sandy clay               |
| 10-11'     | N/A | Caliche                      |
| 15-16'     | N/A | Sandy clay with some caliche |
| 20-21'     | N/A | Red clay with some sand      |
| 25-26'     | N/A | Red clay with some sand      |
| 30-31'     | N/A | Red clay with some sand      |
| 35-36'     | N/A | Red clay with some sand      |
| 40-41'     | N/A | Red clay with some sand      |
| 50-51'     | N/A | Red clay with some sand      |
| 60-61'     | N/A | Red clay with some sand      |

Total Depth is 61 feet No Groundwater encountered during drilling

# Appendix C

Work Order: 9081439 Page Number: 1 of 7

## **Summary Report**

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX 79705

Report Date: August 20, 2009

Report Date: August 20, 2009

Work Order: 9081439

Project Location: Eddy Co., NM

Project Name: COG/NM 8 in. Main SWD (Skelly)

Project Number: 114-6400278

|        |             |        | Date       | Time  | Date       |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken      | Taken | Received   |
| 206135 | AH-1 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206136 | AH-1 1-1.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206137 | AH-1 2-2.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206138 | AH-1 3-3.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206139 | AH-2 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206140 | AH-2 1-1.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206141 | AH-2 2-2.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206142 | AH-2 3-3.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206143 | AH-2 4-4.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206144 | AH-2 5-5.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206145 | AH-2 6-6.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206146 | AH-2 7-7.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206147 | AH-2 8'     | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206148 | AH-3 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206149 | AH-3 1-1.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206150 | AH-3 2-2.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206151 | AH-3 3-3.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206152 | AH-3 4-4.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206153 | AH-3 5-5.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206154 | AH-3 6-6.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206155 | AH-3 7-7.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206156 | AH-3 8-8.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206157 | AH-4 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206158 | AH-4 1-1.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206159 | AH-4 2-2.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206160 | AH-4 3-3.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206161 | AH-4 4-4.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206162 | AH-4 5-5.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206163 | AH-4 6-6.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206164 | AH-4 7-7.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |

|        |             |        | Date       | Time  | Date       |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken      | Taken | Received   |
| 206165 | AH-4 8-8.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206166 | AH-4 9-9.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206167 | AH-5 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206168 | AH-5 1-1.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206169 | AH-6 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206170 | AH-6 1-1.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206171 | AH-7 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14 |
| 206173 | AH-3 9-9.5' | soil   | 2009-08-13 | 00:00 | 2009-08-14 |

|                     | TPH DRO<br>DRO | TPH GRO<br>GRO |
|---------------------|----------------|----------------|
| Sample - Field Code | (mg/Kg)        | (mg/Kg)        |
| 206135 - AH-1 0-1'  | < 50.0         | 5.70           |
| 206139 - AH-2 0-1'  | < 50.0         | <1.00          |
| 206148 - AH-3 0-1'  | 472            | 7.44           |
| 206157 - AH-4 0-1'  | 94.5           | 8.85           |
| 206167 - AH-5 0-1'  | < 50.0         | 8.02           |
| 206169 - AH-6 0-1'  | < 50.0         | 4.61           |
| 206171 - AH-7 0-1'  | < 50.0         | 5.28           |

Sample: 206135 - AH-1 0-1'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | 3350   | mg/Kg | 4.00 |

Sample: 206136 - AH-1 1-1.5'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | < 200  | mg/Kg | 4.00 |

Sample: 206137 - AH-1 2-2.5'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | <200   | mg/Kg | 4.00 |

Sample: 206138 - AH-1 3-3.5'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | <200   | mg/Kg | 4.00 |

Sample: 206139 - AH-2 0-1'

| Report Date: August 20, 2009 | Work Order: 9081439 | Page Number: 4 of 7 |      |
|------------------------------|---------------------|---------------------|------|
| Sample: 206147 - AH-2 8'     |                     |                     |      |
| Param Flag                   | Result              | Units               | RL   |
| Chloride                     | 16000               | mg/Kg               | 4.00 |
| Sample: 206148 - AH-3 0-1'   |                     |                     |      |
| Param Flag                   | Result              | Units               | RL   |
| Chloride                     | 5070                | mg/Kg               | 4.00 |
| Sample: 206149 - AH-3 1-1.5' |                     |                     |      |
| Param Flag                   | Result              | Units               | m RL |
| Chloride                     | 5480                | mg/Kg               | 4.00 |
| Sample: 206150 - AH-3 2-2.5' |                     |                     |      |
| Param Flag                   | Result              | Units               | RL   |
| Chloride                     | 10100               | mg/Kg               | 4.00 |
| Sample: 206151 - AH-3 3-3.5' |                     |                     |      |
| Param Flag                   | Result              | Units               | RL   |
| Chloride                     | 8480                | mg/Kg               | 4.00 |
| Sample: 206152 - AH-3 4-4.5' |                     |                     |      |
| Param Flag                   | Result              | Units               | RL   |
| Chloride                     | 11600               | mg/Kg               | 4.00 |
| Sample: 206153 - AH-3 5-5.5' |                     |                     |      |
| Param Flag                   | Result              | Units               | RL   |
| Chloride                     | 14300               | mg/Kg               | 4.00 |
| Sample: 206154 - AH-3 6-6.5' |                     |                     |      |
| Param Flag                   | Result              | Units               | m RL |
| Chloride                     | 10700               | mg/Kg               | 4.00 |

| Report Date: August 20, 2009 |             | Work Order: 9081439     | Page Number: 5 of 7 |      |  |
|------------------------------|-------------|-------------------------|---------------------|------|--|
| Sample: 206155 - AH-3 7-7.5' |             |                         |                     |      |  |
| Param                        | Flag        | Result                  | Units               | RL   |  |
| Chloride                     |             | 10300                   | mg/Kg               | 4.00 |  |
| Sample: 206156 -             | AH-3 8-8.5' |                         |                     |      |  |
| Param                        | Flag        | Result                  | Units               | RL   |  |
| Chloride                     |             | 11000                   | mg/Kg               | 4.00 |  |
| Sample: 206157 -             | AH-4 0-1'   |                         |                     |      |  |
| Param                        | Flag        | Result                  | Units               | RL   |  |
| Chloride                     |             | 4680                    | mg/Kg               | 4.00 |  |
| Sample: 206158 -             | AH-4 1-1.5' |                         |                     |      |  |
| Param                        | Flag        | $\operatorname{Result}$ | Units               | RL   |  |
| Chloride                     |             | 4300                    | mg/Kg               | 4.00 |  |
| Sample: 206159               | AH-4 2-2.5' |                         |                     |      |  |
| Param                        | Flag        | Result                  | Units               | RL   |  |
| Chloride                     |             | 5400                    | mg/Kg               | 4.00 |  |
| Sample: 206160               | AH-4 3-3.5' |                         |                     |      |  |
| Param                        | Flag        | Result                  | Units               | RL   |  |
| Chloride                     |             | 6260                    | mg/Kg               | 4.00 |  |
| Sample: 206161               | AH-4 4-4.5' |                         |                     |      |  |
| Param                        | Flag        | Result                  | Units               | RL   |  |
| Chloride                     | -0          | 10200                   | mg/Kg               | 4.00 |  |
| Sample: 206162               | AH-4 5-5.5' |                         |                     |      |  |
| Param                        | Flag        | Result                  | Units               | RL   |  |
| Chloride                     | <u> </u>    | 12600                   | mg/Kg               | 4.00 |  |

| Report Date: August 20, 2009 | Work Order: 9081439     | Page Number: 6 of 7 |      |
|------------------------------|-------------------------|---------------------|------|
| Sample: 206163 - AH-4 6-6.5' |                         |                     |      |
| Param Flag                   | Result                  | Units               | RL   |
| Chloride                     | 13300                   | mg/Kg               | 4.00 |
| Sample: 206164 - AH-4 7-7.5' |                         |                     |      |
| Param Flag                   | Result                  | Units               | RL   |
| Chloride                     | 8650                    | mg/Kg               | 4.00 |
| Sample: 206165 - AH-4 8-8.5' |                         |                     |      |
| Param Flag                   | Result                  | Units               | RL   |
| Chloride                     | 12800                   | mg/Kg               | 4.00 |
| Sample: 206166 - AH-4 9-9.5' |                         |                     |      |
| Param Flag                   | Result                  | Units               | RL   |
| Chloride                     | 17100                   | mg/Kg               | 4.00 |
| Sample: 206167 - AH-5 0-1'   |                         |                     |      |
| Param Flag                   | Result                  | Units               | RL   |
| Chloride                     | <200                    | mg/Kg               | 4.00 |
| Sample: 206168 - AH-5 1-1.5' |                         |                     |      |
| Param Flag                   | Result                  | Units               | RL   |
| Chloride                     | <200                    | mg/Kg               | 4.00 |
| Sample: 206169 - AH-6 0-1'   |                         |                     |      |
| Param Flag                   | Result                  | Units               | RL   |
| Chloride                     | <200                    | mg/Kg               | 4.00 |
| Sample: 206170 - AH-6 1-1.5' |                         |                     |      |
| Param Flag                   | $\operatorname{Result}$ | Units               | RL   |
| Chloride                     | <200                    | mg/Kg               | 4.00 |

Report Date: August 20, 2009 Work Order: 9081439 Page Number: 7 of 7

Sample: 206171 - AH-7 0-1'

| Param    | aram riag |      | Units | RL   |
|----------|-----------|------|-------|------|
| Chloride |           | <200 | mg/Kg | 4.00 |

Sample: 206173 - AH-3 9-9.5'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | 8750   | mg/Kg | 4.00 |



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817 • 201 • 5260

E-Mail: lab@traceanalysis.com

# Certifications

**WBENC:** 237019

HUB:

1752439743100-86536

**DBE:** VN 20657

NCTRCA WFWB38444Y0909

# **NELAP Certifications**

Lubbock:

T104704219-08-TX

LELAP-02003

Kansas E-10317

El Paso:

T104704221-08-TX

LELAP-02002

Midland: T104704392-08-TX

Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street

Report Date: August 20, 2009

Midland, TX, 79705

Work Order: 9081439 

Project Location: Eddy Co., NM

Project Name:

COG/NM 8 in. Main SWD (Skelly)

Project Number:

114-6400278

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

|        |             |        | $\operatorname{Date}$ | ${f Time}$ | Date       |
|--------|-------------|--------|-----------------------|------------|------------|
| Sample | Description | Matrix | Taken                 | Taken      | Received   |
| 206135 | AH-1 0-1'   | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206136 | AH-1 1-1.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206137 | AH-1 2-2.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206138 | AH-1 3-3.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206139 | AH-2 0-1'   | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206140 | AH-2 1-1.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206141 | AH-2 2-2.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206142 | AH-2 3-3.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206143 | AH-2 4-4.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |
| 206144 | AH-2 5-5.5' | soil   | 2009-08-13            | 00:00      | 2009-08-14 |

|        |             |        | Date       | $\mathbf{Time}$ | $\operatorname{Date}$ |
|--------|-------------|--------|------------|-----------------|-----------------------|
| Sample | Description | Matrix | Taken      | Taken           | Received              |
| 206145 | AH-2 6-6.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206146 | AH-2 7-7.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206147 | AH-2 8'     | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206148 | AH-3 0-1'   | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206149 | AH-3 1-1.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206150 | AH-3 2-2.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206151 | AH-3 3-3.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206152 | AH-3 4-4.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206153 | AH-3 5-5.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206154 | AH-3 6-6.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206155 | AH-3 7-7.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206156 | AH-3 8-8.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206157 | AH-4 0-1'   | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206158 | AH-4 1-1.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206159 | AH-4 2-2.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206160 | AH-4 3-3.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206161 | AH-4 4-4.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206162 | AH-4 5-5.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206163 | AH-4 6-6.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206164 | AH-4 7-7.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206165 | AH-4 8-8.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206166 | AH-4 9-9.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206167 | AH-5 0-1'   | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206168 | AH-5 1-1.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206169 | AH-6 0-1'   | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206170 | AH-6 1-1.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206171 | AH-7 0-1'   | soil   | 2009-08-13 | 00:00           | 2009-08-14            |
| 206173 | AH-3 9-9.5' | soil   | 2009-08-13 | 00:00           | 2009-08-14            |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 27 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

Michael april

#### Standard Flags

 ${f B}$  - The sample contains less than ten times the concentration found in the method blank.

### Case Narrative

Samples for project COG/NM 8 in. Main SWD (Skelly) were received by TraceAnalysis, Inc. on 2009-08-14 and assigned to work order 9081439. Samples for work order 9081439 were received intact at a temperature of 12.3 deg. C.

Samples were analyzed for the following tests using their respective methods.

|                      |              | Prep  | $\operatorname{Prep}$ | $^{\circ}$ QC | Analysis              |
|----------------------|--------------|-------|-----------------------|---------------|-----------------------|
| Test                 | Method       | Batch | Date                  | Batch         | Date                  |
| Chloride (Titration) | SM 4500-Cl B | 53433 | 2009-08-18 at 08:58   | 62624         | 2009-08-18 at 15:08   |
| Chloride (Titration) | SM 4500-Cl B | 53434 | 2009-08-18 at 08:59   | 62625         | 2009-08-18 at $15:09$ |
| Chloride (Titration) | SM 4500-Cl B | 53435 | 2009-08-18 at 08:59   | 62626         | 2009-08-18 at 15:10   |
| Chloride (Titration) | SM 4500-Cl B | 53436 | 2009-08-18 at 09:00   | 62628         | 2009-08-18 at 15:11   |
| TPH DRO              | Mod. 8015B   | 53376 | 2009-08-14 at 09:44   | 62548         | 2009-08-14 at 09:44   |
| TPH GRO              | S 8015B      | 53415 | 2009-08-17 at 14:20   | 62597         | 2009-08-17 at 14:20   |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9081439 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 4 of 27 Eddy Co., NM

# **Analytical Report**

Sample: 206135 - AH-1 0-1'

Laboratory:

Midland

Analysis:

Chloride (Titration)

QC Batch: 62624 Prep Batch:

53433

Analytical Method: Date Analyzed:

SM 4500-Cl B

2009-08-18 Sample Preparation: 2009-08-18 Prep Method: N/A Analyzed By:

AR

Prepared By:

AR

RL

| Parameter | Flag | Result | Units | Dilution | RL   |
|-----------|------|--------|-------|----------|------|
| Chloride  |      | 3350   | mg/Kg | 100      | 4.00 |

Sample: 206135 - AH-1 0-1'

Laboratory:

Midland

Analysis: QC Batch: TPH DRO

62548 Prep Batch: 53376

Analytical Method: Date Analyzed:

Sample Preparation:

Mod. 8015B 2009-08-14

Prep Method: N/A 2009-08-14

Analyzed By: kg Prepared By: kg

RL

| Parameter | Flag | Result | Units | Dilution | RL   |
|-----------|------|--------|-------|----------|------|
| DRO       |      | < 50.0 | mg/Kg | 1        | 50.0 |

|               |                       |        |       |          | $\operatorname{Spike}$ | Percent  | Recovery     |
|---------------|-----------------------|--------|-------|----------|------------------------|----------|--------------|
| Surrogate     | $\operatorname{Flag}$ | Result | Units | Dilution | Amount                 | Recovery | Limits       |
| n-Triacontane |                       | 107    | mg/Kg | 1        | 100                    | 107      | 13.2 - 219.3 |

Sample: 206135 - AH-1 0-1'

Laboratory:

Midland

Analysis: TPH GRO QC Batch: 62597 Prep Batch: 53415

Analytical Method: Date Analyzed:

S 8015B 2009-08-17 Sample Preparation: 2009-08-17 Prep Method: S 5035 Analyzed By: ME

Prepared By: ME

RL

| Parameter | Flag | Result | Units | Dilution | RL   |
|-----------|------|--------|-------|----------|------|
| GRO       |      | 5.70   | mg/Kg | 1        | 1.00 |

|                              |      |        |       |          | $\mathbf{S}$ pike | Percent  | Recovery     |
|------------------------------|------|--------|-------|----------|-------------------|----------|--------------|
| Surrogate                    | Flag | Result | Units | Dilution | Amount            | Recovery | Limits       |
| Trifluorotoluene (TFT)       |      | 1.93   | mg/Kg | 1        | 2.00              | 96       | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) |      | 1.97   | mg/Kg | 11       | 2.00              | 98       | 31 - 135     |

Report Date: August 20, 2009 Work Order: 9081439 Page Number: 5 of 27 114-6400278 COG/NM 8 in. Main SWD (Skelly) Eddy Co., NM Sample: 206136 - AH-1 1-1.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 62624 Date Analyzed: 2009-08-18 Analyzed By: AR Prep Batch: 53433 Sample Preparation: 2009-08-18 Prepared By: AR RLParameter Flag Result Units Dilution RL<200 50 Chloride mg/Kg 4.00 Sample: 206137 - AH-1 2-2.5' Laboratory: Midland Chloride (Titration) Analysis: Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 62624 Date Analyzed: AR2009-08-18 Analyzed By: Prep Batch: 53433 Sample Preparation: 2009-08-18 Prepared By: ARRLParameter Flag Result Units Dilution RL< 200 Chloride mg/Kg 50 4.00 Sample: 206138 - AH-1 3-3.5' Laboratory: Midland Chloride (Titration) Prep Method: Analysis: Analytical Method: SM 4500-Cl B N/AAR QC Batch: 62624 Date Analyzed: Analyzed By: 2009-08-18 Prep Batch: 53433 Sample Preparation: 2009-08-18 Prepared By: ARRLFlag Result RLParameter Units Dilution <200 Chloride 50 4.00 mg/Kg Sample: 206139 - AH-2 0-1' Laboratory: Midland

Analytical Method:

Sample Preparation:

Date Analyzed:

RL

Result

7400

SM 4500-Cl B

2009-08-18

2009-08-18

Units

mg/Kg

Prep Method:

Analyzed By:

Prepared By:

Dilution

100

N/A

AR

AR

RL

4.00

Chloride (Titration)

Flag

62624

53433

Analysis:

QC Batch:

Parameter

Chloride

Prep Batch:

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly)

Sample: 206139 - AH-2 0-1'

Laboratory: Midland

Analysis: TPH DRO QC Batch: 62548 Prep Batch: 53376 Analytical Method: Mod. 8015B Date Analyzed: 2009-08-14

Sample Preparation: 2009-08-14

Prep Method: N/A
Analyzed By: kg
Prepared By: kg

Page Number: 6 of 27

Eddy Co., NM

RL

| ,             |      |        |       |          | Spike  | Percent  | Recovery     |
|---------------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate     | Flag | Result | Units | Dilution | Amount | Recovery | Limits       |
| n-Triacontane |      | 108    | mg/Kg | 1        | 100    | 108      | 13.2 - 219.3 |

Sample: 206139 - AH-2 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 62597 Prep Batch: 53415 Analytical Method: S 8015B
Date Analyzed: 2009-08-17
Sample Preparation: 2009-08-17

Prep Method: S 5035 Analyzed By: ME Prepared By: ME

RL

|                              |      |        |       |          | $\operatorname{Spike}$ | $\operatorname{Percent}$ | Recovery     |
|------------------------------|------|--------|-------|----------|------------------------|--------------------------|--------------|
| Surrogate                    | Flag | Result | Units | Dilution | Amount                 | Recovery                 | Limits       |
| Trifluorotoluene (TFT)       |      | 1.94   | mg/Kg | 1        | 2.00                   | 97                       | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) |      | 1.80   | mg/Kg | 1        | 2.00                   | 90                       | 31 - 135     |

Sample: 206140 - AH-2 1-1.5'

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 62624 Prep Batch: 53433 Analytical Method: SM 4500-Cl B Date Analyzed: 2009-08-18 Sample Preparation: 2009-08-18

Prep Method: N/A Analyzed By: AR Prepared By: AR

RL

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 7 of 27 Eddy Co., NM

| Sample: 20 | 06141 | AH-2 | 2-2.5 |
|------------|-------|------|-------|
|------------|-------|------|-------|

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 62624

Analytical Method: Date Analyzed: Prep Batch: 53433 Sample Preparation:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: N/A Analyzed By: ARPrepared By: AR.

RL

Parameter Flag Chloride

Result 9650

Units mg/Kg Dilution  $1\overline{00}$ 

RL4.00

### Sample: 206142 - AH-2 3-3.5'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 62624 Prep Batch: 53433

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: N/AAnalyzed By: ARPrepared By: AR

RL

Parameter Chloride

Flag Result 10300

Units mg/Kg Dilution 100

RL4.00

#### Sample: 206143 - AH-2 4-4.5'

Laboratory:

Prep Batch:

Midland

Analysis: QC Batch:

Chloride (Titration)

62624 53433

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: N/A Analyzed By: ARPrepared By: AR

Parameter Flag Chloride

RLResult

14800

Units

mg/Kg

Dilution RL100 4.00

#### Sample: 206144 - AH-2 5-5.5'

Laboratory:

Midland

Chloride (Titration) Analysis: QC Batch:

62624 Prep Batch: 53433

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: N/A Analyzed By: AR Prepared By: AR

RL

Result Units Dilution RLParameter Flag Chloride 15100 100 4.00mg/Kg

Report Date: August 20, 2009 Work Order: 9081439 Page Number: 8 of 27 114-6400278 COG/NM 8 in. Main SWD (Skelly) Eddy Co., NM Sample: 206145 - AH-2 6-6.5' Midland Laboratory: Analytical Method: Prep Method: N/A Analysis: Chloride (Titration) SM 4500-Cl B QC Batch: Date Analyzed: 62625 2009-08-18 Analyzed By: ARPrep Batch: 53434 Sample Preparation: 2009-08-18 Prepared By: ARRLResult Parameter Flag Units Dilution RLChloride 12000 100 4.00 mg/Kg Sample: 206146 - AH-2 7-7.5' Midland Laboratory: Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/AQC Batch: 62625 Date Analyzed: 2009-08-18 Analyzed By: AR Prep Batch: 53434 Sample Preparation: 2009-08-18 Prepared By: AR RLResult Parameter Flag Units Dilution RL14000 100 4.00 Chloride mg/Kg Sample: 206147 - AH-2 8' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 62625 Date Analyzed: 2009-08-18 Analyzed By: AR

| Prep Batch: 5343 | 4    | Sample Preparation: | 2009-08-18 | Prepared By: | AR   |
|------------------|------|---------------------|------------|--------------|------|
|                  |      | $\mathrm{RL}_{c}$   |            |              |      |
| Parameter        | Flag | Result              | Units      | Dilution     | RL   |
| Chloride         |      | 16000 r             | ng/Kg      | 100          | 4.00 |

Sample: 206148 - AH-3 0-1'

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Chloride (Titration)<br>62625 | Analytical Method:<br>Date Analyzed:<br>Sample Preparation: | SM 4500-Cl B<br>2009-08-18<br>2009-08-18 | Prep Method:<br>Analyzed By:<br>Prepared By: | m AR |
|--|-------------------------------|---|--|--|------|
|  |                               | RL  |  |  |      |
| Parameter  | Flag                          | Result  | Units                                    | Dilution                                     | RL   |
| Chloride   |                               | 5070  | ng/Kg                                    | 100  | 4.00 |

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 9 of 27

Eddy Co., NM

Sample: 206148 - AH-3 0-1'

Laboratory:

Prep Batch:

Midland

Analysis: QC Batch: TPH DRO 62548

53376

Analytical Method: Date Analyzed:

Sample Preparation:

Mod. 8015B

2009-08-14 2009-08-14

Prep Method: N/A

Analyzed By: kg Prepared By: kg

RL

Result Parameter Flag Units Dilution RL $\overline{\text{DRO}}$ 50.0 472 mg/Kg 1

|               |      |        |                  |          | Spike  | Percent  | Recovery     |
|---------------|------|--------|------------------|----------|--------|----------|--------------|
| Surrogate     | Flag | Result | $\mathbf{Units}$ | Dilution | Amount | Recovery | Limits       |
| n-Triacontane |      | 139    | mg/Kg            | 1        | 100    | 139      | 13.2 - 219.3 |

#### Sample: 206148 - AH-3 0-1'

Laboratory:

Midland

Analysis: TPH GRO QC Batch: 62597

Analytical Method:

S 8015B 2009-08-17 Prep Method: S 5035 Analyzed By: ME

Prep Batch:

53415

Date Analyzed: Sample Preparation: 2009-08-17

Prepared By: ME

RL

Result Parameter Dilution RLFlag Units  $\overline{GRO}$ 7.44mg/Kg 1.00

|                              |      |        |               |          | Spike  | Percent  | Recovery     |
|------------------------------|------|--------|---------------|----------|--------|----------|--------------|
| Surrogate                    | Flag | Result | $_{ m Units}$ | Dilution | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |      | 1.95   | mg/Kg         | 1        | 2.00   | 98       | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) |      | 1.84   | mg/Kg         | 1        | 2.00   | 92       | 31 - 135     |

#### Sample: 206149 - AH-3 1-1.5'

Laboratory:

Midland

Chloride (Titration) Analysis: QC Batch: 62625 Prep Batch: 53434

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: N/A Analyzed By: ARPrepared By: AR

RLParameter Flag Result Units Dilution RLChloride 5480 mg/Kg 100 4.00

Work Order: 9081439 Page Number: 10 of 27 Report Date: August 20, 2009 114-6400278 COG/NM 8 in. Main SWD (Skelly) Eddy Co., NM Sample: 206150 - AH-3 2-2.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: Date Analyzed: 62625 2009-08-18 Analyzed By: AR Prep Batch: 53434 Sample Preparation: 2009-08-18 Prepared By: ARRLResult Parameter Flag Units RLDilution Chloride 10100 100 4.00mg/Kg Sample: 206151 - AH-3 3-3.5' Midland Laboratory: Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 62625 Date Analyzed: 2009-08-18 Analyzed By: AR Prep Batch: 53434 Sample Preparation: 2009-08-18 Prepared By: ARRLParameter Flag Result Units Dilution RL8480 Chloride mg/Kg 100 4.00 Sample: 206152 - AH-3 4-4.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 62625 Date Analyzed: 2009-08-18 Analyzed By: ARPrep Batch: 53434 Sample Preparation: 2009-08-18 Prepared By: ARRLResult Parameter Flag Units Dilution RLChloride 11600 mg/Kg 100 4.00 Sample: 206153 - AH-3 5-5.5'

Laboratory: Midland

Chloride (Titration) Analysis: QC Batch: 62625

Prep Batch: 53434

Analytical Method: SM 4500-Cl B Date Analyzed: 2009-08-18 Sample Preparation: 2009-08-18

Prep Method: N/A Analyzed By: ARPrepared By: AR

RLResult Parameter Flag Units Dilution RLChloride 14300 mg/Kg 100 4.00

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 11 of 27 Eddy Co., NM

Sample: 206154 - AH-3 6-6.5'

Laboratory: Analysis:

Midland

Chloride (Titration)

QC Batch: 62625 Prep Batch: 53434 Analytical Method:

Date Analyzed: Sample Preparation: SM 4500-Cl B

2009-08-18 2009-08-18

Prep Method: N/A Analyzed By: AR

Prepared By: AR

RL

Parameter Result Units Dilution RLFlag Chloride 10700 mg/Kg 100 4.00

Sample: 206155 - AH-3 7-7.5'

Laboratory:

Midland

Analysis: Chloride (Titration)

QC Batch: 62626 Prep Batch: 53435 Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: Analyzed By:

ARPrepared By: AR

N/A

RL

Result Parameter Flag Units Dilution RLChloride 10300 100 4.00 mg/Kg

Sample: 206156 - AH-3 8-8.5'

Laboratory:

Prep Batch:

Midland

Analysis: Chloride (Titration) QC Batch: 62626

53435

Analytical Method:

Sample Preparation:

Date Analyzed:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: N/A Analyzed By:

AR. Prepared By: AR

RL

Parameter Flag Result Units Dilution RL11000 Chloride mg/Kg 100 4.00

Sample: 206157 - AH-4 0-1'

Laboratory:

Prep Batch:

Midland

53435

Analysis: Chloride (Titration) QC Batch: 62626

Analytical Method: Date Analyzed: Sample Preparation: SM 4500-Cl B 2009-08-18

2009-08-18

Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

Parameter Flag Result Units Dilution RLChloride 4680 mg/Kg 100 4.00

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 12 of 27

Eddy Co., NM

Sample: 206157 - AH-4 0-1'

Laboratory:

Midland

TPH DRO Analysis: QC Batch:

62548 Prep Batch: 53376

Analytical Method:

Mod. 8015B

Date Analyzed: Sample Preparation: 2009-08-14

2009-08-14

Prep Method: N/A Analyzed By: kg Prepared By: kg

RL

Flag Parameter Result RLUnits Dilution DRO 94.5mg/Kg 50.0

|               |                       |        |       |          | $\operatorname{Spike}$ | Percent  | Recovery     |
|---------------|-----------------------|--------|-------|----------|------------------------|----------|--------------|
| Surrogate     | $\operatorname{Flag}$ | Result | Units | Dilution | Amount                 | Recovery | Limits       |
| n-Triacontane |                       | 109    | mg/Kg | 1        | 100                    | 109      | 13.2 - 219.3 |

Sample: 206157 - AH-4 0-1'

Laboratory:

Midland

Analysis:

TPH GRO

QC Batch: 62597 Prep Batch: 53415 Analytical Method:

S 8015B Date Analyzed: 2009-08-17 Sample Preparation:

2009-08-17

Prep Method: S 5035

Analyzed By: MEPrepared By: ME

RL

Parameter Flag Result Units Dilution RLGRO 8.85 1.00 mg/Kg  $\overline{1}$ 

|                              |      |        |       |          | Spike  | Percent  | Recovery     |
|------------------------------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate                    | Flag | Result | Units | Dilution | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |      | 1.96   | mg/Kg | 1        | 2.00   | 98       | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) |      | 1.69   | mg/Kg | 1        | 2.00   | 84       | 31 - 135     |

Sample: 206158 - AH-4 1-1.5'

53435

Laboratory:

Prep Batch:

Midland

Analysis: QC Batch: 62626

Chloride (Titration)

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2009-08-18

2009-08-18

Prep Method: N/A Analyzed By: AR

Prepared By: AR.

RL

Parameter Flag Result Units Dilution RLChloride 4300 mg/Kg 100 4.00 Report Date: August 20, 2009 Work Order: 9081439 Page Number: 13 of 27 Eddy Co., NM 114-6400278 COG/NM 8 in. Main SWD (Skelly)

Sample: 206159 - AH-4 2-2.5'

Laboratory: Midland

Prep Method: Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B N/AQC Batch: 62626 Date Analyzed: 2009-08-18 Analyzed By: ARPrepared By: Prep Batch: 53435 Sample Preparation: 2009-08-18 AR

RLUnits Dilution RLParameter Flag Result Chloride 5400 mg/Kg 100 4.00

Sample: 206160 - AH-4 3-3.5'

Laboratory: Midland

SM 4500-Cl B Prep Method: Analysis: Chloride (Titration) Analytical Method: N/A 62626 2009-08-18 Analyzed By: AR QC Batch: Date Analyzed: Prep Batch: 53435 Sample Preparation: 2009-08-18 Prepared By: AR

RLResult Units Dilution RLParameter Flag Chloride 6260 mg/Kg 100 4.00

Sample: 206161 - AH-4 4-4.5'

Laboratory: Midland

N/A Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: QC Batch: 62626 Date Analyzed: 2009-08-18 Analyzed By: ARPrep Batch: 53435 Sample Preparation: 2009-08-18 Prepared By: AR

RLUnits Dilution RLParameter Flag Result 10200 100 4.00 Chloride mg/Kg

Sample: 206162 - AH-4 5-5.5'

Laboratory: Midland

Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A Analysis: QC Batch: 62626 Date Analyzed: 2009-08-18 Analyzed By: AR Sample Preparation: 2009-08-18 Prepared By: ARPrep Batch: 53435

RLRLResult Units Dilution Parameter Flag Chloride 12600 mg/Kg 100 4.00

Report Date: August 20, 2009 Work Order: 9081439 Page Number: 14 of 27 114-6400278 COG/NM 8 in. Main SWD (Skelly) Eddy Co., NM Sample: 206163 - AH-4 6-6.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/AQC Batch: 62626 Date Analyzed: AR 2009-08-18 Analyzed By: Prep Batch: 53435 Sample Preparation: 2009-08-18 Prepared By: AR RLParameter Flag Result RLUnits Dilution Chloride 13300 mg/Kg 1004.00Sample: 206164 - AH-4 7-7.5' Laboratory: Midland Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 62626 Date Analyzed: 2009-08-18 Analyzed By: AR53435 Prep Batch: Sample Preparation: 2009-08-18 Prepared By: ARRLParameter Flag Result Units Dilution RLChloride 8650 100 4.00 mg/Kg Sample: 206165 - AH-4 8-8.5' Laboratory: Midland Prep Method: Analysis: Chloride (Titration) Analytical Method: SM 4500-Cl B N/A QC Batch: 62628 Date Analyzed: 2009-08-18 Analyzed By: ARSample Preparation: Prep Batch: 53436 2009-08-18 Prepared By: ARRLResult Parameter Flag Units RLDilution Chloride 12800 mg/Kg 1004.00 Sample: 206166 - AH-4 9-9.5' Laboratory: Midland Chloride (Titration) Analysis: Analytical Method: SM 4500-Cl B Prep Method: N/A QC Batch: 62628 Date Analyzed: 2009-08-18 Analyzed By: ARPrep Batch: 53436 Sample Preparation: 2009-08-18 Prepared By: AR

RL

Units

mg/Kg

Dilution

100

RL

4.00

Result

17100

Parameter

Chloride

Flag

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 15 of 27

Eddy Co., NM

Sample: 206167 - AH-5 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 62628 Prep Batch: 53436 Analytical Method: Date Analyzed:

SM 4500-Cl B

2009-08-18 Sample Preparation: 2009-08-18

Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

|           |      | 20.0   |       |          |      |
|-----------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL   |
| Chloride  |      | < 200  | mg/Kg | 50       | 4.00 |

Sample: 206167 - AH-5 0-1'

Laboratory: Midland

Analysis: TPH DRO QC Batch: 62548 Prep Batch: 53376

Analytical Method: Mod. 8015B Date Analyzed: 2009-08-14 Sample Preparation: 2009-08-14

Prep Method: N/A Analyzed By: kg Prepared By: kg

RL

RL

| Parameter | Flag | Result | Units | Dilution | RL   |
|-----------|------|--------|-------|----------|------|
| DRO       |      | < 50.0 | mg/Kg | 1        | 50.0 |

|               |      |        |       |          | $\mathbf{S}\mathbf{p}i\mathbf{k}\mathbf{e}$ | $\operatorname{Percent}$ | Recovery     |
|---------------|------|--------|-------|----------|---|--------------------------|--------------|
| Surrogate     | Flag | Result | Units | Dilution | Amount                                      | Recovery                 | Limits       |
| n-Triacontane |      | 113    | mg/Kg | 1        | 100   | 113                      | 13.2 - 219.3 |

Sample: 206167 - AH-5 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 62597 Prep Batch: 53415

Analytical Method: S 8015B Date Analyzed: 2009-08-17 Sample Preparation: 2009-08-17 Prep Method: S 5035 Analyzed By: MEPrepared By: ME

| Parameter | Flag | Result | Units | Dilution | RL   |
|-----------|------|--------|-------|----------|------|
| GRO       |      | 8.02   | mg/Kg | 1        | 1.00 |

|                              |                       |        |       |          | Spike  | Percent  | Recovery     |
|------------------------------|-----------------------|--------|-------|----------|--------|----------|--------------|
| Surrogate                    | $\operatorname{Flag}$ | Result | Units | Dilution | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |                       | 1.95   | mg/Kg | 1        | 2.00   | 98       | 68.5 - 119.4 |
| 4-Bromofluorobenzene (4-BFB) |                       | 1.69   | mg/Kg | 1        | 2.00   | 84       | 31 - 135     |

Work Order: 9081439

Page Number: 16 of 27

114-6400278

COG/NM 8 in. Main SWD (Skelly)

Eddy Co., NM

Sample: 206168 - AH-5 1-1.5'

Laboratory:

Midland

Analysis: Chloride (Titration)

QC Batch: 62628 Prep Batch: 53436

Analytical Method:

Date Analyzed: Sample Preparation: SM 4500-Cl B

2009-08-18 2009-08-18 Prep Method: N/AAnalyzed By: AR

Prepared By: AR

RL

Parameter Flag Result RLUnits Dilution Chloride <200 4.00mg/Kg 50

Sample: 206169 - AH-6 0-1'

Laboratory:

Midland

Chloride (Titration) Analysis:

QC Batch: 62628 Prep Batch: 53436

Analytical Method:

Sample Preparation:

Date Analyzed:

SM 4500-Cl B 2009-08-18 2009-08-18

Prep Method: N/A Analyzed By:

ARPrepared By: AR

RL

Parameter Flag Result Units Dilution RL< 200 Chloride mg/Kg 50 4.00

Sample: 206169 - AH-6 0-1'

Laboratory:

Midland

TPH DRO Analysis: QC Batch: 62548 Prep Batch: 53376

Analytical Method: Date Analyzed:

Sample Preparation:

Mod. 8015B 2009-08-14 2009-08-14

Prep Method: N/A Analyzed By: kg Prepared By: kg

RL

Parameter Result Flag Units Dilution RLDRO < 50.0 50.0mg/Kg

Spike Percent Recovery Recovery Surrogate Flag Result Units Dilution Amount Limits n-Triacontane 111 13.2 - 219.3 mg/Kg 100 1 111

Sample: 206169 - AH-6 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 62597 Prep Batch: 53415

Analytical Method: S 8015B Date Analyzed:

2009-08-17 Sample Preparation: 2009-08-17 Prep Method: S 5035 Analyzed By: ME Prepared By: ME

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 17 of 27

Eddy Co., NM

| <b>.</b>   | T-11   |      | RL     |  | **                  |        | TD 13                        |        | D.F.            |
|--|--|------|--------|--|---------------------|--------|------------------------------|--------|-----------------|
| Parameter  | Flag   |      | Result |  | Units               |        | Dilution                     |        | RL              |
| GRO  |  |      | 4.61   |  | mg/Kg               |        | 1                            |        | 1.00            |
|  |  |      |        |  |                     | Spike  | Percent                      | Rec    | overy           |
| Surrogate  |  | Flag | Result | Units  | Dilution            | Amount | Recovery                     | Liı    | mits            |
| Trifluorotolu  | ene (TFT)  |      | 1.91   | mg/Kg  | 1                   | 2.00   | 96                           | 68.5 - | - 119.4         |
|  | robenzene (4-BFB)  |      | 1.79   | mg/Kg  | 1                   | 2.00   | 90                           | 31 -   | - 135_          |
| Sample: 20<br>Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | 6170 - AH-6 1-1.5'  Midland Chloride (Titration) 62628 53436 |      | Date . | tical Method:<br>Analyzed:<br>le Preparation | 2009-08-            | 18     | Prep M<br>Analyzo<br>Prepare | ed By: | N/A<br>AR<br>AR |
|  |  |      | RL     |  |                     |        |                              |        |                 |
| Parameter  | Flag   |      | Result |  | Units               |        | Dilution                     |        | RL              |
| Chloride   |  |      | <200   |  | mg/Kg               |        | 50                           |        | 4.00            |
| Sample: 20<br>Laboratory:<br>Analysis:<br>QC Batch:                | 6171 - AH-7 0-1'  Midland Chloride (Titration) 62628         |      |        | tical Method:<br>Analyzed:                   | SM 4500<br>2009-08- |        | Prep M<br>Analyze            |        | N/A<br>AR       |

| Prep Batch: 53436 |      | Sample Preparation: | 2009-08-18 | Prepared By: | AR   |
|-------------------|------|---------------------|------------|--------------|------|
|                   |      | RL                  |            |              |      |
| Parameter         | Flag | Result              | Units      | Dilution     | RL   |
| Chloride          |      | <200 r              | ng/Kg      | 50           | 4.00 |

| Sample: 206171 - AH-7 0-1' |  |
|----------------------------|--|
| Laboratory: Midland        |  |

TPH DRO Analytical Method: Prep Method: N/A Analysis: Mod. 8015B QC Batch: 62548 Date Analyzed: 2009-08-14 Analyzed By: kg Prep Batch: Prepared By: Sample Preparation: 53376 2009-08-14 kg

|           |      | RL     |       |          |      |
|-----------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL   |
| DRO       |      | < 50.0 | mg/Kg | 1        | 50.0 |

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 18 of 27

Eddy Co., NM

|               |      |        |       |          | Spike                      | Percent                   | Recovery     |
|---------------|------|--------|-------|----------|----------------------------|---------------------------|--------------|
| Surrogate     | Flag | Result | Units | Dilution | $\mathbf{A}\mathbf{mount}$ | $\operatorname{Recovery}$ | Limits       |
| n-Triacontane |      | 108    | mg/Kg | 1        | 100                        | 108                       | 13.2 - 219.3 |

Sample: 206171 - AH-7 0-1'

Laboratory: Midland

Analysis: TPH GRO QC Batch: 62597 Prep Batch: 53415

Analytical Method: S 8015B Date Analyzed: 2009-08-17 Sample Preparation: 2009-08-17

Prep Method: S 5035 Analyzed By: MEPrepared By: ME

RL

| Parameter | Flag | Result | $\mathbf{Units}$ | Dilution | RL   |
|-----------|------|--------|------------------|----------|------|
| GRO       |      | 5.28   | mg/Kg            | 1        | 1.00 |

|                              |      |        |       |          | Spike  | Percent  | $\operatorname{Recovery}$ |
|------------------------------|------|--------|-------|----------|--------|----------|---------------------------|
| Surrogate                    | Flag | Result | Units | Dilution | Amount | Recovery | Limits                    |
| Trifluorotoluene (TFT)       |      | 1.95   | mg/Kg | 1        | 2.00   | 98       | 68.5 - 119.4              |
| 4-Bromofluorobenzene (4-BFB) |      | 1.74   | mg/Kg | 1        | 2.00   | 87       | 31 - 135                  |

Sample: 206173 - AH-3 9-9.5'

Laboratory: Midland

Analysis: Chloride (Titration) QC Batch: 62628 Prep Batch: 53436

Analytical Method: SM 4500-Cl B Date Analyzed: 2009-08-18 Sample Preparation: 2009-08-18

Prep Method: N/A Analyzed By: AR Prepared By: AR

|           |      | RL     |       |          |      |
|-----------|------|--------|-------|----------|------|
| Parameter | Flag | Result | Units | Dilution | RL   |
| Chloride  |      | 8750   | mg/Kg | 100      | 4.00 |

Method Blank (1) QC Batch: 62548

QC Batch: 62548 Prep Batch: 53376 Date Analyzed: 2009-08-14 QC Preparation: 2009-08-14

Analyzed By: kg Prepared By: kg

|           |      | MDL    |       |    |
|-----------|------|--------|-------|----|
| Parameter | Flag | Result | Units | RL |
| DRO       |      | < 5.86 | mg/Kg | 50 |

|               |      |        |       |          | $\operatorname{Spike}$ | Percent  | $\operatorname{Recovery}$ |
|---------------|------|--------|-------|----------|------------------------|----------|---------------------------|
| Surrogate     | Flag | Result | Units | Dilution | Amount                 | Recovery | Limits                    |
| n-Triacontane |      | 104    | mg/Kg | 1        | 100                    | 104      | 13 - 178.5                |

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 19 of 27

Eddy Co., NM

Method Blank (1)

QC Batch: 62597

QC Batch: Prep Batch: 53415

62597

Date Analyzed:

2009-08-17

QC Preparation: 2009-08-17 Analyzed By: ME Prepared By: ME

MDL

Parameter Result Units RLFlag GRO < 0.482mg/Kg

|                              | <b>-</b> | <b>7</b> 5 1. | 77.1.        | <b>D</b> .1 | Spike  | Percent  | Recovery     |
|------------------------------|----------|---------------|--------------|-------------|--------|----------|--------------|
| Surrogate                    | Flag     | Result        | Units        | Dilution    | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |          | 1.96          | mg/Kg        | 1           | 2.00   | 98       | 71.9 - 115   |
| 4-Bromofluorobenzene (4-BFB) |          | 2.38          | ${ m mg/Kg}$ | 1           | 2.00   | 119      | 38.1 - 146.2 |

Method Blank (1)

QC Batch: 62624

QC Batch:

62624

Date Analyzed:

2009-08-18

Analyzed By: AR

Prep Batch: 53433

QC Preparation: 2009-08-18

Prepared By: AR

MDL

Parameter Flag Result Units RLChloride <2.18 mg/Kg

Method Blank (1)

QC Batch: 62625

QC Batch:

62625

Date Analyzed:

2009-08-18

Analyzed By: AR

Prep Batch: 53434

QC Preparation: 2009-08-18

Prepared By: AR

4

MDL Result Parameter Flag

Units RL

mg/Kg

Method Blank (1)

QC Batch: 62626

QC Batch:

Chloride

62626

Date Analyzed:

2009-08-18

Analyzed By: AR

Prep Batch: 53435

QC Preparation: 2009-08-18

Prepared By: AR

MDL

<2.18

Flag Parameter Result Units RL<2.18 Chloride mg/Kg

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 20 of 27

Eddy Co., NM

Method Blank (1)

QC Batch: 62628

QC Batch: Prep Batch:

62628 53436 Date Analyzed: QC Preparation: 2009-08-18

2009-08-18

Analyzed By: AR

Prepared By: AR

MDL

Parameter RLFlag Result Units Chloride < 2.18mg/Kg 4

#### Laboratory Control Spike (LCS-1)

QC Batch:

62548

Date Analyzed:

2009-08-14

Analyzed By: kg

Prep Batch:

53376

QC Preparation: 2009-08-14

Prepared By: kg

|       | LCS    |       |      | Spike  | Matrix |      | $\mathrm{Rec}.$ |
|-------|--------|-------|------|--------|--------|------|-----------------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit           |
| DRO   | 214    | mg/Kg | 1    | 250    | <5.86  | 86   | 57.4 - 133.4    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|       | LCSD   |       |      | Spike  | Matrix |             | ${ m Rec.}$  |     | RPD   |
|-------|--------|-------|------|--------|--------|-------------|--------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | ${ m Rec.}$ | Limit        | RPD | Limit |
| DRO   | 215    | mg/Kg | 1    | 250    | < 5.86 | 86          | 57.4 - 133.4 | 0   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|               | LCS    | LCSD   |       |      | Spike  | LCS  | LCSD        | $\mathrm{Rec}.$ |
|---------------|--------|--------|-------|------|--------|------|-------------|-----------------|
| Surrogate     | Result | Result | Units | Dil. | Amount | Rec. | ${ m Rec.}$ | ${f Limit}$     |
| n-Triacontane | 102    | 99.0   | mg/Kg | 1    | 100    | 102  | 99          | 48.5 - 146.7    |

#### Laboratory Control Spike (LCS-1)

QC Batch:

62597

Prep Batch: 53415

Date Analyzed: QC Preparation: 2009-08-17

2009-08-17

Analyzed By: ME

Prepared By: ME

LCS Spike Matrix Rec. Param Result Units Dil. Amount Result Rec. Limit GRO 60.5 - 120.1 16.4 mg/Kg 20.0 < 0.48282

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|       | LCSD   |       |      | Spike  | Matrix  |      | ${ m Rec.}$   |     | RPD   |
|-------|--------|-------|------|--------|---------|------|---------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result  | Rec. | $_{ m Limit}$ | RPD | Limit |
| GRO   | 16.6   | mg/Kg | 1    | 20.0   | < 0.482 | 83   | 60.5 - 120.1  | 1   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 21 of 27 Eddy Co., NM

| Surrogate                    | LCS<br>Result | $\begin{array}{c} \text{LCSD} \\ \text{Result} \end{array}$ | Units | Dil. | Spike<br>Amount | LCS<br>Rec. | LCSD<br>Rec. | Rec.<br>Limit |
|------------------------------|---------------|---|-------|------|-----------------|-------------|--------------|---------------|
| Triffuorotoluene (TFT)       | 2.00          | 2.03  | mg/Kg | 1    | 2.00            | 100         | 102          | 78.8 - 124.7  |
| 4-Bromofluorobenzene (4-BFB) | 2.48          | 2.56  | mg/Kg | 1    | 2.00            | 124         | 128          | 66.1 - 128.3  |

#### Laboratory Control Spike (LCS-1)

QC Batch: 62624 Prep Batch: 53433 Date Analyzed: 2009-08-18 QC Preparation: 2009-08-18 Analyzed By: AR Prepared By: AR

|          | LCS    |                  |      | Spike  | Matrix |      | ${ m Rec.}$ |
|----------|--------|------------------|------|--------|--------|------|-------------|
| Param    | Result | $\mathbf{Units}$ | Dil. | Amount | Result | Rec. | Limit       |
| Chloride | 99.5   | mg/Kg            | 1    | 100    | < 2.18 | 100  | 85 - 115    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | LCSD   |       |      | $_{ m Spike}$ | Matrix |      | Rec.     |     | RPD   |
|----------|--------|-------|------|---------------|--------|------|----------|-----|-------|
| Param    | Result | Units | Dil. | Amount        | Result | Rec. | Limit    | RPD | Limit |
| Chloride | 101    | mg/Kg | 1    | 100           | <2.18  | 101  | 85 - 115 | 2   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 62625 Prep Batch: 53434

Date Analyzed: QC Preparation: 2009-08-18

2009-08-18

Analyzed By: AR Prepared By: AR

|          | LCS    |       |                  | $\mathbf{Spike}$ | Matrix |      | Rec.     |
|----------|--------|-------|------------------|------------------|--------|------|----------|
| Param    | Result | Units | $\mathbf{Dil}$ . | Amount           | Result | Rec. | Limit    |
| Chloride | 101    | mg/Kg | 1                | 100              | < 2.18 | 101  | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | LCSD   |       |      | Spike  | Matrix |      | Rec.     |                | RPD   |
|----------|--------|-------|------|--------|--------|------|----------|----------------|-------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit    | RPD            | Limit |
| Chloride | 99.4   | mg/Kg | 1    | 100    | <2.18  | 99   | 85 - 115 | $\overline{2}$ | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 62626 Prep Batch: 53435 Date Analyzed: 2009-08-18 QC Preparation: 2009-08-18

Analyzed By: AR Prepared By: AR

|          | LCS    |       |      | Spike  | Matrix |      | ${ m Rec.}$ |
|----------|--------|-------|------|--------|--------|------|-------------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit       |
| Chloride | 99.5   | mg/Kg | 1    | 100    | < 2.18 | 100  | 85 - 115    |

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 22 of 27 Eddy Co., NM

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | LCSD   |       |      | $\mathbf{Spike}$ | Matrix |      | ${ m Rec.}$ |     | RPD   |
|----------|--------|-------|------|------------------|--------|------|-------------|-----|-------|
| Param    | Result | Units | Dil. | Amount           | Result | Rec. | Limit       | RPD | Limit |
| Chloride | 101    | mg/Kg | 1    | 100              | <2.18  | 101  | 85 - 115    | 2   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

#### Laboratory Control Spike (LCS-1)

QC Batch: 62628 Prep Batch: 53436

Date Analyzed:

2009-08-18

Analyzed By: AR

QC Preparation: 2009-08-18

Prepared By: AR

|          | LCS    |       |      | Spike  | Matrix |      | Rec.     |
|----------|--------|-------|------|--------|--------|------|----------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit    |
| Chloride | 101    | mg/Kg | 1    | 100    | < 2.18 | 101  | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | LCSD   |       |      | $\mathbf{Spike}$ | Matrix |      | Rec.     |     | RPD   |
|----------|--------|-------|------|------------------|--------|------|----------|-----|-------|
| Param    | Result | Units | Dil. | Amount           | Result | Rec. | Limit    | RPD | Limit |
| Chloride | 99.6   | mg/Kg | 1    | 100              | < 2.18 | 100  | 85 - 115 | 1   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 206169

QC Batch:

62548

Prep Batch: 53376

Date Analyzed:

2009-08-14

QC Preparation: 2009-08-14

Analyzed By:

Prepared By: kg

|       | MS     |       |      | Spike  | Matrix |      | ${ m Rec.}$  |
|-------|--------|-------|------|--------|--------|------|--------------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit        |
| DRO   | 223    | mg/Kg | 1    | 250    | < 5.86 | 89   | 35.2 - 167.1 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|       | MSD    |       |                        | Spike  | Matrix |      | ${ m Rec.}$  |     | RPD   |
|-------|--------|-------|------------------------|--------|--------|------|--------------|-----|-------|
| Param | Result | Units | $\operatorname{Dil}$ . | Amount | Result | Rec. | Limit        | RPD | Limit |
| DRO   | 234    | mg/Kg | 1                      | 250    | < 5.86 | 94   | 35.2 - 167.1 | 5   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|               | MS     | MSD    |       |      | Spike  | MS          | MSD  | Rec.         |
|---------------|--------|--------|-------|------|--------|-------------|------|--------------|
| Surrogate     | Result | Result | Units | Dil. | Amount | ${ m Rec.}$ | Rec. | Limit        |
| n-Triacontane | 103    | 106    | mg/Kg | 1    | 100    | 103         | 106  | 34.5 - 178.4 |

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 23 of 27 Eddy Co., NM

Matrix Spike (MS-1)

Spiked Sample: 206167

QC Batch:

62597 Prep Batch: 53415 Date Analyzed:

2009-08-17

QC Preparation: 2009-08-17

Analyzed By: ME

Prepared By: ME

|       | MS     |       |      | Spike  | Matrix |      | Rec.         |
|-------|--------|-------|------|--------|--------|------|--------------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit        |
| GRO   | 28.6   | mg/Kg | 1    | 20.0   | 8.0172 | 103  | 12.8 - 175.2 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|       | MSD    |       |      | Spike  | Matrix |      | Rec.         |     | RPD   |
|-------|--------|-------|------|--------|--------|------|--------------|-----|-------|
| Param | Result | Units | Dil. | Amount | Result | Rec. | Limit        | RPD | Limit |
| GRO   | 29.4   | mg/Kg | 1    | 20.0   | 8.0172 | 107  | 12.8 - 175.2 | 3   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|                              | MS     | MSD    |       |      | $\mathbf{Spike}$ | MS                     | MSD  | Rec.         |
|------------------------------|--------|--------|-------|------|------------------|------------------------|------|--------------|
| Surrogate                    | Result | Result | Units | Dil. | Amount           | $\operatorname{Rec}$ . | Rec. | Limit        |
| Trifluorotoluene (TFT)       | 2.07   | 2.08   | mg/Kg | 1    | 2                | 104                    | 104  | 60.8 - 132.1 |
| 4-Bromofluorobenzene (4-BFB) | 1.87   | 1.87   | mg/Kg | 1    | 2                | 94                     | 94   | 31.3 - 161.7 |

Matrix Spike (MS-1)

Spiked Sample: 206144

QC Batch: 62624 Prep Batch: 53433 Date Analyzed: QC Preparation: 2009-08-18

2009-08-18

Analyzed By: AR

Prepared By: AR

|          | MS     |       |      | Spike  | Matrix |             | Rec.     |
|----------|--------|-------|------|--------|--------|-------------|----------|
| Param    | Result | Units | Dil. | Amount | Result | ${ m Rec.}$ | Limit    |
| Chloride | 23300  | mg/Kg | 100  | 10000  | 15100  | 82          | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          |   | MSD    |       |      | Spike  | Matrix |      | Rec.     |     | RPD   |
|----------|---|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param    |   | Result | Units | Dil. | Amount | Result | Rec. | Limit    | RPD | Limit |
| Chloride | 2 | 23500  | mg/Kg | 100  | 10000  | 15100  | 84   | 85 - 115 | 1   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 206154

QC Batch:

62625 Prep Batch: 53434

Date Analyzed:

2009-08-18

QC Preparation: 2009-08-18

Analyzed By: AR

Prepared By: AR

<sup>&</sup>lt;sup>1</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>&</sup>lt;sup>2</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therfore, MS shows extraction occured properly.

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 24 of 27. Eddy Co., NM

|          | MS     |       |      | Spike  | Matrix |      | Rec.     |
|----------|--------|-------|------|--------|--------|------|----------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit    |
| Chloride | 20500  | mg/Kg | 100  | 10000  | 10700  | 98   | 85 - 115 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | MSD    |       |      | Spike  | Matrix |      | ${ m Rec.}$ |     | RPD   |
|----------|--------|-------|------|--------|--------|------|-------------|-----|-------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit       | RPD | Limit |
| Chloride | 20800  | mg/Kg | 100  | 10000  | 10700  | 101  | 85 - 115    | 1   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 206164

QC Batch: Prep Batch: 53435

62626

Date Analyzed:

2009-08-18

Analyzed By: AR

Prepared By: AR

|          | MS     |       |      | Spike  | Matrix |             | Rec.     |
|----------|--------|-------|------|--------|--------|-------------|----------|
| Param    | Result | Units | Dil. | Amount | Result | ${ m Rec.}$ | Limit    |
| Chloride | 18700  | mg/Kg | 100  | 10000  | 8650   | 100         | 85 - 115 |

QC Preparation: 2009-08-18

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | MSD    |       |      | Spike  | Matrix |      | Rec.     |     | RPD   |
|----------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit    | RPD | Limit |
| Chloride | 19100  | mg/Kg | 100  | 10000  | 8650   | 104  | 85 - 115 | 2   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 206173

QC Batch:

62628

Date Analyzed:

2009-08-18

Analyzed By: AR Prepared By: AR

Prep Batch: 53436

QC Preparation:

2009-08-18

Rec.

MS Spike Matrix Result Param Result Units Dil. Limit Amount Rec. Chloride 18700 mg/Kg 100 10000 8750 100 85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | MSD    |       |      | Spike  | Matrix |      | Rec.     |     | RPD   |
|----------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit    | RPD | Limit |
| Chloride | 19800  | mg/Kg | 100  | 10000  | 8750   | 110  | 85 - 115 | 6   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (CCV-1)

QC Batch: 62548

Date Analyzed: 2009-08-14

Analyzed By: kg

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 25 of 27

Eddy Co., NM

| Param | Flag | Units | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|-------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| DRO   | 1105 | mg/Kg | 250                   | 264                    | 106                         | 80 - 120                      | 2009-08-14       |

#### Standard (CCV-2)

QC Batch: 62548

Date Analyzed: 2009-08-14

Analyzed By: kg

|       |      |       | CCVs<br>True | CCVs<br>Found | CCVs<br>Percent | Percent<br>Recovery | Date       |
|-------|------|-------|--------------|---------------|-----------------|---------------------|------------|
| Param | Flag | Units | Conc.        | Conc.         | Recovery        | Limits              | Analyzed   |
| DRO   |      | mg/Kg | 250          | 272           | 109             | 80 - 120            | 2009-08-14 |

#### Standard (CCV-3)

QC Batch: 62548

Date Analyzed: 2009-08-14

Analyzed By: kg

|       |      |       | $\mathrm{CCVs}$ | CCVs                   | $\operatorname{CCVs}$ | Percent  |            |
|-------|------|-------|-----------------|------------------------|-----------------------|----------|------------|
|       |      |       | True            | Found                  | Percent               | Recovery | Date       |
| Param | Flag | Units | Conc.           | $\operatorname{Conc.}$ | Recovery              | Limits   | Analyzed   |
| DRO   |      | mg/Kg | 250             | 259                    | 104                   | 80 - 120 | 2009-08-14 |

#### Standard (CCV-1)

QC Batch: 62597

Date Analyzed: 2009-08-17

Analyzed By: ME

|       |      |       | $\mathrm{CCVs}$ | CCVs  | $\mathrm{CCVs}$ | Percent  |            |
|-------|------|-------|-----------------|-------|-----------------|----------|------------|
|       |      |       | True            | Found | Percent         | Recovery | Date       |
| Param | Flag | Units | Conc.           | Conc. | Recovery        | Limits   | Analyzed   |
| GRO   |      | mg/Kg | 1.00            | 0.979 | 98              | 80 - 120 | 2009-08-17 |

#### Standard (CCV-2)

QC Batch: 62597

Date Analyzed: 2009-08-17

Analyzed By: ME

|       |      |       | CCVs  | CCVs  | CCVs     | Percent  |                       |
|-------|------|-------|-------|-------|----------|----------|-----------------------|
|       |      |       | True  | Found | Percent  | Recovery | $\operatorname{Date}$ |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits   | Analyzed              |
| GRO   |      | mg/Kg | 1.00  | 0.976 | 98       | 80 - 120 | 2009-08-17            |

#### Standard (CCV-3)

QC Batch: 62597

Date Analyzed: 2009-08-17

Analyzed By: ME

Work Order: 9081439

COG/NM 8 in. Main SWD (Skelly)

Page Number: 26 of 27

Eddy Co., NM

| Param                              | $\operatorname{Flag}$ | Units        | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|------------------------------------|-----------------------|--------------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| r an ann                           | rag                   | Onits        | Conc.                 | Conc.                  | recovery                    | Lilling                       | Anaryzeu         |
| $\overline{\mathrm{G}}\mathrm{RO}$ |                       | ${ m mg/Kg}$ | 1.00                  | 1.04                   | 104                         | 80 - 120                      | 2009-08-17       |

#### Standard (ICV-1)

QC Batch: 62624

Date Analyzed: 2009-08-18

Analyzed By: AR

|          |      |       | ICVs  | ICVs  | ICVs                     | Percent  |            |
|----------|------|-------|-------|-------|--------------------------|----------|------------|
|          |      |       | True  | Found | $\operatorname{Percent}$ | Recovery | Date       |
| Param    | Flag | Units | Conc. | Conc. | Recovery                 | Limits   | Analyzed   |
| Chloride |      | mg/Kg | 100   | 101   | 101                      | 85 - 115 | 2009-08-18 |

#### Standard (CCV-1)

QC Batch: 62624

Date Analyzed: 2009-08-18

Analyzed By: AR

|          |      |       | CCVs                  | CCVs  | CCVs     | Percent                   |                       |
|----------|------|-------|-----------------------|-------|----------|---------------------------|-----------------------|
|          |      |       | $\operatorname{True}$ | Found | Percent  | $\operatorname{Recovery}$ | $\operatorname{Date}$ |
| Param    | Flag | Units | Conc.                 | Conc. | Recovery | Limits                    | Analyzed              |
| Chloride |      | mg/Kg | 100                   | 98.6  | 99       | 85 - 115                  | 2009-08-18            |

#### Standard (ICV-1)

QC Batch: 62625

Date Analyzed: 2009-08-18

Analyzed By: AR

|          |                       |       | ICVs<br>True | ICVs<br>Found | $rac{	ext{ICVs}}{	ext{Percent}}$ | Percent<br>Recovery | Date       |
|----------|-----------------------|-------|--------------|---------------|-----------------------------------|---------------------|------------|
| Param    | $\operatorname{Flag}$ | Units | Conc.        | Conc.         | Recovery                          | Limits              | Analyzed   |
| Chloride |                       | mg/Kg | 100          | 97.7          | 98                                | 85 - 115            | 2009-08-18 |

#### Standard (CCV-1)

QC Batch: 62625

Date Analyzed: 2009-08-18

Analyzed By: AR

|          |                       |       | $\operatorname{CCVs}$ | $\mathrm{CCVs}$ | CCVs     | Percent  |                 |
|----------|-----------------------|-------|-----------------------|-----------------|----------|----------|-----------------|
|          |                       |       | True                  | Found           | Percent  | Recovery | $\mathbf{Date}$ |
| Param    | $\operatorname{Flag}$ | Units | Conc.                 | Conc.           | Recovery | Limits   | Analyzed        |
| Chloride |                       | mg/Kg | 100                   | 102             | 102      | 85 - 115 | 2009-08-18      |

#### Standard (ICV-1)

QC Batch: 62626

Date Analyzed: 2009-08-18

Analyzed By: AR

114 - 6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 27 of 27

Eddy Co., NM

| Param    | Flag | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      | mg/Kg | 100                   | 101                    | 101                         | 85 - 115                      | 2009-08-18       |

### Standard (CCV-1)

QC Batch: 62626

Date Analyzed: 2009-08-18

Analyzed By: AR

|          |      |       | CCVs<br>True | ${ m CCVs} \ { m Found}$ | ${ m CCVs} \ { m Percent}$ | Percent<br>Recovery | Date       |
|----------|------|-------|--------------|--------------------------|----------------------------|---------------------|------------|
| Param    | Flag | Units | Conc.        | Conc.                    | Recovery                   | Limits              | Analyzed   |
| Chloride |      | mg/Kg | 100          | 98.7                     | 99                         | 85 - 115            | 2009-08-18 |

### Standard (ICV-1)

QC Batch: 62628

Date Analyzed: 2009-08-18

Analyzed By: AR

|          |      |       | ICVs<br>True | ${ m ICVs} \ { m Found}$ | ICVs<br>Percent | Percent<br>Recovery | Date       |
|----------|------|-------|--------------|--------------------------|-----------------|---------------------|------------|
| Param    | Flag | Units | Conc.        | Conc.                    | Recovery        | Limits              | Analyzed   |
| Chloride |      | mg/Kg | 100          | 98.8                     | 99              | 85 - 115            | 2009-08-18 |

#### Standard (CCV-1)

QC Batch: 62628

Date Analyzed: 2009-08-18

Analyzed By: AR

|          |                       |       | $\mathrm{CCVs}$ | $\mathrm{CCVs}$ | $\mathrm{CCVs}$ | $\operatorname{Percent}$ |                       |
|----------|-----------------------|-------|-----------------|-----------------|-----------------|--------------------------|-----------------------|
|          |                       |       | True            | Found           | Percent         | Recovery                 | $\operatorname{Date}$ |
| Param    | $\operatorname{Flag}$ | Units | Conc.           | Conc.           | Recovery        | Limits                   | Analyzed              |
| Chloride |                       | mg/Kg | 100             | 101             | 101             | 85 - 115                 | 2009-08-18            |

| An                      | alvs                 | is A      | le     | III            | es           | t of            | F C          | ha                   | in of C                                  | Lusto        | OV F                 | 20             | C  |               | r          |             |            |                 |          |                |                     |                     |            | PA         | GE:         |                          | 1                                       | (                | OF:                   |              | <u>†</u> |    |
|-------------------------|----------------------|-----------|--------|----------------|--------------|-----------------|--------------|----------------------|--|--------------|----------------------|----------------|----|---------------|------------|-------------|------------|-----------------|----------|----------------|---------------------|---------------------|------------|------------|-------------|--------------------------|---|------------------|-----------------------|--------------|----------|----|
| - 48 9                  |                      |           |        | 70             |              |                 | <del></del>  |                      |  |              | <u> </u>             |                |    |               |            | ··········· | 4          |                 |          |                | (                   | l<br>Circl          |            |            |             | QUE<br>Meth              |   | (o.)             |                       |              |          |    |
|                         |                      |           |        |                |              | 1910<br>Midl    | N. B<br>and, | ig S<br>Texa         | Pring St.<br>is 79705<br>Fax (432) 682-3 | 394 <b>6</b> |                      |                |    |               |            |             |            | 5 (Ext. to C35) |          | Cr Pb Hg Se    |                     |                     |            |            |             |                          |   |                  | TDS                   |              |          |    |
| CLIENT NAM              | IE: CO               | C7        |        |                |              | SIT             | E MAN        | AGER:                | Tovarez                                  |              | NERS                 |                | PF |               | RVA        | ATIVE<br>D  |            | TX1005          |          | Ba Cd          |                     |                     | 60/624     | 270/625    |             |                          |   |                  | 표                     |              |          |    |
| PROJECT NO              | 0.:<br>·640 <i>0</i> | 278       | PRC    | JECT<br>COG/   | NAM!         | E: 8"           |              | n S                  | SWD (ske                                 | 114)         | CONTAI               | 3              | T  |               |            |             |            | MODIA           |          | s Ag As        | es                  | olatiles            | 8240/82    | l. Vol. 82 | 809         | ٥                        | ن                                       | Air)             | s/Cation              |              |          |    |
| LAB I.D.<br>NUMBER      | DATE<br>2209         | TIME      | MATRIX | GRAB           |              |                 | SA           |                      | 4 CO NIM<br>IDENTIFICATIO                |              | NUMBER OF CONTAINERS | FILTERED (Y/N) | 로  | HNO3          | <b>B</b> O | NONE        | RTEX 8021B | дрн 8015        | PAH 8270 | RCRA Metals Ag | TCLP Volatil        | TCLP Semi Volatiles | GC,MS Vol. | GC.MS Sem  | PCB's 8080/ | Pest. 808/60<br>Chloride | Gamma Spe                               | Alpha Beta (Air) | Major Anions/Cations, |              |          |    |
| 20L135                  | 8/13                 |           | Ś      | X              | AH           | <b> - </b>      | 0            | -1'                  |  |              | 1                    |                |    |               | X          |             |            | X               |          |                |                     |                     |            |            |             | X                        |   |                  |                       |              |          |    |
| 135                     | 8/13                 |           | S      | X              | At           | +1              | 1-           | 15                   |  |              | 1                    |                |    |               | X          |             |            |                 |          |                |                     |                     |            |            |             | X                        |   |                  |                       |              |          |    |
| 137                     | 8/13                 |           | 2      | X              | AH           | <del>[-</del> ] | 2            | -2.5                 | 1  |              | į                    |                |    |               | X          |             |            |                 |          |                |                     |                     |            |            |             | K                        |   |                  |                       |              |          |    |
| 138                     | 8/13                 |           | S      | X              | A            | 1-1             | 3.           | - <u>7,5</u><br>-3,5 | . /                                      |              | 1                    |                |    |               | X          |             |            |                 |          |                |                     |                     |            |            |             | X                        |   |                  |                       |              |          |    |
| 139                     | 8/13                 |           | S      | X              | AH           | 1-2             |              | -1"                  |  |              | l                    |                |    |               | X          |             |            | X               |          |                |                     |                     |            |            |             | X                        |   |                  |                       |              |          |    |
| 140                     | 8/13                 |           | 2      | X              | Al           | 1-2             | -            | 1.5'                 |  |              | i                    |                |    |               | X          |             |            |                 |          |                |                     |                     |            |            |             | X                        |   |                  |                       |              |          |    |
| 141                     | 8/13                 |           | 5      | X              | AI           | 1-2             | 2-           | 2.5                  |  |              | ]                    |                |    | ,             | V          |             |            |                 |          |                |                     |                     |            |            |             | X                        | •                                       |                  |                       |              |          |    |
| 142                     | 8/13                 |           | 5      | X              | AI           | 4-2             | 3.           | -3,5                 |  |              | Ì                    |                |    |               | X          |             |            |                 |          |                |                     |                     |            |            |             | 7                        |   |                  |                       |              |          |    |
| 143                     | 8/13                 |           | 3      | X              | Al           | +2              | ι            | -3,5<br>1-4,         | 5'                                       |              | ١                    |                |    |               | X          |             |            |                 |          |                |                     |                     |            |            |             | X                        |   |                  |                       |              |          |    |
| (44                     | 8/13                 |           | 5      | X              | Ai           | t-2             | 7            | 5-5.                 | 5'                                       |              |                      |                |    |               | X          |             |            |                 |          |                |                     |                     |            |            |             | 7                        |   |                  |                       |              |          |    |
| RELINQUISHE             | ey-(signatu          | re)       |        |                | Date<br>Time | -84             | 4109         |                      | RECEIVED BY: (Sig                        | nature)      |                      |                |    | ate:<br>īme:  |            |             |            |                 | SA       | MPLE           | D BY:<br><b>K</b> i | (Print              | & Initi    | ai)<br>ع.ح | m/          |                          |   | Da<br>Tirr       |                       | स्रा         | अव्य     |    |
| RELINQUISHED            | BY: (Signatu         | re)       |        | na Circles III | Date         | :               |              |                      | RECEIVED BY: (Sig                        | nature)      |                      |                | C  | ate:          |            |             |            |                 |          | MPLE           | SHIP                | PED B               | Y: (Ci     |            |             |                          | *************************************** | AIRBI            | LL #:                 |              |          |    |
| RELINQUISHED            | BY: (Signatu         | re)       |        |                | Time<br>Date |                 |              |                      | RECEIVED BY: (Sig                        | nature)      |                      |                |    | ime:<br>Date: |            |             |            |                 | 1_4      | IAND           | DELIV               | ERED.               | ب (        | PS         |             |                          |   | OTHE             |                       |              |          |    |
| RECEIVING LAI           | PORATORY             |           |        |                | Time         | :               |              |                      | SCENED BY ASSESSED                       | NA.          |                      |                | 7  | īme:          |            |             |            |                 |          |                |                     | CONTA               |            |            |             |                          |   | ŀ                | Result                | s by:        |          |    |
| ADDRESS: CITY: CONTACT: |                      | STATE:    |        | PHON           | VE:          | ZIP:            |              |                      | ATE: 8/19/1                              |              | ٦                    | TIME:          | Je | 11.           | 35         |             |            |                 |          | Īk             | 27                  | ava                 | se.        | 7          |             |                          |   |                  | RUSH<br>Autho         | Chargorized: | ges<br>N | io |
| SAMPLE CONE             |                      | RECEIVED: | +      |                |              | REMAR           | iks:<br>TPH  | >50                  | 000 m/kg (                               |              |                      |                |    |               | R          | ท           | 4 1        | ngh             | <u> </u> | TI             | 'H                  | Tava<br>Fo          | - 1        | 376        | ×           |                          |   |                  |                       | <u></u>      |          |    |

101

| Analysis Request of Chain of Cu   | stody Record PAGE: 2 OF: 4   |
|---|--|
|   | ANALYSIS REQUEST (Circle or Specify Method No.)  |
| 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3944   | 6 (Ext. to C35) d Cr Pb Hg Se d Vr Pd Hg Se from Port Pd Pg Se from Pd |
| CLIENT NAME: SITE MANAGER:  COG Fice Tavare?                                      | As Ba Cd OOHL3W Gons, pH, TC Go |
| PROJECT NO.: PROJECT NAME:  114-6400278 COG/NM 8" Main SWD Glel                   | (/N) (/N) (/N) (/N) (/N) (/N) (/N) (/N)  |
| LAB I.D. DATE TIME XX SAMPLE IDENTIFICATION  2009                                 | NUMBER OF CONTANERS FILTERED (Y/N) HGL HNO3 HCE HNO3 HCE HNO3 HCE HNO3 HCE HNO3 HCE HNO3 NONE COLANA |
| 20145 8/13 5 N AH-2 6-65'   |  |
| 146 8/13 S X AH-2 7-7.5'  |  |
| 147 8/13 S X AHZ 8'   |  |
| 148 8/13 S X AH3 0-1'   |  |
| 149 8/13 S X AH-3 1-15'   |  |
| 150 8/13 S X AH-3 2-25'   |  |
| 151 80 S X AH-3 3-35'   |  |
| 152 8/13 S X AH-3 4-4.5'  |  |
| 152 8/13 S X AH-3 5-5.5'  |  |
| 15\$ 5/13 S X AH-3 6-6.5'   |  |
| RELINQUISHED BY: (Signature) Date: 1/14/CV RECEIVED BY: (Signature) Time: 1/13/CV | Date: SAMPLED BY: (Print & Initial) Date: K113104 Time: Severy Time:   |
| RELINQUISHED BY: (Signature) Date: RECEIVED BY: (Signature)                       | Date: SAMPLE SHIPPED BY: (Circle) AIRBILL #:   |
| RELINQUISHED BY: (Signature)  Date: RECEIVED BY: (Signature)                      | Date: HAND DELIVERED UPS OTHER:  |
| Time:   | Time: TETRA TECH CONTACT PERSON: Results by:   |
| ADDRESS:  | The Tavarez Rush Charges Authorized: Yes No  |
| SAMPLE CONDITION WHEN RECEIVED: REMARKS:  |  |
| 12,3°e Intact IF THY 5,000 PM Run   | desper samples - Run 4 highest TPH for BTEX  |

| لا                            | (            | ~~~ <b>.</b> | v ·    | 31c.  |                |              | *****             |                       | Market and the second           |                |              |  |                | -            |     |        |            |                      |          |                |               |                         |              |            |                                 |          |           |                |                               |               |          |   |
|-------------------------------|--------------|--------------|--------|-------|----------------|--------------|-------------------|-----------------------|---------------------------------|----------------|--------------|--|----------------|--------------|-----|--------|------------|----------------------|----------|----------------|---------------|-------------------------|--------------|------------|---------------------------------|----------|-----------|----------------|-------------------------------|---------------|----------|---|
| An                            | alvs         | is F         | lec    | ıı    | est            | of           | C                 | ha                    | in o                            | f Cu           | stod         | v R                                    | 0              |              | r   | 1      |            |                      |          |                |               |                         |              | PAG        | Œ:                              |          | ?         | 0              | F:                            | प             |          |   |
|                               |              |              | -      | 7~    |                |              |                   |                       |                                 |                |              | ٠ ' <del>ا</del>                       |                | _            |     |        | _          |                      |          |                |               |                         |              |            | REC                             |          |           |                |                               |               |          |   |
|                               |              |              |        |       |                | 1910<br>Midl | N.<br>and,        | Big S<br>, Texa       | pring S<br>as 7970<br>Fax (432) | it.            | i            |  |                |              |     |        |            | 5 (Ext. to C35)      | i i      | Cd Vr Pd Hg Se | ΙÌ            | Circle                  |              |            |                                 |          | d No      |                | DS                            |               |          |   |
| CLIENT NAM                    |              | <del></del>  |        |       |                | SIT          | E MAI             | NAGER                 | :                               |                |              | က္က                                    | T              |              |     | /ATIVE |            | 21 00 X              | Į.       | 3   S          |               |                         | 624          | /625       |                                 |          | ļ         |                | H.                            |               |          |   |
| PROJECT N                     | <u> 26</u>   |              | T===   |       |                |              |                   |                       | <i>UdSL</i> そ                   |                |              | _ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | L              | N            | ETH | OD     | _          | 1                    |          | As B           | $  \  $       | ω l                     | 3260/        | 8270       |                                 |          |           |                | l si                          |               |          |   |
| 114-6                         | u.:<br>4002  | 78           | PRO    | JEG 1 | T NAME         | :<br>1 M     | 8"                | Mai                   | in Sh                           | JD (SK         | celly)       | CONT                                   | ξ              |              |     |        |            | MOD                  |          | S Ag           | g             | Olatiik                 | 3240/8       | . Vol.     | 808                             |          | الم       | (S)            | s/Cati                        |               |          |   |
| LAB I.D.<br>NUMBER            | DATE 2009    |              | MATRIX |       | 1              | ·            |                   |                       | G<br>IDENTIFI                   |                | NM           | NUMBER OF CONTAINERS                   | FILTERED (Y/N) | HN03         | ICE | NONE   | ATEX 8021B | TPH 8015 MOD> TX1005 | PAH 8270 | TCLP Metal     | TCLP Volatile | TCLP Semi Volatiles RCI | GC.MS Vol. 8 | GC.MS Semi | PCB's 8080/608<br>Pest, 808/608 | Chloride | Gamma Spe | PLM (Asbestos) | Major Anions/Cations, pH, TDS |               |          |   |
| 20615 <b>8</b>                | 8/13         |              | \$     | X     | Al             | 1-3          |                   | 7-7.                  | 5'                              |                |              | ì                                      |                |              | X   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| 156                           | 8/c3         |              | S      | X     | AH             | -3           |                   | 8-8.                  | 5'                              |                |              | Ĭ                                      |                |              | X   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| 154                           | 8/13         |              | S      | X     |                | -4           |                   | 0-1                   | ľ                               |                |              | 1                                      |                |              | X   |        |            | X                    |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| 128                           | 8/13         |              | S      | χ     | AH-            | 4            |                   | 1-1                   | 5'                              |                |              | 1                                      |                |              | Х   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| 158                           | 8/13         |              | 5      | X     | AH             | -4           |                   | 2-2.                  | 5'                              | ,              |              | ı                                      |                |              | X   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| 160                           | 8/13         |              | 3      | X     | AH             | -4           |                   | 3                     | रेंड'                           |                |              | Ì                                      |                |              | X   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| 160                           | 8/13         |              | S      | X     | AH             | -4           |                   | 3-3-4-4<br>5-5<br>6-6 | 1.5'                            |                |              | 1                                      |                |              | X   |        | Ī          |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| 162                           | 8/13         |              | S      | X     | AH             | -4           |                   | 5-5                   | 55'                             | -              |              | 1                                      |                |              | X   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          | L |
| 112                           | 8/13         |              | S      | X     | AH             | 1-4          |                   | 6-6                   | ٠5′                             |                |              | 1                                      |                |              | X   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          | L |
| 以                             | 8/3          |              | S      | X     | AH             | -4           |                   | 7-7                   | 75'                             |                |              | 1                                      |                |              | X   |        |            |                      |          |                |               |                         |              |            |                                 | X        |           |                |                               |               |          |   |
| RELINQUISHE                   | BY: (Signatu | re)>         |        | •     | Date:<br>Time: | 8            | <del>/14/</del> 0 | 7_                    | RECEIVED I                      | BY: (Signature | 2)           |  |                | Date<br>Time |     |        |            |                      | SAI      | <b>IPLE</b>    | 30 . ·        | Print &                 |              | est<br>est | my                              | ,        |           | Date.<br>Time  |                               | 11319         | <u> </u> | - |
| RELINQUISHED                  | BY: (Signatu | re)          |        |       | Date:          |              |                   |                       | RECEIVED                        | BY: (Signature | a)           |  |                | Date         | :   |        |            |                      |          | IPLE<br>DEX    | SHIPP         | ED BY                   |              | le)        | -                               |          | Α         | RBIL           | والمربعة والمراجع             |               |          |   |
| RELINQUISHED                  | BY: (Signatu | re)          |        |       | Time:<br>Date: |              | _                 |                       | RECEIVED                        | BY: (Signature | e)           | <del></del>                            |                | Time         |     |        |            | =                    | $\leq$   | AND [          | ELIVE         |                         | ) UP         | s          |                                 |          | 0         | THER           |                               |               |          | _ |
| RECEIVING LA                  | BORATORY:    |              |        |       | Time:          | ·            |                   |                       | BEGEIVED BY                     | /: (Signaturé) | 7.           |  |                | Time         | »:  |        |            |                      | 'E       |                |               | ONTAC                   |              |            |                                 |          |           | Re             | esults b                      | ıy:           |          |   |
| ADDRESS:<br>CITY:<br>CONTACT: |              | STATE        |        | PHON  |                | ZIP:         |                   | (                     | DATE: S                         | 14109          | <i>3</i> M.~ | TIM                                    | 1E: _          | 14           | 1:4 | 15     |            |                      |          |                | TK            | e ^                     | Tav          | as (       | ?~                              |          |           | A              | USH CI<br>uthorize<br>Yes     | harges<br>ed: | No       |   |
| SAMPLE COND                   |              |              |        |       |                | REMAR        |                   |                       | _ w.q.                          |                |              |  |                |              |     | ^      |            | 4:                   | 1        | ,              |               |                         |              |            | 2-                              |          |           |                |                               |               |          | _ |
| 12.3°c                        | intac        | 4-           |        |       |                | 14           | 70                | 7 > 5                 | ,000 00/                        | ky Run         | desper       | Samp                                   | )( <i>e</i> )  | 5            | -   | R      | M          | 4                    | Mig      | NS             | , ,           | 411                     | نا ا         |            | K T                             | ヒア       |           |                |                               |               |          |   |

| Date: \$113/01 Time: AIRBILL #: OTHER: Results by: RUSH Charges Authorized: |  | I IME  | REMARKS:  | SAMPLE CONDITION WHEN RECEIVED: |
|---|--|--|---|---------------------------------|
| ts by:  | The Tavarez  | イグ・アー  | STATE: ZIP:   | CONTACT:                        |
|   |  | THE THE PARTY OF T | REDEINED BY: (Signature)  | RECEIVING LABORATORY:           |
|   | TETRA TECH CONTACT PERSON:                                 | Date:  | Union Date: RECEIVED BY: (Signature)  |                                 |
| 717   | FEDEX BUS  | Date:  | Time:   | REI NOI I SHED BY (Signature)   |
|   | KIN & Jakeny   | Time:  | Time: 1723  | RELINQUISHED BY: (Signature)    |
|   | SAMPLED BY; (Print & Initial)                              | Date:  |   | RELINQUISHED BY: (Signature)    |
|   |  |  |   |                                 |
|   |  |  |   |                                 |
|   |  |  |   |                                 |
|   | 7  | -  | 3 S X A1-7 O-1'   | (74 8/13                        |
|   |  | - ×  |   | 13 SI3                          |
|   |  |  | 3 X AH-6 0-1"   | 1-                              |
|   |  | -<br>×   | 13 S X AH-5 1-15  |                                 |
|   | ~  | т<br>У   | 3 S X AH-S O-1'   | 167 8/13                        |
|   |  | <i>-</i>   | 3 X AH-4 9-9.5'   | 11.8 8/13                       |
|   |  | X  | 13 S X AH-4 8-8.5"  | 204/64 8/13                     |
| Gamma Spe<br>Alpha Beta (J<br>PLM (Asbest<br>Major Anion:                   | PAH 8270<br>RCRA Metal                                     | NUMBER OF<br>FILTERED (V<br>HCL<br>HNO3<br>ICE<br>NONE   | MATRIX COMP. GRAB   | LAB I.D. DATE NUMBER 200°(      |
| Air)  | s Ag As<br>es<br>/olatiles<br>8240/82<br>i. Vol. 82<br>608 | //N)   | PROJECT NAME: Na Mai  | 114-6400236                     |
| ns, pH, 1   | 60/624   | PRESERVATIVE<br>METHOD   |   | CLIENT NAME:                    |
| TDS   | d Cr Pb Hg Se<br>d Vr Pd Hg Se                             |  | 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946 |                                 |
| EST<br>hod No.)   | ANALYSIS REQUEST (Circle or Specify Method No.)            |  |   |                                 |
| 4 OF: 4   | PAGE:  | Custody Record   | Request of Chain of   | Analysis                        |

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy -

Accounting receives Gold copy.

Report Date: January 22, 2010 Work Order: 9081439 Page Number: 1 of 1

# **Summary Report**

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX 79705

Report Date: January 22, 2010

Work Order: 9081439 

Project Location: Eddy Co., NM

Project Name:

COG/NM 8 in. Main SWD (Skelly)

Project Number: 114-6400278

|        |             |        | Date       | Time  | $\operatorname{Date}$ |
|--------|-------------|--------|------------|-------|-----------------------|
| Sample | Description | Matrix | Taken      | Taken | Received              |
| 206135 | AH-1 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14            |
| 206148 | AH-3 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14            |
| 206157 | AH-4 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14            |
| 206167 | AH-5 0-1'   | soil   | 2009-08-13 | 00:00 | 2009-08-14            |

|                     |          |          | BTEX         |          |
|---------------------|----------|----------|--------------|----------|
|                     | Benzene  | Toluene  | Ethylbenzene | Xylene   |
| Sample - Field Code | (mg/Kg)  | (mg/Kg)  | (mg/Kg)      | (mg/Kg)  |
| 206135 - AH-1 0-1'  | < 0.0100 | < 0.0100 | < 0.0100     | < 0.0100 |
| 206148 - AH-3 0-1'  | < 0.0100 | < 0.0100 | < 0.0100     | < 0.0100 |
| 206157 - AH-4 0-1'  | < 0.0100 | < 0.0100 | < 0.0100     | < 0.0100 |
| 206167 - AH-5 0-1'  | < 0.0100 | < 0.0100 | < 0.0100     | < 0.0100 |



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110 Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

Ft. Worth, Texas 76132

800 • 378 • 1296 888 • 588 • 3443 806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

817 • 201 • 5260

E-Mail: lab@traceanalysis.com

# Certifications

**WBENC:** 237019

HUB: 1752439743100-86536

**DBE**: VN 20657

NCTRCA

WFWB38444Y0909

# **NELAP Certifications**

Lubbock:

T104704219-08-TX

LELAP-02003

El Paso: T104704221-08-TX LELAP-02002

Midland: T104704392-08-TX

Kansas E-10317

# Analytical and Quality Control Report

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX, 79705

Report Date: January 22, 2010

Work Order:

9081439

Project Location: Eddy Co., NM

Project Name:

COG/NM 8 in. Main SWD (Skelly)

Project Number:

114-6400278

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

|        |             |        | Date       | Time                   | Date       |
|--------|-------------|--------|------------|------------------------|------------|
| Sample | Description | Matrix | Taken      | $\operatorname{Taken}$ | Received   |
| 206135 | AH-1 0-1'   | soil   | 2009-08-13 | 00:00                  | 2009-08-14 |
| 206148 | AH-3 0-1'   | soil   | 2009-08-13 | 00:00                  | 2009-08-14 |
| 206157 | AH-4 0-1'   | soil   | 2009-08-13 | 00:00                  | 2009-08-14 |
| 206167 | AH-5 0-1'   | soil   | 2009-08-13 | 00:00                  | 2009-08-14 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 8 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Michael april

Dr. Blair Leftwich, Director Dr. Michael Abel, Project Manager

### Standard Flags

 ${\bf B}$  - The sample contains less than ten times the concentration found in the method blank.

### Case Narrative

Samples for project COG/NM 8 in. Main SWD (Skelly) were received by TraceAnalysis, Inc. on 2009-08-14 and assigned to work order 9081439. Samples for work order 9081439 were received intact at a temperature of 12.3 deg. C.

Samples were analyzed for the following tests using their respective methods.

|                          |         | $\operatorname{Prep}$ | $\operatorname{Prep}$ | QC    | Analysis            |
|--------------------------|---------|-----------------------|-----------------------|-------|---------------------|
| $\operatorname{Test}$    | Method  | Batch                 | Date                  | Batch | Date                |
| $\overline{\text{BTEX}}$ | S 8021B | 53415                 | 2009-08-17 at 14:20   | 62596 | 2009-08-17 at 14:20 |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 9081439 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: January 22, 2010 114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 4 of 8 Eddy Co., NM

# **Analytical Report**

Sample: 206135 - AH-1 0-1'

Laboratory: Midland

Analysis: BTEX QC Batch: 62596 Prep Batch: 53415

Analytical Method: S 8021B Date Analyzed:

2009-08-17 Sample Preparation: 2009-08-17 Prep Method: S 5035 Analyzed By: ME

ME

Prepared By:

RL

|              |                       | 102      |       |          |        |
|--------------|-----------------------|----------|-------|----------|--------|
| Parameter    | $\operatorname{Flag}$ | Result   | Units | Dilution | RL     |
| Benzene      |                       | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Toluene      |                       | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Ethylbenzene |                       | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Xylene       |                       | < 0.0100 | mg/Kg | 1        | 0.0100 |

|                              |      |        |       |          | Spike  | Percent  | Recovery     |
|------------------------------|------|--------|-------|----------|--------|----------|--------------|
| Surrogate                    | Flag | Result | Units | Dilution | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |      | 1.99   | mg/Kg | 1        | 2.00   | 100      | 49 - 129.7   |
| 4-Bromofluorobenzene (4-BFB) |      | 1.72   | mg/Kg | 1        | 2.00   | 86       | 45.2 - 144.3 |

Sample: 206148 - AH-3 0-1'

Laboratory: Midland

Analysis: BTEX QC Batch: 62596 Prep Batch: 53415

Analytical Method: S 8021B Date Analyzed: 2009-08-17 Sample Preparation: 2009-08-17

Prep Method: S 5035 Analyzed By: MEPrepared By:

RL

| Parameter    | Flag | Result   | Units | Dilution | RL     |
|--------------|------|----------|-------|----------|--------|
| Benzene      |      | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Toluene      |      | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Ethylbenzene |      | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Xylene       |      | < 0.0100 | mg/Kg | 1        | 0.0100 |

|                              |                  |        |       |          | Spike  | Percent  | Recovery     |
|------------------------------|------------------|--------|-------|----------|--------|----------|--------------|
| Surrogate                    | $\mathbf{F}$ lag | Result | Units | Dilution | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |                  | 1.98   | mg/Kg | 1        | 2.00   | 99       | 49 - 129.7   |
| 4-Bromofluorobenzene (4-BFB) |                  | 1.61   | mg/Kg | 1        | 2.00   | 80       | 45.2 - 144.3 |

Sample: 206157 - AH-4 0-1'

Midland Laboratory:

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 62596 Date Analyzed: 2009-08-17 Analyzed By: ME Prep Batch: 53415 Sample Preparation: 2009-08-17 Prepared By: ME

Report Date: January 22, 2010 114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 5 of 8 Eddy Co., NM

|              |      | RL       |       |          |        |
|--------------|------|----------|-------|----------|--------|
| Parameter    | Flag | Result   | Units | Dilution | RL     |
| Benzene      |      | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Toluene      |      | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Ethylbenzene |      | < 0.0100 | mg/Kg | 1        | 0.0100 |
| Xylene       |      | < 0.0100 | mg/Kg | 1        | 0.0100 |

|                              |      |        |                   |          | Spike  | Percent  | Recovery     |
|------------------------------|------|--------|-------------------|----------|--------|----------|--------------|
| Surrogate                    | Flag | Result | $\mathbf{U}$ nits | Dilution | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |      | 2.00   | mg/Kg             | 1        | 2.00   | 100      | 49 - 129.7   |
| 4-Bromofluorobenzene (4-BFB) |      | 1.55   | mg/Kg             | 1        | 2.00   | 78       | 45.2 - 144.3 |

Sample: 206167 - AH-5 0-1'

Laboratory: Midland

Analysis: BTEX Analytical Method: S 8021B Prep Method: S 5035 QC Batch: 62596 Date Analyzed: 2009-08-17 Analyzed By: ME Prep Batch: 53415 Sample Preparation: 2009-08-17 Prepared By: ME

|              |      | RL       |              |          |        |
|--------------|------|----------|--------------|----------|--------|
| Parameter    | Flag | Result   | Units        | Dilution | RL     |
| Benzene      |      | < 0.0100 | mg/Kg        | 1        | 0.0100 |
| Toluene      |      | < 0.0100 | ${ m mg/Kg}$ | 1        | 0.0100 |
| Ethylbenzene |      | < 0.0100 | mg/Kg        | 1        | 0.0100 |
| Xylene       |      | < 0.0100 | mg/Kg        | 1        | 0.0100 |

|                              |                       |        |       |          | Spike  | Percent  | Recovery     |
|------------------------------|-----------------------|--------|-------|----------|--------|----------|--------------|
| Surrogate                    | $\operatorname{Flag}$ | Result | Units | Dilution | Amount | Recovery | Limits       |
| Trifluorotoluene (TFT)       |                       | 2.00   | mg/Kg | 1        | 2.00   | 100      | 49 - 129.7   |
| 4-Bromofluorobenzene (4-BFB) |                       | 1.52   | mg/Kg | 1        | 2.00   | 76       | 45.2 - 144.3 |

Method Blank (1) QC Batch: 62596

QC Batch: 62596 Date Analyzed: 2009-08-17 Analyzed By: ME Prep Batch: 53415 QC Preparation: 2009-08-17 Prepared By: ME

|              |      | MDL       |         |      |
|--------------|------|-----------|---------|------|
| Parameter    | Flag | Result    | Units   | RL   |
| Benzene      |      | < 0.00100 | mg/Kg   | 0.01 |
| Toluene      |      | < 0.00100 | mg/Kg   | 0.01 |
| Ethylbenzene |      | < 0.00110 | m mg/Kg | 0.01 |
| Xylene       |      | < 0.00360 | mg/Kg   | 0.01 |

Report Date: January 22, 2010

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 6 of 8 Eddy Co., NM

| Surrogate                    | Flag | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      | 2.00   | mg/Kg | 1        | 2.00            | 100                 | 65.6 - 130.6       |
| 4-Bromofluorobenzene (4-BFB) |      | 2.18   | mg/Kg | 1        | 2.00            | 109                 | 51.9 - 128.1       |

#### Laboratory Control Spike (LCS-1)

QC Batch: 62596 Prep Batch: 53415 Date Analyzed: 2009-08-17 QC Preparation: 2009-08-17 Analyzed By: ME Prepared By: ME

|              | LCS    |       |                  | Spike  | Matrix            |             | Rec.             |
|--------------|--------|-------|------------------|--------|-------------------|-------------|------------------|
| Param        | Result | Units | $\mathbf{Dil}$ . | Amount | $\mathbf{Result}$ | ${ m Rec.}$ | $\mathbf{Limit}$ |
| Benzene      | 2.18   | mg/Kg | 1                | 2.00   | < 0.00100         | 109         | 72.7 - 129.8     |
| Toluene      | 2.20   | mg/Kg | 1                | 2.00   | < 0.00100         | 110         | 71.6 - 129.6     |
| Ethylbenzene | 2.17   | mg/Kg | 1                | 2.00   | < 0.00110         | 108         | 70.8 - 129.7     |
| Xylene       | 6.61   | mg/Kg | 1                | 6.00   | < 0.00360         | 110         | 70.9 - 129.4     |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|              | LCSD   |       |      | Spike  | Matrix    |      | ${ m Rec.}$  |     | RPD   |
|--------------|--------|-------|------|--------|-----------|------|--------------|-----|-------|
| Param        | Result | Units | Dil. | Amount | Result    | Rec. | Limit        | RPD | Limit |
| Benzene      | 2.25   | mg/Kg | 1    | 2.00   | < 0.00100 | 112  | 72.7 - 129.8 | 3   | 20    |
| Toluene      | 2.27   | mg/Kg | 1    | 2.00   | < 0.00100 | 114  | 71.6 - 129.6 | 3   | 20    |
| Ethylbenzene | 2.30   | mg/Kg | 1    | 2.00   | < 0.00110 | 115  | 70.8 - 129.7 | 6   | 20    |
| Xylene       | 7.06   | mg/Kg | 1    | 6.00   | < 0.00360 | 118  | 70.9 - 129.4 | 7   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|                              | LCS    | LCSD   |       |      | Spike  | LCS         | LCSD | ${ m Rec.}$  |
|------------------------------|--------|--------|-------|------|--------|-------------|------|--------------|
| Surrogate                    | Result | Result | Units | Dil. | Amount | ${ m Rec.}$ | Rec. | Limit        |
| Trifluorotoluene (TFT)       | 2.04   | 1.98   | mg/Kg | 1    | 2.00   | 102         | 99   | 65.9 - 132   |
| 4-Bromofluorobenzene (4-BFB) | 2.30   | 2.27   | mg/Kg | 1    | 2.00   | 115         | 114  | 55.2 - 158.9 |

Matrix Spike (MS-1) Spiked Sample: 205889

QC Batch: 62596 Prep Batch: 53415 Date Analyzed: 2009-08-17 QC Preparation: 2009-08-17

Analyzed By: ME Prepared By: ME

|              | MS     |                              |      | Spike  | Matrix    |             | Rec.         |
|--------------|--------|------------------------------|------|--------|-----------|-------------|--------------|
| Param        | Result | $\mathbf{U}_{\mathbf{nits}}$ | Dil. | Amount | Result    | ${ m Rec.}$ | Limit        |
| Benzene      | 1.99   | mg/Kg                        | 1    | 2.00   | < 0.00100 | 100         | 58.6 - 165.2 |
| Toluene      | 1.94   | mg/Kg                        | 1    | 2.00   | < 0.00100 | 97          | 64.2 - 153.8 |
| Ethylbenzene | 1.89   | mg/Kg                        | 1    | 2.00   | < 0.00110 | 94          | 61.6 - 159.4 |
| Xylene       | 5.52   | mg/Kg                        | 1    | 6.00   | < 0.00360 | 92          | 64.4 - 155.3 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: January 22, 2010

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 7 of 8 Eddy Co., NM

| Param        | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|--------------|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Benzene      | 2.01          | mg/Kg | 1    | 2.00            | < 0.00100        | 100  | 58.6 - 165.2  | 1   | 20           |
| Toluene      | 1.98          | mg/Kg | 1    | 2.00            | < 0.00100        | 99   | 64.2 - 153.8  | 2   | 20           |
| Ethylbenzene | 1.98          | mg/Kg | 1    | 2.00            | < 0.00110        | 99   | 61.6 - 159.4  | 5   | 20           |
| Xylene       | 5.84          | mg/Kg | 1    | 6.00            | < 0.00360        | 97   | 64.4 - 155.3  | 6   | 20           |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|                              | MS     | MSD    |       |      | $\operatorname{Spike}$ | MS   | MSD         | Rec.       |
|------------------------------|--------|--------|-------|------|------------------------|------|-------------|------------|
| Surrogate                    | Result | Result | Units | Dil. | Amount                 | Rec. | ${ m Rec.}$ | Limit      |
| Trifluorotoluene (TFT)       | 1.97   | 2.01   | mg/Kg | 1    | 2                      | 98   | 100         | 76 - 127.9 |
| 4-Bromofluorobenzene (4-BFB) | 1.64   | 1.69   | mg/Kg | 1    | 2                      | 82   | 84          | 52 - 127.8 |

### Standard (CCV-1)

QC Batch: 62596

Date Analyzed: 2009-08-17

Analyzed By: ME

|              |      |       | CCVs<br>True | CCVs<br>Found | CCVs<br>Percent | Percent<br>Recovery | Date       |
|--------------|------|-------|--------------|---------------|-----------------|---------------------|------------|
| Param        | Flag | Units | Conc.        | Conc.         | Recovery        | Limits              | Analyzed   |
| Benzene      |      | mg/Kg | 0.100        | 0.109         | 109             | 80 - 120            | 2009-08-17 |
| Toluene      |      | mg/Kg | 0.100        | 0.107         | 107             | 80 - 120            | 2009-08-17 |
| Ethylbenzene |      | mg/Kg | 0.100        | 0.105         | 105             | 80 - 120            | 2009-08-17 |
| Xylene       |      | mg/Kg | 0.300        | 0.318         | 106             | 80 - 120            | 2009-08-17 |

### Standard (CCV-2)

QC Batch: 62596

Date Analyzed: 2009-08-17

Analyzed By: ME

|              |      |       | CCVs<br>True | CCVs<br>Found | ${ m CCVs} \ { m Percent}$ | Percent<br>Recovery | Date       |
|--------------|------|-------|--------------|---------------|----------------------------|---------------------|------------|
| Param        | Flag | Units | Conc.        | Conc.         | Recovery                   | Limits              | Analyzed   |
| Benzene      |      | mg/Kg | 0.100        | 0.106         | 106                        | 80 - 120            | 2009-08-17 |
| Toluene      |      | mg/Kg | 0.100        | 0.105         | 105                        | 80 - 120            | 2009-08-17 |
| Ethylbenzene |      | mg/Kg | 0.100        | 0.102         | 102                        | 80 - 120            | 2009-08-17 |
| Xylene       |      | mg/Kg | 0.300        | 0.306         | 102                        | 80 - 120            | 2009-08-17 |

### Standard (CCV-3)

QC Batch: 62596

Date Analyzed: 2009-08-17

Analyzed By: ME

|         |      |       | $\mathrm{CCVs}$ | CCVs  | CCVs     | Percent  |                 |
|---------|------|-------|-----------------|-------|----------|----------|-----------------|
|         |      |       | True            | Found | Percent  | Recovery | $\mathbf{Date}$ |
| Param   | Flag | Units | Conc.           | Conc. | Recovery | Limits   | Analyzed        |
| Benzene |      | mg/Kg | 0.100           | 0.103 | 103      | 80 - 120 | 2009-08-17      |

continued ...

Report Date: January 22, 2010

114-6400278

Work Order: 9081439 COG/NM 8 in. Main SWD (Skelly) Page Number: 8 of 8 Eddy Co., NM

 $standard\ continued\ \dots$ 

|              |      |       | CCVs                  | CCVs   | CCVs     | Percent  |            |
|--------------|------|-------|-----------------------|--------|----------|----------|------------|
|              |      |       | $\operatorname{True}$ | Found  | Percent  | Recovery | Date       |
| Param        | Flag | Units | Conc.                 | Conc.  | Recovery | Limits   | Analyzed   |
| Toluene      |      | mg/Kg | 0.100                 | 0.100  | 100      | 80 - 120 | 2009-08-17 |
| Ethylbenzene |      | mg/Kg | 0.100                 | 0.0944 | 94       | 80 - 120 | 2009-08-17 |
| Xylene       |      | mg/Kg | 0.300                 | 0.278  | 93       | 80 - 120 | 2009-08-17 |

|  | ٧١٥٢،ر       | -brv - |  | ١,            | VV)          | 43'        | 1            |                |              |                           |             |         |       | -                    |                |            |       |      |   |            |                  |                |           |           |           |            |              |                |            |              |            |                  |                        |          |          |
|--|--------------|--------|--|---------------|--------------|------------|--------------|----------------|--------------|---------------------------|-------------|---------|-------|----------------------|----------------|------------|-------|------|---|------------|------------------|----------------|-----------|-----------|-----------|------------|--------------|----------------|------------|--------------|------------|------------------|------------------------|----------|----------|
| An   | alys         |        |  |               |              |            |              | CI             | าล           | in c                      | of C        | us'     | tod   | v F                  | <del>}</del> e | C          | )r    | d    |   |            |                  |                |           |           |           |            | PA           | GE:            |            | <u> </u>     |            | OF:              |                        | 7        |          |
|  |              |        | 6  |               | -            |            |              |                |              |                           |             |         |       | <u> </u>             | _              |            |       |      |   |            |                  |                |           | ıc        |           |            |              | S RE           |            | EST<br>hod l | No.)       |                  |                        |          |          |
|  |              |        | Name and Association of the State of the Sta |               |              | 19<br>Mi   | 10 N<br>dlar | N. Bi          | ig S<br>Texa | pring sas 797<br>Fax (432 | St.<br>05   | 3946    |       |                      |                |            |       |      |   | ii         | 15 (Ext. to C35) | Cd Cr Pb Hg Se | Vr Pd Hg  |           |           |            |              |                |            |              |            |                  | 3                      |          |          |
| CLIENT NAM                                     | NE: (0)      | (7     |  |               |              | s          | ITE N        | MANA           | GER:         | Tour                      | 4.10.7      |         |       | ERS.                 |                |            |       | RVAT |   |            | TX1005           | 62             | Ba Cd     |           |           | 0/624      | 0/625        |                |            |              |            | AUT HO           | <u>.</u>               |          |          |
| PROJECT N                                      |              |        | PRO  | OJECT<br>COG/ | NAM          | IE:<br>V E | }" <i>1</i>  | Naiv           | ۸ ۵          | Tave<br>SWD<br>400        | (skel       | il4)    |       | NUMBER OF CONTAINERS | (N/A)          |            | T     |      |   | 8          | 5 MOD.)          | als Ag As      | als Ag As | tiles     | Volatiles | . 8240/826 | ml. Vol. 827 | 809/0          | 300        | ec.          | a (Air)    | stos)            | Jis/ Canci.            |          |          |
| LAB I.D.<br>NUMBER                             | DATE<br>2209 | TIME   | MATRIX   | COMP.<br>GRAB |              |            |              |                | _            | TIDENTI                   |             |         |       | NUMBERO              | FILTERED (Y/N) | HOL        | 2011  | NONE |   | BTEX 8021B | (PH 8015 MOD.) T | RCRA Met       | TCLP Met  | TCLP Vola | TCLP Sem  | GC.MS Vo   | GC.MS Se     | PCB's 8080/608 | Pest, oug. | Gamma Spec.  | Alpha Beta | PLM (Asbestos)   | יייה וטנאוו            |          |          |
| 201.135  | 8/13         |        | Ś  | X             | A            | 1-1        |              | 0-             | ۱,           |                           |             |         |       | 1                    |                |            | 1     |      |   |            | X                |                |           |           |           |            |              |                | 1          | X            |            |                  | T                      |          | T        |
| 134  | 8/13         |        | S  | X             | A            | +-1        |              | 1-             | 1.5          | i                         |             |         |       | Ì                    |                |            | )     |      |   |            |                  |                |           |           |           |            |              |                | 1          | X            |            |                  |                        | П        |          |
| 137  | 8/13         |        | ک  | X             | Al           | +1         |              | 2-             | 2.5          | . 1                       |             |         |       | l                    |                |            | d     | X    |   |            |                  |                |           |           |           |            |              |                | 1          |              | П          |                  |                        |          | T        |
| 138  | 8/13         |        | 5  | X             | A            | 4-1        |              | 3-             | 7,5<br>3,5   | - 1                       |             |         |       | 1                    |                |            | 9     | (    |   |            |                  |                |           |           |           |            |              |                | T          | K            |            |                  | T                      | П        | T        |
| 139  | 8/13         |        | S  | X             | Al           | 1-2        |              | 0-             |              |                           |             |         |       | l                    |                |            | _     |      |   |            | X                |                |           |           |           |            |              |                | 1          | K            |            |                  |                        |          |          |
| 140  | 8/13         |        | 2  | X             | A            | 4-2        | -            | 1-             | 1.5'         | į                         |             |         |       | 1                    |                |            |       |      |   |            |                  |                |           |           |           |            |              |                | 7          | K            |            |                  | T                      |          |          |
| (4)  | 8/13         |        | 5  | X             | A            | 42         |              | 2-             | 2.5'         | •                         |             |         |       | 1                    |                |            | 1     | 1    |   |            |                  |                |           |           |           |            |              |                | 1          | X            |            | $\prod$          |                        | $\prod$  |          |
| 142_   | 8/13         |        | S  | X             | A            | 4-2        | -            | 3-             | 3.5          | , i                       |             |         |       | i                    |                |            | ,     | X    |   |            |                  |                |           |           |           |            |              |                | 1          | X            |            |                  | T                      |          |          |
| 143  | 8/13         |        | 3  | X             | A            | 4-2        | ,            | 4              | -4.          | 5'                        |             |         |       | i                    |                |            | 1     | X    |   |            |                  |                |           |           |           |            |              |                | Ţ          | X            |            |                  |                        |          |          |
| (44  | 5/13         |        | 5  | X             | A            | t-2        | ,            | 2-3<br>3-<br>4 | - 5.         | .5'                       |             |         |       | Î                    |                |            | ,     | X    |   |            |                  |                |           |           |           |            |              |                | Ţ          | X            |            |                  |                        |          |          |
| RELINQUISHE                                    | BY (Signatu  | re)    |  |               | Date<br>Time | : <u>-</u> | 1135         | 04             |              | RECEIVE                   | D BY: (Sigr | nature) |       |                      |                | Dai<br>Tin | _     |      |   |            | _                | SAMP           |           |           |           | k Initia   |              | uj             |            |              | Di<br>Ti   | ate: _<br>ime: _ | -811                   | ाउँ।     | <i> </i> |
| RELINQUISHED                                   | BY: (Signatu | re)    |  |               | Date<br>Time | ):         |              |                |              |                           | D BY: (Sign |         |       |                      |                | Dai<br>Tin | -     |      |   |            |                  | SAMF<br>FEC    |           | HIPPI     | ED BY     |            | cie)<br>US   |                | -          |              | AIRE       | BILL#            | :                      |          |          |
| RELINQUISHED                                   | BY: (Signatu | ire)   |  |               | Date<br>Time | ):         |              |                |              | RECEIVE                   | D BY; (Sign | nature) |       |                      |                | Da:<br>Tin | te: _ |      |   |            |                  | TETR           |           | CH CC     | -         |            | PS<br>RSO    | N:             | <u>.</u>   |              | ОТН        |                  | ilts by                | :        |          |
| RECEIVING LAI<br>ADDRESS:<br>CITY:<br>CONTACT: | BORATORY:    | STATE: | :  | _ PHON        |              | ZIP:       |              |                |              | TECEIVED I                | By (Signa)  |         |       |                      | IME: _         | 14         |       | 15   |   |            | _                | 7              | re        | Ta        | wa        | se a       | ·            |                |            |              |            | Auth             | H Cha<br>orized<br>Yes | <b>:</b> | No       |
| SAMPLE COND                                    | _            | +ac    |  | ·             |              | REM<br>J-f | ARKS:        | PH             | >5.0         | 000 1                     | They R      | in de   | oepor | Samp                 | ies            |            | . /   | Rin  | 4 | hij        | hesi             | + 7            | PI        | ţ.        | -fo-      | - 2        | 376          | ×              |            |              |            |                  |                        |          |          |

| MOTE Order 90                               | )U1-t5',   |                          |  |   |                |                 |         |                  |  |                     |                |                |                           |                                 |                     | O-201212-00      | ***************************************         |           |           |
|---|--|--------------------------|--|---|----------------|-----------------|---------|------------------|--|---------------------|----------------|----------------|---------------------------|---------------------------------|---------------------|------------------|---|-----------|-----------|
| Analysis Re                                 | equest of Cha  | in of Custoo             | lv F   | <u>}e</u> (                             | COF            | d               |         |                  |  |                     |                |                | PAG                       | iE:                             | 2                   | -                | OF:   | 4         |           |
|   | <u> </u>   |                          | - <i>y</i> "                                       |   |                | <u> </u>        | -       |                  |  |                     |                |                |                           | REQU                            |                     | No.)             |   |           |           |
|   | 1910 N. Big S<br>Midland, Texa<br>(432) 682-4559 • F | pring St.                |  |   |                |                 |         | 05 (Ext. to C35) | Cr Pb  | Cd Vr Pd Hg Se      |                |                | 5                         |                                 |                     |                  | TDS   |           |           |
| COG   | SITE MANAGER   | :<br>Jave t              | NERS   |   |                | RVATIVI<br>THOD | E       | TX1005           | l co   | œ                   |                | 50/62          | 270/62                    |                                 |                     |                  | ns, pH  |           |           |
| 114-6400278                                 | PROJECT NAME:  COG/NM 8" Main  X                     | Eddy Co. NM              | NUMBER OF CONTAINERS                               | FILTERED (Y/N)                          |                |                 | 8021B   | (TPH 8015 MOD.)  | 270<br>Metals Ag A                           | TCLP Metals Ag As E | Semi Volatiles | 3 Vol. 8240/82 | GC.MS Semi. Vol. 8270/625 | PCB's 8080/608<br>Pest. 808/608 | de<br>na Spec.      | Alpha Beta (Air) | PLM (Asbestos)<br>Major Anions/Cations, pH, TDS |           |           |
| NUMBER DATE TIME                            | COMP. COMP. COMP.                                    |                          |  |   |                |                 |         |                  |  |                     |                |                | GC.M                      | PCB's<br>Pest. (                | Chloride<br>Gamma S | Alpha            | PLM (   |           |           |
| 20145 8/13                                  | 5 X AH-2 6-65  |                          |  |   |                |                 |         |                  |  |                     |                |                |                           |                                 | 1                   |                  |   |           |           |
|   | S X AH-2 7-7.5                                       |                          | Ì  |   |                |                 |         |                  |  |                     |                |                |                           |                                 | X                   |                  |   |           |           |
| 147 8/13                                    | S X AHZ 8'   |                          | 1  |   |                | X               |         |                  |  |                     |                |                |                           |                                 | 1                   |                  |   |           |           |
| 148 8/13                                    | S X AH-3 0-1'  |                          | 1  |   |                | X               |         | X                |  |                     |                |                |                           |                                 | K                   |                  |   |           |           |
| 149 8/13                                    | S X AH-3 1-15  |                          | 1  |   | , i            | X               |         |                  |  |                     |                |                |                           |                                 | X                   |                  |   |           |           |
| 10 1  | S X AH-3 2-2:  | <u>5'</u>                | I  |   |                | X               |         |                  |  |                     |                |                |                           |                                 | X                   |                  |   |           |           |
| 157 8/0                                     | S X AH-3 3-3.  | 5'                       | 1  |   |                | χ               |         |                  |  |                     |                |                |                           |                                 | X                   |                  |   |           |           |
| 152 8/13                                    | S X AH-3 4-4.<br>S X AH-3 5-5                        | 5'                       | ſ  |   |                | X               |         |                  |  |                     |                |                |                           |                                 | X                   |                  |   |           |           |
| 152 8/13                                    | S X AH-3 5-5   | 5.5                      | l  |   |                | X               |         |                  |  |                     |                |                |                           |                                 | X                   |                  |   |           |           |
| 15\$ 8/13                                   | S X AH-3 6-6   | 5'                       | 1  |   |                | X               |         |                  |  |                     |                |                |                           |                                 | X                   |                  |   |           |           |
| RELINQUISHED BY: (Signature)                | Date: 8114/01<br>Time: 1431                          | RECEIVED BY: (Signature) |  |   | Date:<br>Time: |                 |         |                  | SAMF   | LED B               | Y: (Prin       | nt & iniți     | al)<br>Seve               | my                              |                     |                  | ate:i<br>ime:                                   | 8 [13]    | 04        |
| RELINQUISHED BY: (Signature)                | Date:  | RECEIVED BY: (Signature) |  | *************************************** | Date:          |                 |         |                  | SAMF   | LE SH               |                | BY: (Ci        |                           |                                 |                     | AIRI             | BILL#:_   |           |           |
| RELINQUISHED BY: (Signature)                | Date:  | RECEIVED BY: (Signature) | <del>-   -   -   -   -   -   -   -   -   -  </del> |   | Date:          |                 |         |                  | ₫Ai  | ID DEL              |                |                | IPS                       |                                 |                     | OTH              | IER:  | to but    |           |
| RECEIVING LABORATORY: ADDRESS: CITY: STATE: |  | Time:                    |  |   |                |                 |         |                  |  |                     |                |                |                           | ₹                               |                     |                  | RUŞH  | f Charges | <u></u> 5 |
| CONTACT: SAMPLE CONDITION WHEN RECEIVED:    | PHONE: REMARKS:                                      | DATE: 8/14/09            |  | חואE:<br>כ <i>בו</i> ר                  |                | Run             | <u></u> |                  | <u>!                                    </u> |                     |                |                |                           |                                 | <del></del>         |                  | Ye  |           | No        |
| 12,30 INFACT                                | IF TPH > 5.  | cooley Run deeper        | sam  | ,,,,,                                   |                | * (0.1          | 7       | 19               | · · · ·                                      | , . , ,             | -70            | ·, C           | , ت                       | ,                               | -                   |                  |   |           |           |

| 1000               | <u> </u>     | ~~    | v      | 16   | (    |  |                      |                |            | -              |      |          |            |                 |                  |               | -                   |           |              |   |               |          |                           |                | <del></del>                   | *      |             |
|--------------------|--------------|-------|--------|------|------|--|----------------------|----------------|------------|----------------|------|----------|------------|-----------------|------------------|---------------|---------------------|-----------|--------------|---|---------------|----------|---------------------------|----------------|-------------------------------|--------|-------------|
| An                 | alvs         | is F  | le     |      | 16   | est of Chain of Custod   | VF                   | ₹€             | C          | 0              | rd   |          |            |                 |                  |               |                     |           |              | PAGI  | E:            | 3        |                           | OF             | ÷:                            | 4      |             |
|                    |              |       |        |      |      |  | <u> </u>             | _              | _          |                |      |          |            |                 |                  |               | (Cir.               |           |              | SIS I   |               |          |                           | ,              |                               |        |             |
|                    |              |       |        |      |      | 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946  |                      |                |            |                |      |          |            | 5 (Ext. to C35) | G S              | Vr Fa Fig     |                     |           |              |   |               | 94100    | d No.                     |                | DS                            |        |             |
| CLIENT NAM         | 1E:          |       |        |      |      | SITE MANAGER:  | S.                   | П              | PI         |                | ERVA |          |            | TX1005          | ga Cd            | 2             |                     |           | /624         | 8270/625  |               |          |                           |                | H.                            |        |             |
| PROJECT N          | 26           |       | DDC    | ) IE | CT   | I'lle Tavaret  | - Se                 |                |            | ME             | THO  | D        | ١ ١,       | Λl              | As Ba            | AS            | 88                  |           | 8260         | 827   |               |          |                           | 1 [            | ions,                         |        |             |
| 114-6              | 4002         | 78    | "      | (    | Ö    | NAME:<br>G / NM 8" Main SWD (Skelly)<br>Eddy Co, NW  | Sos                  | 2              |            |                |      |          |            | MOD             | s Ag             | S Ag          | Volati              |           | 8240/        | j<br>2005<br>1005<br>1005<br>1005<br>1005<br>1005<br>1005<br>1005 |               |          | <u>چ</u><br>ای            | (§)            | s/Cal                         |        |             |
| LAB I.D.<br>NUMBER | DATE 2009    | TIME  | MATRIX |      | GRAB | Eddy (b), NW1<br>SAMPLE IDENTIFICATION   | NUMBER OF CONTAINERS | FILTERED (Y/N) | 된          | HNO3           | ICE  | NOME     | BTEX 8021B | PAH 8270        | RCRA Metals Ag / | TCI P Volafil | TCLP Semi Volatifes | RCI       | GC.MS Vol.   | GC.MS Semi. Vol. 8270/625<br>PCB's 8080/608                       | Pest. 808/608 | Chloride | Gamma Spe<br>Alpha Beta ( | PLM (Asbestos) | Major Anlons/Cations, pH, TDS |        |             |
| 20615              | 8/13         |       | 3      |      | X    | AH-3 7-7.5'  | ì                    |                |            |                | X    |          |            |                 |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| l5 <b>6</b>        | 8/13         |       | S      |      | X    | AH-3 8-8.5'  | I                    |                |            |                | X    |          |            |                 |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| 154                | 8/13         |       | 5      |      | X    | AH-4 0-1'  | Ĭ                    |                |            |                | X    |          |            | X               |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| 128                | 8/13         |       | S      |      | X    | AH-4 1-1.5'  | Í                    |                |            |                | χ    |          |            |                 |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| 9<br>15\$          | 8/13         |       | 5      |      | X    | AH-4 2-25'   | l                    |                |            |                | X    |          |            |                 |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| 160                | 8/13         |       | 3      |      | X    | AH-4 3-35'   | 1                    |                |            |                | X    |          |            |                 |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| 16                 | 8/13         |       | S      |      | X    | AH-4 4-45'   | I                    |                |            |                | χ    |          |            |                 |                  |               |                     |           |              |   |               | 1        |                           |                |                               |        |             |
| 42                 | 8/13         |       | S      |      | X    | AH-4 3-35'<br>AH-4 4-45'<br>AH-4 5-55'<br>AH-4 6-65'   | Ì                    |                |            |                | X    |          |            |                 |                  |               |                     |           |              |   |               | 1        |                           |                |                               |        |             |
| البع               | 8/13         |       | S      |      | X    | AH-4 6-6.5'  | 1                    |                |            |                | X    |          |            |                 |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| 以                  | 8/3          |       | S      |      | X    | AH-4-17-75"  | 1                    |                |            |                | X    |          |            |                 |                  |               |                     |           |              |   |               | X        |                           |                |                               |        |             |
| RELINQUISHED       | ξγ. (Signate |       |        | _    |      | Date: 8/4/01 RECEIVED BY: (Signature) Time: 1437   |                      |                |            | Date:<br>Time: |      |          |            | - S             | AMPL             |               |                     |           |              | ever  | ~1            |          |                           | Date:<br>Time: |                               | ग्डा   | <u> </u>    |
| RELINQUISHED       | BY: (Signatu | re)   |        |      |      | Date: RECEIVED BY: (Signature) Time:   |                      | _              |            | Date:<br>Time: |      |          |            | 8               | SAMPL<br>FEDS    |               | PPED                | BY:       | (Circle      |   |               |          |                           | RBILL          |                               |        |             |
| RELINQUISHED       | BY: (Signatu | re)   |        |      |      | Date: RECEIVED BY: (Signature)   | ·····                |                | l          | Date:          |      |          |            |                 | HANE             |               |                     | _         | UPS<br>T PER |   |               |          | го                        | HER:           | sults E                       | by:    |             |
| RECEIVING LAN      | SORATORY:    | STATE |        |      |      | BEGEIVED BY: (Signature)   |                      |                |            | Time:          |      |          |            |                 |                  |               |                     |           |              | ase.  |               |          |                           | RU             |                               | harges | <del></del> |
| CITY:              |              |       |        | _ P  | HON  | E: DATE: 0/79101   | т                    | IME:           |            | 14             | :4   | <u>5</u> |            |                 |                  |               |                     |           |              |   |               |          |                           |                | Yes                           |        | No          |
| SAMPLE COND        |              |       | :      |      |      | IF TPH > 5,000 mg/kg Run desper  | ر<br>د ب             | ماد            | <b>=</b> 5 |                |      | Run      | L          | i h             | igh e            | 57            | TP                  | <b>'H</b> | £            | - 1   | Bπ            | Ξ×       |                           |                |                               |        |             |
| るし                 | INTUC        | -T    |        |      |      | The state of the s | ننہ جوں              | 7~ ``          | -          |                |      |          | •          |                 | J.,              | -             |                     |           | ,,,,,        | •   |               |          |                           |                |                               |        |             |

| MOR  | k ove  | New .            | 3VL                                   | <i>1</i> 14.  | 7.1                                   |                    |                                       |                      |         |              |      |          |            |                 |                      |                |                         |          |                          |             |           |                      |           |                    |                               | ·            |    |
|--|--|------------------|---------------------------------------|---|---------------------------------------|--------------------|---------------------------------------|----------------------|---------|--------------|------|----------|------------|-----------------|----------------------|----------------|-------------------------|----------|--------------------------|-------------|-----------|----------------------|-----------|--------------------|-------------------------------|--------------|----|
| Δn   | alvs   | is A             | 2                                     | 1116  | est of C                              | `hai               | n of Custod                           | VE                   | 10      | <u> </u>     | ro   |          |            |                 |                      |                |                         |          | P                        | AGE         | E:        | 4                    |           | OF:                | :                             | 4            |    |
| 7 81 1   |  |                  |                                       |   |                                       | o i i ca i         | TI OI OGOLOG                          | <i>y</i> •           |         |              | -    | u        | 4          |                 |                      |                | (0)                     |          |                          |             |           | JEST                 |           |                    |                               |              |    |
|  |  |                  |                                       |   | Midland                               | Big Sp<br>I, Texa: |                                       |                      |         |              |      |          |            | 5 (Ext. to C35) | Cd Cr Pb Hg Se       | Cd Vr Pd Hg Se |                         |          |                          |             |           | thod                 | No.)      |                    | 20                            |              |    |
| CLIENT NAM                                     | IE:  | » <del>  </del>  |                                       |   | SITE MA                               | NAGER:             | T. 1.187                              | SF.                  |         |              | SERV | ATIVE    | 1          | 2               |                      | Ba<br>C        |                         |          | 7624                     | 2000        |           |                      | ]         |                    | Ę                             |              |    |
| PROJECT N                                      | <u>) G</u><br>0.:<br>1 <b>00 V 1</b> E                           | 3                | PRO                                   | JECT<br>CO  | NAME:<br>G/WM 8'                      | Mai                | Tavarez  14 SWD (Skelly)  Eddy (2, NM | NUMBER OF CONTAINERS | D (Y/N) | 1            |      |          | BTEX 8021B | ots Mob. TX1005 | RCRA Metals Ag As Ba | 8              | latiles<br>mi Volatiles | RCI      | GC.MS Vol. 8240/8260/624 | 30/608      | 3/608     | Spac.                | sta (Air) | bestos)            | Major Anions/Cations, pH, 1US |              |    |
| LAB I.D.<br>NUMBER                             | DATE TIME SAMPLE IDENTIFICATION IN HEAT HOS SHAPE IDENTIFICATION |                  |                                       |   |                                       |                    |                                       |                      |         |              |      |          |            | (TPH 8015 P     | RCRA M               | TCLP Metals Ag | TCLP Vo                 | <u>5</u> | GC.MS V                  | PCB's 80    | Pest. 808 | Chloride Gamma Spec. | Alpha Be  | PLM (Asbestos)     | Major Ar                      |              |    |
| 206/69   | 8/13   |                  | S X AH-4 8-8.5'                       |   |                                       |                    |                                       |                      |         |              |      |          |            |                 |                      |                |                         |          |                          |             |           | X                    |           |                    |                               |              |    |
| 116  | 8/13   |                  | S                                     | χ   | AH-4                                  | 9-9.               | 5'                                    | 1                    |         |              | X    |          |            |                 |                      |                |                         |          |                          |             |           | X                    |           |                    |                               |              |    |
| 167  | 8/13   |                  | 2                                     | X   | AH-S                                  | 0-1                | •                                     | 1                    |         |              | X    |          |            | X               |                      |                |                         |          |                          |             |           | X                    |           |                    |                               |              |    |
| 1/8  | 8/13   |                  | S                                     | X   | AH-5                                  | 1-10               | 5'                                    | 1                    |         |              | X    |          |            |                 |                      |                |                         |          |                          |             |           | X                    |           |                    |                               |              |    |
| 168  | 810  |                  | S                                     | χ   | AH-6                                  | 0-1                | 6                                     | 1                    |         |              | X    |          |            | X               |                      |                |                         |          |                          |             |           | X                    |           |                    |                               |              |    |
| 188<br>55                                      | 8/13   |                  | S                                     | X   | AH-6                                  | 1-1.               | 5'                                    | 1                    |         |              | X    |          |            |                 |                      |                |                         |          |                          |             |           | X                    |           |                    |                               |              |    |
| (7%  | 8/13   |                  | S                                     | X   | AH-7                                  | 0-1                | ,                                     | Ì                    |         |              | X    |          |            | X               |                      |                |                         |          |                          |             |           | X                    |           |                    |                               |              |    |
|  |  |                  | П                                     |   |                                       |                    |                                       |                      |         |              |      |          |            |                 |                      |                |                         |          |                          |             |           |                      |           |                    |                               |              |    |
|  |  |                  |                                       |   |                                       |                    |                                       |                      |         |              |      |          |            |                 |                      |                |                         |          |                          |             |           |                      |           |                    |                               |              |    |
|  | 1  |                  |                                       |   |                                       |                    |                                       |                      |         |              |      |          |            |                 |                      |                |                         |          |                          |             |           |                      |           |                    |                               |              |    |
| RELINQUISHE                                    | BY: (Signatu   | ire)             |                                       | 2   | Date: <b>&amp; 14 C</b><br>Time: 1433 | 79                 | RECEIVED BY: (Signature)              |                      |         | Date<br>Time |      |          |            | $\equiv T$      | SAME                 | LED            |                         |          | nitial)<br>Jci           | راه د الحاد | 4         |                      |           | Date: _<br>Time: _ | <b>4</b>                      | 13/0         | 1  |
| RELINQUISHED                                   |  | ire)             |                                       |   | Date:                                 |                    | RECEIVED BY: (Signature)              |                      |         |              |      |          |            | - 1             | SAME                 |                |                         |          | (Circle)<br>BUS          | }           | 7         |                      | AIR       | iBill f            | ¥:                            |              |    |
| RELINQUISHED                                   | BY: (Signatu   | ıre)             | · · · · · · · · · · · · · · · · · · · |   | Date:                                 |                    | RECEIVED BY: (Signature)              |                      |         | Date         | :    |          |            | 計               | MAI                  | €D DE          | LIVER                   |          | UPS                      |             |           |                      | OTI       | HER:               | ults by                       |              |    |
| RECEIVING LAI<br>ADDRESS:<br>CITY:<br>CONTACT: | BORATORY:  | STATE:           |                                       | PHON  | Time:ZIP:E:                           | ع'                 | Ade Shi                               | T                    | ME _    |              |      | <u> </u> |            | _               | IEIM                 |                |                         |          | A Va                     |             |           |                      |           | RUS<br>Auti        | SH Chi<br>horize<br>Yes       | arges<br>ed: | No |
| SAMPLE CONE                                    |  | RECEIVED:<br>ルマン |                                       | ### Time: ###   ####   ####   ####   ####   ####   ####   ####   ####   ####   ###### |                                       |                    |                                       |                      |         |              |      |          |            |                 |                      |                |                         | Pi       | 1 F                      | »/          | B         | FE;                  | Κ         | •                  |                               |              |    |

# **Summary Report**

Ike Tavarez Tetra Tech

1910 N. Big Spring Street Midland, TX 79705

Report Date: January 27, 2010

Work Order: 10012221 

Project Location: Eddy Co., NM

Project Name:

COG/NM 8 in. Main SWD (Skelly)

Project Number: 114-6400278

|        |             |                   | $\mathbf{Date}$ | $\operatorname{Time}$ | $\mathbf{Date}$ |
|--------|-------------|-------------------|-----------------|-----------------------|-----------------|
| Sample | Description | $\mathbf{Matrix}$ | Taken           | Taken                 | Received        |
| 220452 | SB-1 6-7'   | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220453 | SB-1 8-9'   | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220454 | SB-1 10-11' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220455 | SB-1 15-16' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220456 | SB-1 20-21' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220457 | SB-1 25-26' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220458 | SB-1 30-31' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220459 | SB-1 35-36' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220460 | SB-1 40-41' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220461 | SB-1 50-51' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |
| 220462 | SB-1 60-61' | soil              | 2010-01-21      | 00:00                 | 2010-01-22      |

Sample: 220452 - SB-1 6-7'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | 6420   | mg/Kg | 4.00 |

Sample: 220453 - SB-1 8-9'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | 6260   | mg/Kg | 4.00 |

Sample: 220454 - SB-1 10-11'

| Report Date: January 27, 2010 | Work Order: 1001222 | 1 Page  | Page Number: 2 of 3 |  |
|-------------------------------|---------------------|---------|---------------------|--|
| Param Flag                    | Result              | Units   | RL                  |  |
| Chloride                      | 4730                | mg/Kg   | 4.00                |  |
| Sample: 220455 - SB-1 15-16'  |                     |         |                     |  |
| Param Flag                    |                     | Units   | RL                  |  |
| Chloride                      | 6710                | mg/Kg   | 4.00                |  |
| Sample: 220456 - SB-1 20-21'  |                     |         |                     |  |
| Param Flag                    | Result              | Units   | RL                  |  |
| Chloride                      | 7460                | m mg/Kg | 4.00                |  |
| Sample: 220457 - SB-1 25-26'  |                     |         |                     |  |
| Param Flag                    | Result              | Units   | RL                  |  |
| Chloride                      | 9040                | mg/Kg   | 4.00                |  |
| Sample: 220458 - SB-1 30-31'  |                     |         |                     |  |
| Param Flag                    | Result              | Units   | RL                  |  |
| Chloride                      | 7310                | mg/Kg   | 4.00                |  |
| Sample: 220459 - SB-1 35-36'  |                     |         |                     |  |
| Param Flag                    | Result              | Units   | RL                  |  |
| Chloride                      | 10600               | mg/Kg   | 4.00                |  |
| Sample: 220460 - SB-1 40-41'  |                     |         |                     |  |
| Param Flag                    | Result              | Units   | RL                  |  |
| Chloride                      | 3330                | mg/Kg   | 4.00                |  |
| Sample: 220461 - SB-1 50-51'  |                     |         |                     |  |
| Param Flag                    | Result              | Units   | RL                  |  |
| Chloride                      | 477                 | mg/Kg   | 4.00                |  |

Report Date: January 27, 2010 Work Order: 10012221 Page Number: 3 of 3

Sample: 220462 - SB-1 60-61'

| Param    | Flag | Result | Units | RL   |
|----------|------|--------|-------|------|
| Chloride |      | 346    | mg/Kg | 4.00 |



6701 Aberdeen Avenue, Suite 9 200 East Sunset Road, Suite E 5002 Basin Street, Suite A1 6015 Harris Parkway, Suite 110

Lubbock, Texas 79424 El Paso, Texas 79922 Midland, Texas 79703

800 • 378 • 1296 888 • 588 • 3443

806 • 794 • 1296 915 • 585 • 3443 432 • 689 • 6301

FAX 806 • 794 • 1298 FAX 915 • 585 • 4944 FAX 432 • 689 • 6313

Ft. Worth, Texas 76132

817 • 201 • 5260 E-Mail: lab@traceanalysis.com

# Certifications

**WBENC:** 237019

HUB:

1752439743100-86536

**DBE:** VN 20657

NCTRCA WFWB38444Y0909

## **NELAP Certifications**

Lubbock: T104704219-08-TX

**El Paso:** T104704221-08-TX

T104704392-08-TX Midland:

LELAP-02003

LELAP-02002 Kansas E-10317

# Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1910 N. Big Spring Street Midland, TX, 79705

Report Date: January 27, 2010

Work Order: 10012221 

Project Location: Eddy Co., NM

Project Name:

COG/NM 8 in. Main SWD (Skelly)

Project Number:

114-6400278

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

|        |             |        | Date       | Time  | Date       |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken      | Taken | Received   |
| 220452 | SB-1 6-7'   | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220453 | SB-1 8-9'   | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220454 | SB-1 10-11' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220455 | SB-1 15-16' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220456 | SB-1 20-21' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220457 | SB-1 25-26' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220458 | SB-1 30-31' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220459 | SB-1 35-36' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220460 | SB-1 40-41' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220461 | SB-1 50-51' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |
| 220462 | SB-1 60-61' | soil   | 2010-01-21 | 00:00 | 2010-01-22 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 9 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Dr. Michael Abel, Project Manager

### Standard Flags

 ${f B}$  - The sample contains less than ten times the concentration found in the method blank.

### Case Narrative

Samples for project COG/NM 8 in. Main SWD (Skelly) were received by TraceAnalysis, Inc. on 2010-01-22 and assigned to work order 10012221. Samples for work order 10012221 were received intact at a temperature of 18.0 C.

Samples were analyzed for the following tests using their respective methods.

|                      |              | Prep  | $\operatorname{Prep}$ | QC    | Analysis            |
|----------------------|--------------|-------|-----------------------|-------|---------------------|
| Test                 | Method       | Batch | Date                  | Batch | Date                |
| Chloride (Titration) | SM 4500-Cl B | 57281 | 2010-01-25 at 09:09   | 67042 | 2010-01-26 at 15:37 |
| Chloride (Titration) | SM 4500-Cl B | 57282 | 2010-01-25 at 09:09   | 67043 | 2010-01-26 at 15:37 |

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 10012221 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

Report Date: January 27, 2010

114-6400278

Work Order: 10012221 COG/NM 8 in. Main SWD (Skelly) Page Number: 4 of 9 Eddy Co., NM

## Analytical Report

Sample: 220452 - SB-1 6-7'

Laboratory:

Midland

Chloride (Titration) Analysis: QC Batch: 67042 Prep Batch: 57281

Analytical Method: Date Analyzed:

SM 4500-Cl B

2010-01-26

Prep Method: N/A Analyzed By: AR

Sample Preparation:

2010-01-25

Prepared By: AR

RL

Parameter Units Dilution RLFlag Result Chloride 6420mg/Kg 100 4.00

Sample: 220453 - SB-1 8-9'

Laboratory:

Midland

Analysis: Chloride (Titration)

QC Batch: 67042 Prep Batch: 57281

Analytical Method:

SM 4500-Cl B 2010-01-26 Sample Preparation: 2010-01-25

Prep Method: N/A Analyzed By: AR

AR

Prepared By:

RL

Date Analyzed:

Flag Parameter Result Units Dilution RLChloride 6260 mg/Kg 100 4.00

Sample: 220454 - SB-1 10-11'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 67042 Prep Batch: 57281

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2010-01-26

2010-01-25

Prep Method: N/A Analyzed By: ARPrepared By: AR

RL

Parameter Flag Result Units Dilution RLChloride 4730 mg/Kg 100 4.00

Sample: 220455 - SB-1 15-16'

Laboratory:

Midland

Analysis: Chloride (Titration) QC Batch: 67042 Prep Batch: 57281

Analytical Method: Date Analyzed:

Sample Preparation:

SM 4500-Cl B 2010-01-26

2010-01-25

N/A Prep Method: Analyzed By: AR

AR

Prepared By:

 $continued \dots$ 

Report Date: January 27, 2010 114-6400278

Work Order: 10012221 COG/NM 8 in. Main SWD (Skelly) Page Number: 5 of 9 Eddy Co., NM

| sample | 220455 | continued |  |  |  |
|--------|--------|-----------|--|--|--|
|--------|--------|-----------|--|--|--|

|           |                       | RL     |       |          |      |
|-----------|-----------------------|--------|-------|----------|------|
| Parameter | Flag                  | Result | Units | Dilution | RL   |
|           | •                     | m RL   |       |          |      |
| Parameter | $\operatorname{Flag}$ | Result | Units | Dilution | RL   |
| Chloride  |                       | 6710   | mg/Kg | 100      | 4.00 |

#### Sample: 220456 - SB-1 20-21'

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method:

SM 4500-Cl B

Prep Method: N/A AR

QC Batch: 67042 Prep Batch: 57281

Date Analyzed: Sample Preparation:

2010-01-26 2010-01-25 Analyzed By: Prepared By: AR

RL

| Parameter | Flag | Result | Units | Dilution | RL   |
|-----------|------|--------|-------|----------|------|
| Chloride  |      | 7460   | mg/Kg | 100      | 4.00 |

#### Sample: 220457 - SB-1 25-26'

Laboratory:

Midland

Analysis:

Chloride (Titration)

Analytical Method: 67042 Date Analyzed:

SM 4500-Cl B 2010-01-26

Prep Method: N/A Analyzed By: AR

QC Batch: Prep Batch: 57281

Sample Preparation:

2010-01-25

Prepared By: AR

RI

| Parameter | Flag | Result | Units | Dilution | RL   |
|-----------|------|--------|-------|----------|------|
| Chloride  |      | 9040   | mg/Kg | 100      | 4.00 |

#### Sample: 220458 - SB-1 30-31'

Laboratory:

Midland

Analysis: 67042

Chloride (Titration)

Analytical Method:

SM 4500-Cl B 2010-01-26

Prep Method: N/A Analyzed By: AR

QC Batch: Prep Batch:

57281

Date Analyzed: Sample Preparation:

2010-01-25

AR

RL

Prepared By:

Units Parameter Flag Result Dilution RLmg/Kg Chloride 7310 100 4.00

Work Order: 10012221 Page Number: 6 of 9 Report Date: January 27, 2010 COG/NM 8 in. Main SWD (Skelly) Eddy Co., NM 114-6400278 Sample: 220459 - SB-1 35-36' Laboratory: Midland Analytical Method: SM 4500-Cl B Prep Method: N/A Analysis: Chloride (Titration) Analyzed By: QC Batch: Date Analyzed: 2010-01-26 AR67042 Prepared By: Prep Batch: 57281 Sample Preparation: 2010-01-25 ARRLDilution RLParameter Result Units Flag 10600 100 4.00 Chloride mg/Kg Sample: 220460 - SB-1 40-41' Laboratory: Midland Prep Method: N/A Analysis: Chloride (Titration) SM 4500-Cl B Analytical Method: QC Batch: 67042 Date Analyzed: 2010-01-26 Analyzed By: ARPrepared By: Prep Batch: 57281 Sample Preparation: 2010-01-25 ARRLUnits Dilution RLParameter Flag Result 3330 mg/Kg 100 4.00 Chloride Sample: 220461 - SB-1 50-51' Laboratory: Midland

| C11 1 ' 1       |      | a bus bus           | 177        | 70           | 4.00 |
|-----------------|------|---------------------|------------|--------------|------|
| Parameter       | Flag | Result              | Units      | Dilution     | RL   |
|                 |      | RL                  |            |              |      |
| Prep Batch: 572 | 81   | Sample Preparation: | 2010-01-25 | Prepared By: | AR   |
| QC Batch: 670   | 42   | Date Analyzed:      | 2010-01-26 | Analyzed By: | AR   |

Analytical Method:

SM 4500-Cl B

Chloride (Titration)

Sample: 220462 - SB-1 60-61'

Midland

Analysis:

Laboratory:

Prep Method: N/A

| Parameter | Flag | Result | $\mathbf{Units}$ | Dilution | RL   |
|-----------|------|--------|------------------|----------|------|
| Chloride  |      | 477    | mg/Kg            | 50       | 4.00 |
|           |      |        |                  |          |      |

| Parameter |  |   |  |  |    |
|-----------|--|---|--|--|----|
| D         | Flag                                   | RL<br>Result  | Units                                    | Dilution                                     | RL |
|           | Chloride (Titration)<br>17043<br>17282 | Analytical Method: Date Analyzed: Sample Preparation: | SM 4500-Cl B<br>2010-01-26<br>2010-01-25 | Prep Method:<br>Analyzed By:<br>Prepared By: | AR |

Report Date: January 27, 2010

114-6400278

Work Order: 10012221 COG/NM 8 in. Main SWD (Skelly) Page Number: 7 of 9 Eddy Co., NM

Method Blank (1)

QC Batch: 67042

QC Batch: 67042 Prep Batch: 57281 Date Analyzed: 2010-01-26 QC Preparation: 2010-01-25 Analyzed By: ARPrepared By: AR

**MDL** 

Result Units RLParameter Flag < 2.18 Chloride mg/Kg

Method Blank (1)

QC Batch: 67043

QC Batch: 67043 Prep Batch: 57282 Date Analyzed: 2010-01-26 QC Preparation: 2010-01-25 Analyzed By: ARPrepared By: AR

MDL

Units RLResult Parameter Flag Chloride < 2.18mg/Kg 4

Laboratory Control Spike (LCS-1)

QC Batch:

67042 Prep Batch: 57281 Date Analyzed: QC Preparation:

2010-01-26 2010-01-25 Analyzed By: AR

Prepared By: AR

LCS Spike Matrix Rec. Result Units Dil. Amount Result Rec. Limit Param mg/Kg < 2.1896 85 - 115 96.5100 Chloride 1

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | LCSD              |       |                 | Spike  | Matrix |             | ${ m Rec.}$ |     | RPD   |
|----------|-------------------|-------|-----------------|--------|--------|-------------|-------------|-----|-------|
| Param-   | $\mathbf{Result}$ | Units | $\mathbf{Dil}.$ | Amount | Result | ${ m Rec.}$ | Limit       | RPD | Limit |
| Chloride | 97.1              | mg/Kg | 1               | 100    | < 2.18 | 97          | 85 - 115    | 1   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 67043 Prep Batch: 57282 Date Analyzed: 2010-01-26 QC Preparation: 2010-01-25 Analyzed By: AR Prepared By: AR

|          | LCS    |               |      | Spike  | Matrix |      | Rec.     |
|----------|--------|---------------|------|--------|--------|------|----------|
| Param    | Result | $_{ m Units}$ | Dil. | Amount | Result | Rec. | Limit    |
| Chloride | 93.9   | mg/Kg         | 1    | 100    | < 2.18 | 94   | 85 - 115 |

Report Date: January 27, 2010 114-6400278

Work Order: 10012221 COG/NM 8 in. Main SWD (Skelly) Page Number: 8 of 9 Eddy Co., NM

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | LCSD   |       |      | $\operatorname{Spike}$ | Matrix |      | Rec.     |     | RPD   |
|----------|--------|-------|------|------------------------|--------|------|----------|-----|-------|
| Param    | Result | Units | Dil. | Amount                 | Result | Rec. | Limit    | RPD | Limit |
| Chloride | 95.2   | mg/Kg | 1    | 100                    | < 2.18 | 95   | 85 - 115 | 1   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 220461

QC Batch:

67042

Date Analyzed:

2010-01-26

Analyzed By: AR

Prep Batch: 57281

QC Preparation: 2010-01-25

Prepared By: AR

|          | MS     |                  |      | Spike  | Matrix |      | ${ m Rec.}$ |
|----------|--------|------------------|------|--------|--------|------|-------------|
| Param    | Result | $\mathbf{Units}$ | Dil. | Amount | Result | Rec. | Limit       |
| Chloride | 10800  | mg/Kg            | 100  | 10000  | 477    | 103  | 85 - 115    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | MSD    |       |      | Spike  | Matrix |      | ${ m Rec.}$ |     | RPD   |
|----------|--------|-------|------|--------|--------|------|-------------|-----|-------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit       | RPD | Limit |
| Chloride | 10900  | mg/Kg | 100  | 10000  | 477    | 104  | 85 - 115    | 1   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (MS-1)

Spiked Sample: 220471

QC Batch: 67043 Date Analyzed:

2010-01-26

Analyzed By: AR

Prep Batch: 57282 QC Preparation: 2010-01-25 Prepared By: AR

|          | MS     |       |      | $\mathbf{S}$ pike | Matrix |      | ${ m Rec.}$ |
|----------|--------|-------|------|-------------------|--------|------|-------------|
| Param    | Result | Units | Dil. | Amount            | Result | Rec. | Limit       |
| Chloride | 9310   | mg/Kg | 100  | 10000             | <218   | 93   | 85 - 115    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

|          | MSD    |       |      | Spike  | Matrix |      | Rec.     |     | RPD   |
|----------|--------|-------|------|--------|--------|------|----------|-----|-------|
| Param    | Result | Units | Dil. | Amount | Result | Rec. | Limit    | RPD | Limit |
| Chloride | 9460   | mg/Kg | 100  | 10000  | <218   | 95   | 85 - 115 | 2   | 20    |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Standard (ICV-1)

QC Batch: 67042

Date Analyzed: 2010-01-26

Analyzed By: AR

Report Date: January 27, 2010 114-6400278

Work Order: 10012221 COG/NM 8 in. Main SWD (Skelly) Page Number: 9 of 9 Eddy Co., NM

| 114-6400278                                      | <u> </u>           |                | COG/F  |  |                                    |   |                                       |
|--|--------------------|----------------|--|--|------------------------------------|---|---------------------------------------|
|  |                    |                | ICVs   | ICVs   | ICVs                               | Percent   | D-4-                                  |
| D  | T31                | Units          | True   | Found<br>Conc.   | Percent                            | Recovery<br>Limits                                | Date                                  |
| Param  | Flag               |                | Conc.<br>100                                       | 96.4   | Recovery<br>96                     | 85 - 115  | Analyzed 2010-01-26                   |
| Chloride   |                    | mg/Kg          | 100  | 90.4   | 90                                 | 00 - 110  | 2010-01-20                            |
| Standard (                                       | (CCV-1)            |                |  |  |                                    |   |                                       |
| QC Batch:  | 67042              |                | Date Ana   | lyzed: 2010-01   | 1-26                               | Anal  | yzed By: AR                           |
|  |                    |                | CCVs   | CCVs   | CCVs                               | Percent   |                                       |
|  |                    |                | True   | Found  | Percent                            | Recovery  | Date                                  |
| Param  | Flag               | Units          | Conc.  | Conc.  | Recovery                           | Limits  | Analyzed                              |
|  |                    | mg/Kg          | 100  | 104  | 104                                | 85 - 115  | 2010-01-26                            |
| Chloride Standard (                              | (ICV-1)            | mg/ Kg         | 100  |  |                                    |   |                                       |
|  | ,                  | тқ/ Қ          | Date Anal  |  | -26                                |   | yzed By: AR                           |
| Standard (                                       | ,                  | шу/Ку          |  |  | -26<br>ICVs                        |   | yzed By: AR                           |
| Standard (                                       | ,                  | шу/Ку          | Date Anal  | lyzed: 2010-01   |                                    | Anal  | yzed By: AR<br>Date                   |
| Standard (                                       | ,                  | Units          | Date Anal<br>ICVs                                  | lyzed: 2010-01<br>ICVs   | ICVs                               | Anal<br>Percent                                   | ·                                     |
| Standard (<br>QC Batch:                          | 67043              |                | Date Anal<br>ICVs<br>True                          | lyzed: 2010-01<br>ICVs<br>Found                                  | $rac{	ext{ICVs}}{	ext{Percent}}$  | Anal<br>Percent<br>Recovery                       | Date                                  |
| Standard (<br>QC Batch:<br>Param                 | 67043<br>Flag      | Units          | Date Anal<br>ICVs<br>True<br>Conc.                 | lyzed: 2010-01<br>ICVs<br>Found<br>Conc.                         | ICVs<br>Percent<br>Recovery        | Anal<br>Percent<br>Recovery<br>Limits             | Date<br>Analyzed                      |
| Standard ( QC Batch:  Param Chloride             | 67043 Flag (CCV-1) | Units          | Date Anal<br>ICVs<br>True<br>Conc.                 | lyzed: 2010-01<br>ICVs<br>Found<br>Conc.<br>108                  | ICVs<br>Percent<br>Recovery<br>108 | Anal<br>Percent<br>Recovery<br>Limits<br>85 - 115 | Date<br>Analyzed                      |
| Standard ( QC Batch:  Param Chloride  Standard ( | 67043 Flag (CCV-1) | Units          | Date Anal<br>ICVs<br>True<br>Conc.<br>100          | lyzed: 2010-01<br>ICVs<br>Found<br>Conc.<br>108                  | ICVs<br>Percent<br>Recovery<br>108 | Anal<br>Percent<br>Recovery<br>Limits<br>85 - 115 | Date<br>Analyzed<br>2010-01-26        |
| Standard ( QC Batch:  Param Chloride  Standard ( | 67043 Flag (CCV-1) | Units<br>mg/Kg | Date Anal ICVs True Conc. 100  Date Anal CCVs True | lyzed: 2010-01<br>ICVs<br>Found<br>Conc.<br>108<br>yzed: 2010-01 | ICVs Percent Recovery 108          | Anal Percent Recovery Limits 85 - 115 Anal        | Date<br>Analyzed<br>2010-01-26        |
| Standard ( QC Batch:  Param Chloride  Standard ( | 67043 Flag (CCV-1) | Units          | Date Anal ICVs True Conc. 100  Date Anal CCVs      | lyzed: 2010-01 ICVs Found Conc. 108  yzed: 2010-01               | ICVs Percent Recovery 108          | Anal Percent Recovery Limits 85 - 115  Anal       | Date Analyzed 2010-01-26  yzed By: AR |

Order #: 10012221

| Analysis Request of Chain of Custody Record  |              |                |                      |          |      |          |           |                  |                |                |                |                     |   | P          | AGE            | :             |          |                  | С              | F:                            |     | 2       |         |
|--|--------------|----------------|----------------------|----------|------|----------|-----------|------------------|----------------|----------------|----------------|---------------------|---|------------|----------------|---------------|----------|------------------|----------------|-------------------------------|-----|---------|---------|
|  |              |                |                      |          |      | $\dashv$ |           |                  |                |                | (              | (Circ               |   |            | ilS R<br>ecify |               |          |                  | .)             |                               |     |         |         |
| TETRA TECH 1910 N. Big Spring St. Midland, Texas 79705 (432) 682-4559 • Fax (432) 682-3946   |              |                |                      |          |      |          | 1         | 35 (Ext. to C35) | Cd Cr Pb Hg Se | Vr Pd Hg       |                |                     |   |            |                |               |          |                  |                | TDS                           |     |         |         |
| NT NAME:  COG  SITE MANAGER:  PRESERV  METHO  METHO  SITE MANAGER:  PRESERV  |              |                |                      |          |      |          |           | TX1005           | BB             | a              |                |                     | ACA/090                                 | 270/62     |                |               |          |                  |                | ns, pH,                       |     |         |         |
| PROJECT NO.: PROJECT NAME:  114-6400278 COG/NM 8" Mainline SwD (skelly)  | F CONTAINERS | (N/A)          |                      |          |      |          |           | S MOD            | als Ag As      | als Ag A       | iles           | Volatile            | 8940/8                                  | ni. Vol. 8 | 9/608          | 80            | ٤        | Air              | stos)          | ns/Catio                      |     |         |         |
| LAB I.D. DATE TIME TIME SAMPLE IDENTIFICATION  SAMPLE IDENTIFICATION   | NUMBER O     | FILTERED (Y/N) | HN03                 | 10E      | NONE |          | BTEX 8021 | TPH 8015 MOD     | RCRA Met       | TCLP Metals Ag | TCLP Volatiles | TCLP Semi Volatiles | GC MS Vol 8940/8960/894                 | GC.MS Sei  | PCB's 8080/608 | Pest. 808/608 | Chloride | Alpha Beta (Air) | PLM (Asbestos) | Major Anions/Cations, pH, TDS |     |         |         |
| 220152 121 S X SB-1 4-5' 1CAD  | 1            |                |                      |          |      |          |           | X                |                |                |                |                     |   |            |                |               | X        |                  |                |                               | Ш   |         | $\perp$ |
| 45a 1/21 S X SB-1 6-7'   | Ĭ            |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                |               | X        |                  |                |                               |     |         |         |
| 459 1/21 S X SB-1 8-9'   | l            |                |                      | <u> </u> |      |          |           |                  |                |                |                |                     |   |            |                | Ì             | X        |                  |                |                               |     |         |         |
| 454 1/21 S X SB-1 10-11'   | 1            |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                |               | X        |                  |                |                               |     |         |         |
| 435 1/21 S X SB-1 15-16'   |              |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                |               | X        |                  |                |                               |     |         |         |
| 456 1/21 S X SB-1 20-21'   | 1            |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                |               | X        |                  |                |                               |     |         |         |
| 457 1/21 S X SB-1 25-26'   | 1            |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                |               | $\chi$   |                  |                |                               |     |         |         |
| 458 1/21 S X SB-1 30-31'   | 1            |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                | ١             | X        |                  |                |                               |     |         |         |
| 45946 1/21 S X SB-1 35-36'   | 1            |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                |               | X        |                  |                |                               |     |         |         |
| 4(00 b'/21   S  X  SB-1 40-41'   |              |                |                      |          |      |          |           |                  |                |                |                |                     |   |            |                |               | X        |                  |                |                               |     |         |         |
| Time: 1215 feebel doubt  |              |                | Date<br>Time         | :        | 121  | 118      |           |                  |                |                |                | Print (             |   | -          | <u>Kiv</u>     | n             |          |                  | Date:<br>Time: |                               | 21  | #O      |         |
| RELINQUISHED BY: (Signature)  Date: RECEIVED BY: (Signature)  RELINQUISHED BY: (Signature)  RECEIVED BY: (Signature)  RECEIVED BY: (Signature)   |              |                | Date<br>Time<br>Date | :        |      |          |           |                  | FED            | EX.            |                | ED B                | - · · · · · · · · · · · · · · · · · · · | US<br>PS   |                |               |          |                  | IBILL<br>HER:  |                               |     |         |         |
| Time:  |              |                | Time                 | -        |      |          | _         | 1                | ETR            | A TEC          | CH C           | ONTA                | CT PI                                   | RSO        | N:             |               |          |                  | Re             | sults                         | by: |         |         |
| RECEIVING LABORATORY:  |              |                |                      |          |      |          |           | -                | <u>ל</u>       | [k             | æ              | 7                   | qu                                      | are        | 2              | -             |          |                  | RU<br>Au       | JSH C<br>ithoriz<br>Yes       |     | s<br>No |         |
| OFFESS:  OFFICE:  OFF |              |                |                      |          |      |          |           | K                | רעא            | ,              | 113            | the.                | <del>5†</del>                           | _          | TΡ             | +             | f        | ٠,٠              | 1              | 31                            | EX  | 5 9     |         |

CLIENT NAME: *3*3046 PROJECT NO: SAMPLE CONDITION WHEN RECEIVED: CONTACT: ADDRESS: RELINQUISHED BY: (Signature) RELINOCIONED BY: (Signati LAB I.D. NUMBER **207** Analysis Request of Chain of Custody Record 1/21 2010 DATE 8120 TIME STATE MATRIX 5 PROJECT NAME 9 COMP. PHONE: GRAB X 71me: 53-1 Time: Date: Time: 58-1 SZ O 21P: (432) 682-4559 • Fax (432) 682-3946 Midland, Texas 79705 1910 N. Big Spring St. SITE MANAGER: ETRA TECH SAMPLE IDENTIFICATION Mairline 60.61 50.51 DATE RECEIVED BY: (Signature) RECEIVED BY: (Signature) NUMBER OF CONTAINERS TIME: FILTERED (Y/N) HCL PRESERVATIVE Time: Date: Time: HNO3 METHOD ICE NONE BTEX 8021B TPH 8015 MOD. TX1005 (Ext. to C35) SAMPLED BY: (Print & Initial) PAH 8270 SAMPLE SHIPPED BY: (Circle) TETRA TECH CONTACT PERSON: HAND DELIVERED RCRA Metals Ag As Ba Cd Cr Pb Hg Se The TCLP Metals Ag As Ba Cd Vr Pd Hg Se **TCLP Volatiles** (Circle or Specify Method No., TCLP Semi Volatiles Javaret RCI ANALYSIS REQUEST San GC.MS Vol. 8240/8260/624 GC.MS Semi. Vol. 8270/625 PAGE: PCB's 8080/608 Pest. 808/608 Chloride 3 Gamma Spec. OTHER: AIRBILL #: Alpha Beta (Air) Time: PLM (Asbestos) Results by: 9 Major Anions/Cations, pH, TDS Cartes ₹

Please fill out all copies - Laboratory retains Yellow copy - Return Orginal copy to Tetra Tech - Project Manager retains Pink copy - Accounting receives Gold copy.

Mack