District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

Name of Company: BP

Surface Owner: Federal

## OIL CONS. DIV DIST. 3

State of New Mexico Energy Minerals and Natural Resources

DEC 2 1 2015

Form C-141 Revised August 8, 2011

**Final Report** 

26

**Oil Conservation Division** 1220 South St. Francis Dr. Santa Fe, NM 87505

#### **Release Notification and Corrective Action OPERATOR** Initial Report Contact: Steve Moskal Telephone No.: 505-326-9497 Address: 200 Energy Court, Farmington, NM 87401 Facility Type: Natural gas well Facility Name: Gallegos Canyon Unit 167E

API No. 3004524862

Submit 1 Copy to appropriate District Office in

accordance with 19.15.29 NMAC.

 $\square$ 

#### LOCATION OF RELEASE

Mineral Owner: Federal

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County: San Juan |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|------------------|
| Н           | 18      | 28N      | 11W   | 1,000         | North            | 800           | East           |                  |

Latitude 36.651817°

Longitude -108.038815°

### NATURE OF RELEASE

| volume of Release: 63 bbl<br>condensate/8.2 bbl produced<br>water | Volume Recovered: none  |  |
|---|---|--|
| Date and Hour of Occurrence:                                      | Date and Hour of Discovery: November  |  |
| Unknown   | 9, 2015 at 3:45PM   |  |
| If YES, To Whom?  |   |  |
| A phone call to Cory Smith  | and a family she was a family   |  |
| Date and Hour: 11/9/2015 at 3:50                                  | 0 PM  |  |
| If YES, Volume Impacting the Watercourse.                         |   |  |
|   |   |  |
|   | <ul> <li>condensate/8.2 bbl produced water</li> <li>Date and Hour of Occurrence: Unknown</li> <li>If YES, To Whom?</li> <li>A phone call to Cory Smith</li> <li>Date and Hour: 11/9/2015 at 3:50</li> </ul> |  |

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\* Tech found stain on ground around condensate tank. Tank previously gauged within the last month. Hole found near the bottom of the tank. Estimated volumes of loss based on recent gauging data. The tank was removed from service and will be replaced. The area of impacts was excavated to practical extents.

Describe Area Affected and Cleanup Action Taken.\* The excavated area measured approximately 40'x40'x4-8' in depth. Approximately 530 cubic yards were transported offsite for landfarm treatment; a complete C-138 is attached. Sandstone bedrock was encountered at the base of the excavation and sloped downward from north to south. Initial closure sampling indicated the lateral extents of the excavation were determined with laboratory results below the spill and release guidelines. The results of the laboratory analysis for the sample collected from the base of the excavation determined the sandstone bedrock had concentration of TPH and BTEX above the guidelines. A potassium permanganate oxidizer was applied to the base of the excavation and subsequently sampled. The laboratory results of the subsequent sampling determined the concentration of the BTEX elements fell below the guideline and the TPH concentration is within an acceptable concentration for non-volatile range organics (DRO). The excavation was then backfilled and remains within the active well pad. Attached is a field report and laboratory reports documenting each sampling event.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

| Signature: Alter Sund                       | OIL CONSERVATION                     | DIVISION |
|---|--------------------------------------|----------|
| Printed Name: Steve Moskal                  | Approved by Environmental Specialist | estern   |
| Title: Field Environmental Coordinator      | Approval Date: 12130205 Expiration I | Date:    |
| E-mail Address: steven.moskal@bp.com        | Conditions of Approval:              | Attached |
| Date: December 15, 2015 Phone: 505-326-9497 |                                      |          |
| Attach Additional Sheets If Necessary       | Nes1531357297                        | 20       |

# BP America: GCU 167E (H) Sec 18 – T28N – R11W San Juan County, New Mexico

#### Summary Record of Impact Remediation

<u>November 9, 2015</u> Soils impacted with hydrocarbons discovered from leak of approximately 63 barrels condensate from 300 barrel AGT. Loss resulted from corrosion pinhole at base of tank. Leak contained within earthen containment berm.

Site Closure Standard Determined at 1,000 ppm TPH based on:

Horizontal Distance USGS Blue Line on Topo sheet = 520 feet south (10 points) Nearest Water Well (POD# SJ 02916) = 1,850 feet (0 points) Depth to Groundwater based on POD # SJ 02916 >200 feet (0 points)

(Note: On Dec 1, 2015 NMOCD evaluated horizontal distance to nearest surface drainage at <200') (Blagg Engineering, Inc conducted an independent review of that drainage and found the nearest point with a defined bed width greater than 10' to be approximately 306 feet down-gradient of remedial dig. See Attached Figure for measurement points)

November 23, 2015 Begin remediation of site by excavation of impacts with trackhoe.

November 25, 2015 Excavation size approximately 40' x 40' x 6' average depth (8'deep on south side, 4' deep on north side). (Entire excavation in sandstone. Total volume of soil transported to JFJ Landfarm 530 Cubic Yards). Sample North, East, West & South Sidewalls & Base. Sampling witnessed by NMOCD:

| Sample ID                 | Date/Time             | Map ID | Field OVM | TPH 8015B   | BTEX 8021  | Chloride |
|---------------------------|-----------------------|--------|-----------|-------------|------------|----------|
| North Wall 5-<br>pt 2'-5' | 12/25/2015 @<br>11:20 | N      | 34.4      | ND          | ND         | ND       |
| East Wall 5-<br>pt 2'-5'  | 12/25/2015 @<br>11:24 | Е      | 0.6       | ND          | ND         | ND       |
| West Wall 5-<br>pt 2'-7'  | 12/25/2015 @<br>11:27 | W      | 7.7       | ND          | ND         | ND       |
| South Wall 4-<br>pt 3'-8' | 12/25/2015 @<br>11:41 | S      | 8.7       | ND          | 0.06 mg/Kg | ND       |
| Base 5-pt                 | 12/25/2015 @<br>11:33 | В      | >9999     | 2,890 mg/Kg | 235 mg/Kg  | ND       |

<u>December 2, 2015</u> The oxidizer potassium permanganate is applied to the entire excavation sandstone base to expedite hydrocarbon remediation.

December 3, 2015 Re-sampling of the excavation sandstone base is conducted. Witnessed by NMOCD:

| Sample ID          | Date/Time             | Map ID | Field OVM | TPH 8015B   | BTEX 8021 | Chloride |
|--------------------|-----------------------|--------|-----------|-------------|-----------|----------|
| Base 5-pt<br>Comp. | 12/03/2014 @<br>11:22 | Х      | NA        | 1,155 mg/Kg | 5.2 mg/Kg | ND       |

| A COLOR & COLOR  | GCU 167E              | -                            | and the second       | -                    | Contraction of the local division of the loc |
|--|-----------------------|------------------------------|----------------------|----------------------|--|
| Received .   | Final Excavation as o | f Nov 25, 2015               |                      | 2                    |  |
| Second State   | -St-                  |                              |                      | -                    | CALL AND   |
| N  |                       |                              |                      |                      | A Caller   |
|  | BX                    | E                            | N                    |                      | and the second   |
| Excavated Area Approximately: W<br>40' x 40' x 6' avg depth = 375 CY |                       |                              |                      |                      |  |
|  | B<br>X<br>B           |                              | -                    |                      | 1 200 20   |
|  | S                     | S<br>November 25,            | 2015 Clos            | uro Samolina P       | Poculte  |
|  | 5 5 -                 |                              | lap ID               | Field OVM            | Lab TPH (8015)(DRO+GRO)  |
| 11 Participant and a second second                                   |                       | N Wall 5-pt                  | Ν                    | 34.4 ppm             | ND   |
| 1 All and the second   | TAL                   | E Wall 5-pt                  | E                    | 0.6 ppm              | ND   |
|  | and states            | W Wall 5-pt                  | W                    | 7.7 ppm              | ND   |
| ALL COLOR OF CALLS   |                       | S Wall 5-pt                  | S                    | 8.7 ppm              | ND   |
|  |                       | Base 5-pt                    | В                    | >9999 ppm            | 2,890 mg/Kg (BTEX=246 ppm)   |
| Google earth   | and the second second | Re-sampling of Base 5-pt Con | of Base on I<br>np X | December 3, 20<br>NA | 015:<br>1,155 mg/Kg (BTEX=5.2 ppm)   |
| Google earth   | A COMPANY             | Pass o proon                 |                      |                      | il on many (a rent-one phin)   |





itst Spot in Ephemeral Wash with Width Greater Than 10 Feet

Google earth

306 Feet From Remedial Excavation

in Enhemeral Wash with

Non USGS Blue Line Ephemeral Wash

200

BP - GCU 167E



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

December 01, 2015

Jeff Blagg Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: (505) 320-1183 FAX (505) 632-3903

OrderNo.: 1511B64

Dear Jeff Blagg:

**RE: GCU 167E** 

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/26/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

| Analytical Report |  |
|-------------------|--|
| Lab Order 1511B64 |  |

Date Reported: 12/1/2015

### Hall Environmental Analysis Laboratory, Inc.

| CLIENT: Blagg Engineering     |              | Client Sample ID: North Wall 5-pt 2'-5' |      |                                       |          |                      |           |  |  |
|-------------------------------|--------------|---|------|---------------------------------------|----------|----------------------|-----------|--|--|
| Project: GCU 167E             |              |   |      | Collection I                          | Date: 11 | /25/2015 11:20:00 A  | M         |  |  |
| Lab ID: 1511B64-001           | Matrix: SOIL |   |      | Received Date: 11/26/2015 11:00:00 AM |          |                      |           |  |  |
| Analyses                      | Result       | RL                                      | Qual | Units                                 | DF       | Date Analyzed        | Batch     |  |  |
| EPA METHOD 300.0: ANIONS      |              |   |      | 10.00                                 |          | Analy                | st: LGT   |  |  |
| Chloride                      | ND           | 30                                      |      | mg/Kg                                 | 20       | 11/30/2015 11:41:02  | AM 22556  |  |  |
| EPA METHOD 8015M/D: DIESEL RA | NGE ORGANIC  | s                                       |      |                                       |          | Analy                | st: TOM   |  |  |
| Diesel Range Organics (DRO)   | ND           | 10                                      |      | mg/Kg                                 | 1        | 11/30/2015 10:46:06  | AM 22542  |  |  |
| Surr: DNOP                    | 105          | 70-130                                  |      | %REC                                  | 1        | 11/30/2015 10:46:06  | AM 22542  |  |  |
| EPA METHOD 8015D: GASOLINE RA | ANGE         |   |      |                                       |          | Analy                | st: NSB   |  |  |
| Gasoline Range Organics (GRO) | ND           | 4.5                                     |      | mg/Kg                                 | 1        | 11/30/2015 9:47:25 A | AM A30514 |  |  |
| Surr: BFB                     | 94.6         | 66.2-112                                |      | %REC                                  | 1        | 11/30/2015 9:47:25   | AM A30514 |  |  |
| EPA METHOD 8021B: VOLATILES   |              |   |      |                                       |          | Analy                | st: NSB   |  |  |
| Benzene                       | ND           | 0.045                                   |      | mg/Kg                                 | 1        | 11/30/2015 9:47:25 A | AM B30514 |  |  |
| Toluene                       | ND           | 0.045                                   |      | mg/Kg                                 | 1        | 11/30/2015 9:47:25 A | AM B30514 |  |  |
| Ethylbenzene                  | ND           | 0.045                                   |      | mg/Kg                                 | 1        | 11/30/2015 9:47:25 A | AM B30514 |  |  |
| Xylenes, Total                | ND           | 0.090                                   |      | mg/Kg                                 | 1        | 11/30/2015 9:47:25 A | AM B30514 |  |  |
| Surr: 4-Bromofluorobenzene    | 121          | 80-120                                  | S    | %REC                                  | 1        | 11/30/2015 9:47:25 A | M B30514  |  |  |

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

| Q | ua | lifi | ier | s: |
|---|----|------|-----|----|
|   |    |      |     |    |

\*

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

| Analytical Report        |  |  |  |  |  |
|--------------------------|--|--|--|--|--|
| Lab Order 1511B64        |  |  |  |  |  |
| Date Reported: 12/1/2015 |  |  |  |  |  |

# Hall Environmental Analysis Laboratory, Inc.

| CLIENT: Blagg Engineering    |   | Client Sample ID: East Wall 5-pt 2'-5' |            |                        |                 |  |  |  |
|------------------------------|---|--|------------|------------------------|-----------------|--|--|--|
| Project: GCU 167E            |   |  | Collection | Date: 11/25/2015 11:24 | 4:00 AM         |  |  |  |
| Lab ID: 1511B64-002          | Matrix: SOIL         Received Date: 11/26/2015 11:00:00 A |  |            |                        | 0:00 AM         |  |  |  |
| Analyses                     | Result  | RL Qua                                 | l Units    | DF Date Analyz         | ed Batch        |  |  |  |
| EPA METHOD 300.0: ANIONS     | 1000  |  |            |                        | Analyst: LGT    |  |  |  |
| Chloride                     | ND  | 30                                     | mg/Kg      | 20 11/30/2015 11       | :53:27 AM 22556 |  |  |  |
| EDA METHOD 8015M/D. DIESEL P | ANCE OPCANICS   |  |            |                        | Analyst TOM     |  |  |  |

| Chloride                         | ND      | 30       | mg/Kg | 20 | 11/30/2015 11:53:27 AM 22556  |
|----------------------------------|---------|----------|-------|----|-------------------------------|
| EPA METHOD 8015M/D: DIESEL RANGE | ORGANIC | S        |       |    | Analyst: TOM                  |
| Diesel Range Organics (DRO)      | ND      | 9.8      | mg/Kg | 1  | 11/30/2015 11:07:58 AM 22542  |
| Surr: DNOP                       | 108     | 70-130   | %REC  | 1  | 11/30/2015 11:07:58 AM 22542  |
| EPA METHOD 8015D: GASOLINE RANGE |         |          |       |    | Analyst: NSB                  |
| Gasoline Range Organics (GRO)    | ND      | 4.3      | mg/Kg | 1  | 11/30/2015 10:11:56 AM A30514 |
| Surr: BFB                        | 86.8    | 66.2-112 | %REC  | 1  | 11/30/2015 10:11:56 AM A30514 |
| EPA METHOD 8021B: VOLATILES      |         |          |       |    | Analyst: NSB                  |
| Benzene                          | ND      | 0.043    | mg/Kg | 1  | 11/30/2015 10:11:56 AM B30514 |
| Toluene                          | ND      | 0.043    | mg/Kg | 1  | 11/30/2015 10:11:56 AM B30514 |
| Ethylbenzene                     | ND      | 0.043    | mg/Kg | 1  | 11/30/2015 10:11:56 AM B30514 |
| Xylenes, Total                   | ND      | 0.087    | mg/Kg | 1  | 11/30/2015 10:11:56 AM B30514 |
| Surr: 4-Bromofluorobenzene       | 114     | 80-120   | %REC  | 1  | 11/30/2015 10:11:56 AM B30514 |

| Qualifiers: * |    | Value exceeds Maximum Contaminant Level.              |    | Analyte detected in the associated Method Blank     |      |
|---------------|----|---|----|---|------|
|               | D  | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                      |      |
|               | Н  | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits Page 2 c | ofQ  |
|               | ND | Not Detected at the Reporting Limit                   | Р  | Sample pH Not In Range                              | 51.5 |
|               | R  | RPD outside accepted recovery limits                  | RL | Reporting Detection Limit                           |      |
|               | S  | % Recovery outside of range due to dilution or matrix |    |   |      |
|               |    |   |    |   |      |

| <b>Analytical Report</b> |  |
|--------------------------|--|
| Lab Order 1511B64        |  |

Date Reported: 12/1/2015

# Hall Environmental Analysis Laboratory, Inc.

| Analyses | Carlor Martin     | Result                                 | RL   | Qual | Units      | DF Date Analyzed            | Batch |
|----------|-------------------|--|------|------|------------|-----------------------------|-------|
| Lab ID:  | 1511B64-003       | Matrix:                                | SOIL |      | Received   | Date: 11/26/2015 11:00:00 A | M     |
| Project: | GCU 167E          |  |      |      | Collection | Date: 11/25/2015 11:27:00 A | M     |
| CLIENT:  | Blagg Engineering | Client Sample ID: West Wall 5-pt 2'-7' |      |      |            |                             |       |

| EPA METHOD 300.0: ANIONS        |           |          |       |    | Analyst: LGT                  |
|---------------------------------|-----------|----------|-------|----|-------------------------------|
| Chloride                        | ND        | 30       | mg/Kg | 20 | 11/30/2015 12:05:52 PM 22556  |
| EPA METHOD 8015M/D: DIESEL RANG | E ORGANIC | S        |       |    | Analyst: TOM                  |
| Diesel Range Organics (DRO)     | ND        | 9.9      | mg/Kg | 1  | 11/30/2015 11:29:30 AM 22542  |
| Surr: DNOP                      | 108       | 70-130   | %REC  | 1  | 11/30/2015 11:29:30 AM 22542  |
| EPA METHOD 8015D: GASOLINE RANG | E         |          |       |    | Analyst: NSB                  |
| Gasoline Range Organics (GRO)   | ND        | 4.0      | mg/Kg | 1  | 11/30/2015 10:36:29 AM A30514 |
| Surr: BFB                       | 81.4      | 66.2-112 | %REC  | 1  | 11/30/2015 10:36:29 AM A30514 |
| EPA METHOD 8021B: VOLATILES     |           |          |       |    | Analyst: NSB                  |
| Benzene                         | ND        | 0.040    | mg/Kg | 1  | 11/30/2015 10:36:29 AM B30514 |
| Toluene                         | ND        | 0.040    | mg/Kg | 1  | 11/30/2015 10:36:29 AM B30514 |
| Ethylbenzene                    | ND        | 0.040    | mg/Kg | 1  | 11/30/2015 10:36:29 AM B30514 |
| Xylenes, Total                  | ND        | 0.081    | mg/Kg | 1  | 11/30/2015 10:36:29 AM B30514 |
| Surr: 4-Bromofluorobenzene      | 105       | 80-120   | %REC  | 1  | 11/30/2015 10:36:29 AM B30514 |

| Qualifiers: | *  | Value exceeds Maximum Contaminant Level.              |    | Analyte detected in the associated Method  | Blank        |
|-------------|----|---|----|--|--------------|
|             | D  | Sample Diluted Due to Matrix                          | E  | Value above quantitation range             |              |
|             | Н  | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits | Page 3 of 9  |
|             | ND | Not Detected at the Reporting Limit                   | Р  | Sample pH Not In Range                     | 1 age 5 01 9 |
|             | R  | RPD outside accepted recovery limits                  | RL | Reporting Detection Limit                  |              |
|             | S  | % Recovery outside of range due to dilution or matrix |    |  |              |

| Analytical Report        |
|--------------------------|
| Lab Order 1511B64        |
| Date Reported: 12/1/2015 |

# Hall Environmental Analysis Laboratory, Inc.

| CLUENTE DI E : :          | Client Servels ID: Base 5 et |        |                                       |                             |          |  |  |  |
|---------------------------|------------------------------|--------|---------------------------------------|-----------------------------|----------|--|--|--|
| CLIENT: Blagg Engineering |                              |        | Client Samp                           | le ID: Base 5-pt            |          |  |  |  |
| Project: GCU 167E         |                              |        | Collection                            | Date: 11/25/2015 11:33:00 A | AM       |  |  |  |
| Lab ID: 1511B64-004       | Matrix: S                    | SOIL   | Received Date: 11/26/2015 11:00:00 AM |                             |          |  |  |  |
| Analyses                  | Result                       | RL Qua | Units                                 | DF Date Analyzed            | Batch    |  |  |  |
| EPA METHOD 300.0: ANIONS  |                              |        |                                       | Anal                        | yst: LGT |  |  |  |
| Chloride                  | ND                           | 30     | malka                                 | 20 11/20/2015 12:18:17      | DM 22556 |  |  |  |

| Chloride                           | ND     | 30       |   | mg/Kg | 20 | 11/30/2015 12:18:17 PM 22556  |
|------------------------------------|--------|----------|---|-------|----|-------------------------------|
| EPA METHOD 8015M/D: DIESEL RANGE C | RGANIC | S        |   |       |    | Analyst: TOM                  |
| Diesel Range Organics (DRO)        | 890    | 9.8      |   | mg/Kg | 1  | 11/30/2015 11:51:13 AM 22542  |
| Surr: DNOP                         | 98.5   | 70-130   |   | %REC  | 1  | 11/30/2015 11:51:13 AM 22542  |
| EPA METHOD 8015D: GASOLINE RANGE   |        |          |   |       |    | Analyst: NSB                  |
| Gasoline Range Organics (GRO)      | 2000   | 210      |   | mg/Kg | 50 | 11/30/2015 11:01:07 AM A30514 |
| Surr: BFB                          | 229    | 66.2-112 | S | %REC  | 50 | 11/30/2015 11:01:07 AM A30514 |
| EPA METHOD 8021B: VOLATILES        |        |          |   |       |    | Analyst: NSB                  |
| Benzene                            | 1.2    | 1.0      |   | mg/Kg | 50 | 11/30/2015 11:01:07 AM B30514 |
| Toluene                            | 48     | 2.1      |   | mg/Kg | 50 | 11/30/2015 11:01:07 AM B30514 |
| Ethylbenzene                       | 16     | 2.1      |   | mg/Kg | 50 | 11/30/2015 11:01:07 AM B30514 |
| Xylenes, Total                     | 170    | 4.2      |   | mg/Kg | 50 | 11/30/2015 11:01:07 AM B30514 |
| Surr: 4-Bromofluorobenzene         | 144    | 80-120   | S | %REC  | 50 | 11/30/2015 11:01:07 AM B30514 |

| Qualifiers: * |    | Value exceeds Maximum Contaminant Level.              |    | Analyte detected in the associated Method I | Blank        |
|---------------|----|---|----|---|--------------|
|               | D  | Sample Diluted Due to Matrix                          | Е  | Value above quantitation range              |              |
|               | Н  | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits  | Page 4 of 9  |
|               | ND | Not Detected at the Reporting Limit                   | Р  | Sample pH Not In Range                      | 1 age 4 01 9 |
|               | R  | RPD outside accepted recovery limits                  | RL | Reporting Detection Limit                   |              |
|               | S  | % Recovery outside of range due to dilution or matrix |    |   |              |

| Hall Environmental Anal       | ysis Labora  | tory, Inc.   |              | -         | Date Reported: 12/1/ | 2015      |
|-------------------------------|--------------|--------------|--------------|-----------|----------------------|-----------|
| CLIENT: Blagg Engineering     |              |              | Client Sampl | e ID: So  | uth Wall 4-pt 3'-7'  |           |
| Project: GCU 167E             |              |              | Collection 1 | Date: 11/ | /25/2015 11:41:00 /  | AM        |
| Lab ID: 1511B64-005           | Matrix:      | Matrix: SOIL |              |           | /26/2015 11:00:00 /  | M         |
| Analyses                      | Result       | RL Qu        | al Units     | DF        | Date Analyzed        | Batch     |
| EPA METHOD 300.0: ANIONS      | 1.1.1.1      |              |              |           | Anal                 | yst: LGT  |
| Chloride                      | ND           | 30           | mg/Kg        | 20        | 11/30/2015 12:30:41  | PM 22556  |
| EPA METHOD 8015M/D: DIESEL RA | ANGE ORGANIC | S            |              |           | Anal                 | yst: TOM  |
| Diesel Range Organics (DRO)   | ND           | 9.7          | mg/Kg        | 1         | 11/30/2015 12:12:47  | PM 22542  |
| Surr: DNOP                    | 93.3         | 70-130       | %REC         | 1         | 11/30/2015 12:12:47  | PM 22542  |
| EPA METHOD 8015D: GASOLINE R  | ANGE         |              |              |           | Anal                 | yst: NSB  |
| Gasoline Range Organics (GRO) | ND           | 4.1          | mg/Kg        | 1         | 11/30/2015 11:25:48  | AM A30514 |
| Surr: BFB                     | 85.7         | 66.2-112     | %REC         | 1         | 11/30/2015 11:25:48  | AM A30514 |
| EPA METHOD 8021B: VOLATILES   |              |              |              |           | Anal                 | yst: NSB  |
| Benzene                       | ND           | 0.041        | mg/Kg        | 1         | 11/30/2015 11:25:48  | AM B30514 |
| Toluene                       | 0.060        | 0.041        | mg/Kg        | 1         | 11/30/2015 11:25:48  | AM B30514 |
| Ethylbenzene                  | ND           | 0.041        | mg/Kg        | 1         | 11/30/2015 11:25:48  | AM B30514 |
| Xylenes, Total                | ND           | 0.083        | mg/Kg        | 1         | 11/30/2015 11:25:48  | AM B30514 |
| Surr: 4-Bromofluorobenzene    | 106          | 80-120       | %REC         | 1         | 11/30/2015 11:25:48  | AM B30514 |

**Analytical Report** Lab Order 1511B64

### Hall Environmental Analysis Laboratory, Inc.

| Qualifiers: | *  | Value exceeds Maximum Contaminant Level.              | В  | Analyte detected in the associated Method  | Blank       |
|-------------|----|---|----|--|-------------|
|             | D  | Sample Diluted Due to Matrix                          | Е  | Value above quantitation range             |             |
|             | Н  | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits | Page 5 of 9 |
|             | ND | Not Detected at the Reporting Limit                   | Р  | Sample pH Not In Range                     | rage 5 01 9 |
|             | R  | RPD outside accepted recovery limits                  | RL | Reporting Detection Limit                  |             |
|             | S  | % Recovery outside of range due to dilution or matrix |    |  |             |
|             |    |   |    |  |             |

WO#: 1511B64 01-Dec-15

| Hall Environmenta | l Analysis | s Laboratory, | Inc. |
|-------------------|------------|---------------|------|
|-------------------|------------|---------------|------|

Client: Blagg Engineering Project: GCU 167E

| Sample ID MB-22556               | SampType: MBLK            | TestCode: EPA Method 300.0: Anions                                     | 10 m 10 - 2   |
|----------------------------------|---------------------------|--|---------------|
| Client ID: PBS                   | Batch ID: 22556           | RunNo: 30531   |               |
| Prep Date: 11/30/2015            | Analysis Date: 11/30/2015 | SeqNo: 932129 Units: mg/Kg   |               |
| Analyte                          | Result PQL SPK value      | SPK Ref Val %REC LowLimit HighLimit %RPD                               | RPDLimit Qual |
| Chloride                         | ND 1.5                    |  |               |
| Sample ID LCS-22556              | SampType: LCS             | TestCode: EPA Method 300.0: Anions                                     |               |
| Client ID: LCSS                  | Batch ID: 22556           | RunNo: 30531   |               |
|                                  | Analysis Datas 44/20/2045 |  |               |
| Prep Date: 11/30/2015            | Analysis Date: 11/30/2015 | SeqNo: 932130 Units: mg/Kg   |               |
| Prep Date: 11/30/2015<br>Analyte |                           | SeqNo: 932130 Units: mg/Kg<br>SPK Ref Val %REC LowLimit HighLimit %RPD | RPDLimit Qual |

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

WO#: 1511B64 01-Dec-15

Qual

| Client:<br>Project:                       | Blagg I<br>GCU 1              | Engineering<br>67E |                             |           |             |                                   |           |                            |           | in an |  |
|---|-------------------------------|--------------------|-----------------------------|-----------|-------------|-----------------------------------|-----------|----------------------------|-----------|---|--|
| Sample ID M<br>Client ID: F<br>Prep Date: | MB-22542<br>PBS<br>11/30/2015 |                    | ype: MI<br>D: 22<br>Date: 1 |           | F           | tCode: El<br>tunNo: 3<br>SeqNo: 9 | 0504      | 8015M/D: Di<br>Units: mg/F |           | e Organics                                |  |
| Analyte                                   |                               | Result             | PQL                         | SPK value | SPK Ref Val | %REC                              | LowLimit  | HighLimit                  | %RPD      | RPDLimit                                  |  |
| Diesel Range Or                           | ganics (DRO)                  | ND                 | 10                          |           | 1           |                                   |           |                            | 1.00      | 1 - 1 - 2 - <sup>1</sup>                  |  |
| Surr: DNOP                                |                               | 10                 | 5                           | 10.00     |             | 102                               | 70        | 130                        | 100-21    | in the sector                             |  |
| Sample ID L                               | _CS-22542                     | SampT              | ype: LC                     | s         | Tes         | Code: El                          | PA Method | 8015M/D: Di                | esel Rang | e Organics                                |  |

| Client ID: LCSS             | Batch      | h ID: 22 | 542       | F           | RunNo: 3 | 0504     |             |      |          |      |
|-----------------------------|------------|----------|-----------|-------------|----------|----------|-------------|------|----------|------|
| Prep Date: 11/30/2015       | Analysis E | Date: 11 | 1/30/2015 | 5           | SeqNo: 9 | 31380    | Units: mg/k | g    |          |      |
| Analyte                     | Result     | PQL      | SPK value | SPK Ref Val | %REC     | LowLimit | HighLimit   | %RPD | RPDLimit | Qual |
| Diesel Range Organics (DRO) | 46         | 10       | 50.00     | 0           | 91.1     | 57.4     | 139         | 1.16 |          |      |
| Surr: DNOP                  | 4.8        |          | 5.000     |             | 96.5     | 70       | 130         |      |          |      |

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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WO#: 1511B64 01-Dec-15

.

### Hall Environmental Analysis Laboratory, Inc.

Client:Blagg EngineeringProject:GCU 167E

| Sample ID 5ML RB              | Samp       | Type: ME | BLK       | Tes         | tCode: El | PA Method | 8015D: Gaso | oline Rang | e        |      |
|-------------------------------|------------|----------|-----------|-------------|-----------|-----------|-------------|------------|----------|------|
| Client ID: PBS                | Batc       | h ID: A3 | 0514      | F           | RunNo: 3  | 0514      |             |            |          |      |
| Prep Date:                    | Analysis D | Date: 1  | 1/30/2015 | 5           | SeqNo: 9  | 31954     | Units: mg/H | (g         |          |      |
| Analyte                       | Result     | PQL      | SPK value | SPK Ref Val | %REC      | LowLimit  | HighLimit   | %RPD       | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | ND         | 5.0      |           |             |           |           |             |            |          |      |
| Surr: BFB                     | 810        | L        | 1000      | 4           | 81.5      | 66.2      | 112         |            | 10.00    |      |
| Sample ID 2.5UG GRO LCSC      | Samp       | Type: LC | s         | Tes         | tCode: El | PA Method | 8015D: Gaso | line Rang  | e        | 1.10 |
| Client ID: LCSS               | Batcl      | h ID: A3 | 0514      | F           | RunNo: 3  | 0514      |             |            |          |      |
| Prep Date:                    | Analysis E | Date: 11 | 1/30/2015 | S           | SeqNo: 9  | 31955     | Units: mg/M | g          |          |      |
| Analyte                       | Result     | PQL      | SPK value | SPK Ref Val | %REC      | LowLimit  | HighLimit   | %RPD       | RPDLimit | Qual |
| Gasoline Range Organics (GRO) | 23         | 5.0      | 25.00     | 0           | 92.2      | 79.6      | 122         |            | 10.00    | 1.1  |
|                               |            |          |           |             |           |           |             |            |          |      |

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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### Hall Environmental Analysis Laboratory, Inc.

WO#: 1511B64 01-Dec-15

**Client: Blagg Engineering** GCU 167E **Project:** 

| Sample ID 5ML RB           | Samp       | Type: ME | BLK       | Tes         | tiles     |           |             |       |              |      |
|----------------------------|------------|----------|-----------|-------------|-----------|-----------|-------------|-------|--------------|------|
| Client ID: PBS             | Batc       | h ID: B3 | 0514      | F           | RunNo: 3  | 0514      |             |       |              |      |
| Prep Date:                 | Analysis [ | Date: 1  | 1/30/2015 | S           | SeqNo: 9  | 31979     | Units: mg/k | (g    |              |      |
| Analyte                    | Result     | PQL      | SPK value | SPK Ref Val | %REC      | LowLimit  | HighLimit   | %RPD  | RPDLimit     | Qual |
| Benzene                    | ND         | 0.050    |           |             | _         |           |             | 194   | 11 1 - 1 - 2 |      |
| Toluene                    | ND         | 0.050    |           |             |           |           |             |       |              |      |
| Ethylbenzene               | ND         | 0.050    |           |             |           |           |             |       |              |      |
| Kylenes, Total             | ND         | 0.10     |           |             |           |           |             |       |              |      |
| Surr: 4-Bromofluorobenzene | 1.0        |          | 1.000     | 1.1.1.      | 105       | 80        | 120         |       | al and       |      |
| Sample ID 100NG BTEX LCS   | Samp       | Type: LC | S         | Tes         | tCode: El | PA Method | 8021B: Vola | tiles | Sugar 1      | 1    |
| Client ID: LCSS            | Batc       | h ID: B3 | 0514      | F           | RunNo: 3  | 0514      |             |       |              |      |
| Prep Date:                 | Analysis [ | Date: 11 | 1/30/2015 | S           | SeqNo: 9  | 31980     | Units: mg/k | (g    |              |      |
| Analyte                    | Result     | PQL      | SPK value | SPK Ref Val | %REC      | LowLimit  | HighLimit   | %RPD  | RPDLimit     | Qual |
| Benzene                    | 0.97       | 0.050    | 1.000     | 0           | 97.4      | 80        | 120         | 26    |              | 1    |
| Foluene                    | 0.91       | 0.050    | 1.000     | 0           | 90.6      | 80        | 120         |       |              |      |
| Ethylbenzene               | 0.91       | 0.050    | 1.000     | 0           | 91.1      | 80        | 120         |       |              |      |
| Kylenes, Total             | 2.6        | 0.10     | 3.000     | 0           | 88.1      | 80        | 120         |       |              |      |
|                            |            |          |           |             |           |           |             |       |              | S    |

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Р
- Reporting Detection Limit RL

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Sample pH Not In Range

| HALL<br>ENVIRONMENTAL<br>ANALYSIS<br>LABORATORY  | TEL: 505-345-39   | 4901 Hawkin<br>buquerque, NM 8 | 77109 Sam   | ple Log-In Check Li            | ist  |
|--|-------------------|--------------------------------|-------------|--------------------------------|------|
| Client Name: BLAGG   | Work Order Numbe  | er: 1511B64                    |             | RcptNo: 1                      |      |
| Received by/date: AF 11/26/15  |                   |                                | 10.00       |                                |      |
| Logged By: Anne Thorne 11  | /26/2015 11:00:00 | AM                             | anne Am     | -                              |      |
| Completed By: Anne Thorne 11   | /30/2015          |                                | arre Han    |                                |      |
| Reviewed By:   | 1/30/15           |                                | Cana 20 -   | a Van Rolatie                  |      |
| Chain of Custody   | 1/ 1/             |                                |             |                                | 1    |
| 1. Custody seals intact on sample bottles?   |                   | Yes                            | No 🗆        | Not Present                    |      |
| 2. Is Chain of Custody complete?   |                   | Yes 🗹                          | No 🗌        | Not Present                    |      |
| 3. How was the sample delivered?   |                   | Courier                        |             |                                |      |
| Log In   |                   |                                |             |                                |      |
| <ol> <li>Was an attempt made to cool the samples?</li> </ol>                             |                   | Yes 🗹                          | No 🗌        |                                |      |
| 5. Were all samples received at a temperature of   | >0° C to 6.0°C    | Yes 🗹                          | No 🗌        |                                |      |
| 6. Sample(s) in proper container(s)?   |                   | Yes 🗹                          | No 🗆        |                                |      |
| 7. Sufficient sample volume for indicated test(s)?                                       |                   | Yes 🗹                          | No 🗆        |                                |      |
| 8. Are samples (except VOA and ONG) properly p   | preserved?        | Yes 🗹                          | No 🗌        |                                |      |
| 9. Was preservative added to bottles?  |                   | Yes                            | No 🗹        | NA 🗆                           |      |
| 0.VOA vials have zero headspace?   |                   | Yes                            | No 🗆        | No VOA Vials                   |      |
| 1. Were any sample containers received broken?   |                   | Yes 🗔                          | No 🗹        | # of preserved bottles checked | T    |
| 12. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)      |                   | Yes 🗹                          | No 🗌        | for pH:<br>(<2 or >12 unless   | note |
| 3. Are matrices correctly identified on Chain of Cu                                      | stody?            | Yes 🗹                          | No 🗌        | Adjusted?                      | -    |
| 4. Is it clear what analyses were requested?   |                   | Yes 🗹                          | No 🗌        |                                |      |
| 5. Were all holding times able to be met?<br>(If no, notify customer for authorization.) |                   | Yes 🗹                          | No          | Checked by:                    | -    |
| pecial Handling (if applicable)  |                   |                                |             |                                |      |
| 16. Was client notified of all discrepancies with this                                   | order?            | Yes                            | No 🗌        | NA 🗹                           |      |
| Person Notified:<br>By Whom:<br>Regarding:<br>Client Instructions:                       | Date<br>Via:      | eMail                          | Phone 🗌 Fax | In Person                      |      |
| 17. Additional remarks:  |                   |                                | (1) (4)     |                                |      |
| 8. <u>Cooler Information</u>   | Intact Seal No    | Seal Date                      | Signed By   |                                |      |

|              | The state of the s |            | stody Record              | Turn-Around               |                      | Cour Day                  |      |              |             | 5              |                    |                     |               |   |                              |  |                 |          | NT |   |                      |
|--------------|--|------------|---------------------------|---------------------------|----------------------|---------------------------|------|--------------|-------------|----------------|--------------------|---------------------|---------------|---|------------------------------|--|-----------------|----------|----|---|----------------------|
|              |  | AMERI      |                           | Standard     Project Name |                      | SAME DAY                  | -    |              |             |                | AN                 | IAL                 | Y:            | SIS   | S L                          | AE   | 30              | RA       | TC | R | r                    |
| lailing      | BLA  |            | GNEERING                  |                           | J 167E               |                           |      |              |             |                |                    | w.ha                |               |   |                              |  |                 |          |    |   |                      |
| lating       | Audiesa  |            |                           | Project #:                | 1012                 |                           | _    |              | 4901        | Hav            | vkins              | NE ·                | - Alt         | upuc  | erqu                         | e, N   | M 87            | 109      |    |   |                      |
|              |  |            |                           |                           |                      |                           |      | -            | Tel.        | 505-           | 345-3              |                     |               | Fax   |                              | and in case of the local division of the loc |                 | 7        |    |   | 100                  |
| hone         | The second   | 05-3       | 20-1183                   |                           |                      |                           | _    |              |             |                |                    | 4                   | Anal          | ysis  | Req                          | uest   |                 | -        |    |   |                      |
|              | r Fax#:  |            |                           | Project Mana              |                      |                           |      | E            | VIno        | CYNN-T         |                    |                     |               | (†O   | S                            |  |                 |          |    |   |                      |
| A/QC I       | Package:<br>Idard  |            | Level 4 (Full Validation) | J.E                       | SLA66                |                           |      | HMB's (8021) | 0           | TOXO TH        |                    | SIMS)               |               | ,PO4,   | 2 PCB                        |  | 14              |          |    |   |                      |
| CCREDI       |  | □ Othe     | er                        | Sampler: J                | : BLAG6              | - No                      |      |              | P 1         | 10/D           | 04.1)              | 8270                |               | 03,NO2  | 1 808                        |  | A)              |          |    | 1 | or N)                |
| 1 EDD        | (Type)   |            |                           | Sample Tem                | perature: 3,         | 75                        |      |              | BE          | 5              | t 19               | 0 or                | etals         | I'NO  | ides                         | ()   | 07-             | N        |    |   | Z                    |
| Date         | Time   | Matrix     | Sample Request ID         | Type and #                | Preservative<br>Type | HEAL NO                   | 8/28 | BTEX + NTBE  | BTEX + MTBE | TPH 8015B (GRO | EDB (Method 504.1) | PAH's (8310 or 8270 | RCRA 8 Metals | Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> ) | 8081 Pesticides / 8082 PCB's | 8260B (VOA)  | 8270 (Semi-VOA) | CHURCHDE |    |   | Air Bubbles (Y or N) |
| 5/15         | 1120   | SUIL       | North wall 5-pt<br>2-5-   | 402×1                     | COUL                 | -00                       | 1 4  | X            | ->          | -              |                    |                     | -             | È   |                              |  |                 | ×        |    |   |                      |
| 11           | 1124   | 2(         | EAST Wall 5-PE            | 1(                        | •1                   | 705                       | 2    | X            |             | K              | -                  |                     |               |   |                              |  |                 | ×        |    |   |                      |
| 11           | 1127   | 1(         | west wall 5-pc<br>2'-7'   | LL LL                     | 1(                   | TUE                       |      | ×            | 1           | ×              |                    |                     |               |   |                              |  | 1               | X        |    |   |                      |
| 1            | 1133   | 15         | BASE 5- pt                | 11                        |                      | 70                        | 1    | x            |             | ×              |                    |                     |               |   |                              |  |                 | ×        |    |   |                      |
| (            | 1141   | 15         | South Wall 4- pt<br>3'-7- | 41                        | ٤(                   | 205                       |      | ~            | -           | ×              |                    |                     |               |   |                              |  |                 | ×        |    |   |                      |
|              |  |            |                           | 12                        |                      |                           |      |              | -           |                |                    |                     |               |   |                              |  |                 |          |    | + |                      |
|              |  |            |                           |                           |                      |                           |      |              |             |                |                    |                     |               |   |                              |  |                 |          |    |   |                      |
|              |  |            |                           |                           |                      |                           |      | -            |             |                |                    |                     |               |   |                              |  |                 |          |    |   |                      |
| ate:<br>5/15 | Time:<br>1214  | Relinquish | 1 Blogg                   | Received by:              |                      | Date Time                 | 5    | Rem          | arks:       |                | e B                | Cec                 | les           | 10  | Fo                           | lloc   | ן<br>ט          |          |    |   | _                    |
| ate:         | 1  | Relinquish | and by:                   | Received by:              | Walts                | Date Time<br>11/25/15-130 | -    | popiki       | liby A-     | 0              | NTA                | *                   | 54            | EVE   | M                            | Osc  | AL              | ant th   |    |   |                      |



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

December 07, 2015

Jeff Blagg Blagg Engineering P. O. Box 87 Bloomfield, NM 87413 TEL: (505) 320-1183 FAX (505) 632-3903

RE: GCU 167E

OrderNo.: 1512182

Dear Jeff Blagg:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/4/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

| Analytical | Report |
|------------|--------|
|------------|--------|

#### Lab Order 1512182

Date Reported: 12/7/2015

Detal

### Hall Environmental Analysis Laboratory, Inc.

 CLIENT: Blagg Engineering
 Client Sample ID: BASE 5-pt Comp.

 Project:
 GCU 167E
 Collection Date: 12/3/2015 9:40:00 AM

 Lab ID:
 1512182-001
 Matrix: MEOH (SOIL)
 Received Date: 12/4/2015 8:00:00 AM

| Analyses                       | Result     | RL       | Qual | Units | DF | Date Analyzed         | Batch  |
|--------------------------------|------------|----------|------|-------|----|-----------------------|--------|
| EPA METHOD 300.0: ANIONS       |            |          |      |       |    | Analyst               | LGT    |
| Chloride                       | ND         | 30       |      | mg/Kg | 20 | 12/4/2015 12:41:59 PM | 22638  |
| EPA METHOD 8015M/D: DIESEL RAN | GE ORGANIC | S        |      |       |    | Analyst:              | KJH    |
| Diesel Range Organics (DRO)    | 1100       | 95       |      | mg/Kg | 10 | 12/4/2015 12:09:43 PM | 22634  |
| Surr: DNOP                     | 0          | 70-130   | S    | %REC  | 10 | 12/4/2015 12:09:43 PM | 22634  |
| EPA METHOD 8015D: GASOLINE RA  | NGE        |          |      |       |    | Analyst:              | NSB    |
| Gasoline Range Organics (GRO)  | 55         | 24       |      | mg/Kg | 5  | 12/4/2015 11:45:25 AM | A30626 |
| Surr: BFB                      | 155        | 66.2-112 | S    | %REC  | 5  | 12/4/2015 11:45:25 AM | A30626 |
| EPA METHOD 8021B: VOLATILES    |            |          |      |       |    | Analyst:              | NSB    |
| Benzene                        | ND         | 0.12     |      | mg/Kg | 5  | 12/4/2015 11:45:25 AM | B30626 |
| Toluene                        | 0.47       | 0.24     |      | mg/Kg | 5  | 12/4/2015 11:45:25 AM | B30626 |
| Ethylbenzene                   | 0.35       | 0.24     |      | mg/Kg | 5  | 12/4/2015 11:45:25 AM | B30626 |
| Xylenes, Total                 | 4.4        | 0.48     |      | mg/Kg | 5  | 12/4/2015 11:45:25 AM | B30626 |
| Surr: 4-Bromofluorobenzene     | 151        | 80-120   | S    | %REC  | 5  | 12/4/2015 11:45:25 AM | B30626 |
|                                |            |          |      |       |    |                       |        |

| Qualifiers: | *  | Value exceeds Maximum Contaminant Level.              | В  | Analyte detected in the associated Method Blank        |
|-------------|----|---|----|--|
|             | D  | Sample Diluted Due to Matrix                          | E  | Value above quantitation range                         |
|             | Н  | Holding times for preparation or analysis exceeded    | J  | Analyte detected below quantitation limits Page 1 of 5 |
|             | ND | Not Detected at the Reporting Limit                   | Р  | Sample pH Not In Range                                 |
|             | R  | RPD outside accepted recovery limits                  | RL | Reporting Detection Limit                              |
|             | S  | % Recovery outside of range due to dilution or matrix |    |  |
|             |    |   |    |  |

### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1512182 07-Dec-15

| Client:<br>Project:                   | Blagg<br>GCU                 | Engineering<br>167E                                    |                  |  |                                  |      |                |      |
|---------------------------------------|------------------------------|--|------------------|--|----------------------------------|------|----------------|------|
| Sample ID<br>Client ID:<br>Prep Date: | MB-22638<br>PBS<br>12/4/2015 | SampType: MBL<br>Batch ID: 2263<br>Analysis Date: 12/4 | 8                | TestCode: EPA Metho<br>RunNo: 30634<br>SeqNo: 936263 | od 300.0: Anions<br>Units: mg/Kg |      |                |      |
| Analyte<br>Chloride                   |                              | Result PQL S<br>ND 1.5                                 | PK value SPK Ref | √al %REC LowLim                                      | it HighLimit                     | %RPD | RPDLimit       | Qual |
| A CONTRACT ON TAXABLE                 | LCS-22638<br>LCSS            | SampType: LCS<br>Batch ID: 2263                        | 8                | TestCode: EPA Metho<br>RunNo: 30634                  | od 300.0: Anions                 |      |                |      |
| Prep Date:                            | 12/4/2015                    | Analysis Date: 12/4                                    | /2015            | SeqNo: 936264  | Units: mg/Kg                     | 1    |                |      |
| Analyte                               |                              | Result PQL S   | PK value SPK Ref | al %REC LowLim                                       | it HighLimit                     | %RPD | RPDLimit       | Qual |
| Chloride                              |                              | 14 1.5   | 15.00 (          | 94.6 9   | 0 110                            | 100  | And A CONTRACT | 201  |

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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Hall Environmental Analysis Laboratory, Inc.

**Client:** Blagg Engineering **Project:** GCU 167E

| Sample ID MB-22634          | SampT      | ype: MI | BLK       | Tes         | tCode: El | PA Method | 8015M/D: Di | esel Rang | e Organics |      |
|-----------------------------|------------|---------|-----------|-------------|-----------|-----------|-------------|-----------|------------|------|
| Client ID: PBS              | Batch      | ID: 22  | 634       | F           | RunNo: 3  | 0624      |             |           |            |      |
| Prep Date: 12/4/2015        | Analysis D | ate: 1  | 2/4/2015  | 5           | SeqNo: 9  | 35424     | Units: mg/h | ٢g        |            |      |
| Analyte                     | Result     | PQL     | SPK value | SPK Ref Val | %REC      | LowLimit  | HighLimit   | %RPD      | RPDLimit   | Qual |
| Diesel Range Organics (DRO) | ND         | 10      |           |             |           | 100       |             | 1         | 100 M      |      |
| Surr: DNOP                  | 9.8        |         | 10.00     |             | 97.7      | 70        | 130         | - NE      | 16.0       |      |
| Sample ID LCS-22634         | SampT      | ype: LC | S         | Tes         | tCode: El | PA Method | 8015M/D: Di | esel Rang | e Organics |      |
| Client ID: LCSS             | Batch      | ID: 22  | 634       | F           | RunNo: 3  | 0624      |             |           |            |      |
| Prep Date: 12/4/2015        | Analysis D | ate: 12 | 2/4/2015  | S           | SeqNo: 9  | 35425     | Units: mg/k | ٢g        |            |      |
| Analyte                     | Result     | PQL     | SPK value | SPK Ref Val | %REC      | LowLimit  | HighLimit   | %RPD      | RPDLimit   | Qual |
| Diesel Range Organics (DRO) | 45         | 10      | 50.00     | 0           | 89.6      | 57.4      | 139         |           | 12.00      |      |
| Surr: DNOP                  | 4.8        |         | 5.000     |             | 96.2      | 70        | 130         |           |            |      |

#### Qualifiers:

- Value exceeds Maximum Contaminant Level. \*
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Detection Limit RL

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WO#: 1512182 07-Dec-15

| Hall Environmen | tal Analysis | Labora | tory, Inc. |
|-----------------|--------------|--------|------------|
|-----------------|--------------|--------|------------|

Client: Blagg Engineering Project: GCU 167E

| Sample ID 5ML RB                           | SampType: MBLK            | TestCode: EPA Method 8015D: Gasoline Range |                       |  |  |  |  |
|--|---------------------------|--|-----------------------|--|--|--|--|
| Client ID: PBS                             | Batch ID: A30626          | RunNo: 30626                               |                       |  |  |  |  |
| Prep Date:                                 | Analysis Date: 12/4/2015  | SeqNo: 935784                              | Units: mg/Kg          |  |  |  |  |
| Analyte                                    | Result PQL SPK value      | SPK Ref Val %REC LowLimit                  | HighLimit %RPD        | RPDLimit Qual                            |  |  |  |
| Gasoline Range Organics (GRO)<br>Surr: BFB | ND 5.0<br>850 1000        | 84.6 66.2                                  | 112                   | an a |  |  |  |
| Sample ID 2.5UG GRO LCS                    | SampType: LCS             | TestCode: EPA Method                       | 8015D: Gasoline Range | 9  |  |  |  |
| Client ID: LCSS                            | Batch ID: A30626          | RunNo: 30626                               |                       |  |  |  |  |
| Prep Date:                                 | Analysis Date: 12/4/2015  | SeqNo: 935785                              | Units: mg/Kg          |  |  |  |  |
| Analyte                                    | Result PQL SPK value      | SPK Ref Val %REC LowLimit                  | HighLimit %RPD        | RPDLimit Qual                            |  |  |  |
| Gasoline Range Organics (GRO)<br>Surr: BFB | 23 5.0 25.00<br>1000 1000 | 0 93.4 79.6<br>102 66.2                    | 122<br>112            |  |  |  |  |
| Sample ID MB-22611                         | SampType: MBLK            | TestCode: EPA Method                       | 8015D: Gasoline Range |  |  |  |  |
| Client ID: PBS                             | Batch ID: 22611           | RunNo: 30626                               |                       |  |  |  |  |
| Prep Date: 12/3/2015                       | Analysis Date: 12/4/2015  | SeqNo: 935788                              | Units: %REC           |  |  |  |  |
| Analyte                                    | Result PQL SPK value      | SPK Ref Val %REC LowLimit                  | HighLimit %RPD        | RPDLimit Qual                            |  |  |  |
| Surr: BFB                                  | 900 1000                  | 90.5 66.2                                  | 112                   |  |  |  |  |
| Sample ID LCS-22611                        | SampType: LCS             | TestCode: EPA Method                       | 8015D: Gasoline Range |  |  |  |  |
| Client ID: LCSS                            | Batch ID: 22611           | RunNo: 30626                               |                       |  |  |  |  |
| Prep Date: 12/3/2015                       | Analysis Date: 12/4/2015  | SeqNo: 935789                              | Units: %REC           |  |  |  |  |
| Analyte                                    | Result PQL SPK value      | SPK Ref Val %REC LowLimit                  | HighLimit %RPD        | RPDLimit Qual                            |  |  |  |
| Surr: BFB                                  | 1100 1000                 | 111 66.2                                   | 112                   | ul de la citaria d                       |  |  |  |

#### Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
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- R RPD outside accepted recovery limits
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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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### QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Blagg Engineering Project: GCU 167E

| Sample ID     5ML RB     SampType:     MBLK       Client ID:     PBS     Batch ID:     B30626 |               |                          | TestCode: EPA Method 8021B: Volatiles |           |                 |           |           |              |        |   |      |
|---|---------------|--------------------------|---------------------------------------|-----------|-----------------|-----------|-----------|--------------|--------|---|------|
|   |               |                          | F                                     | RunNo: 3  | 0626            |           |           |              |        |   |      |
| Prep Date:  |               | Analysis Date: 12/4/2015 |                                       | S         | SeqNo: 935815   |           |           | Units: mg/Kg |        |   |      |
| Analyte   |               | Result                   | PQL                                   | SPK value | SPK Ref Val     | %REC      | LowLimit  | HighLimit    | %RPD   | RPDLimit                                  | Qual |
| Benzene   | 1.0           | ND                       | 0.050                                 |           |                 |           |           |              |        |   |      |
| Toluene   |               | ND                       | 0.050                                 |           |                 |           |           |              |        |   |      |
| Ethylbenzene  |               | ND                       | 0.050                                 |           |                 |           |           |              |        |   |      |
| Xylenes, Total  |               | ND                       | 0.10                                  |           |                 |           |           |              |        |   |      |
| Surr: 4-Bromoflu  | uorobenzene   | 1.1                      |                                       | 1.000     | Sec. 1          | 110       | 80        | 120          | Sec. 1 | - Section                                 |      |
| Sample ID 10  | OONG BTEX LCS | SampT                    | ype: LC                               | s         | Tes             | tCode: El | PA Method | 8021B: Vola  | tiles  | 1. A. | 2.42 |
| Client ID: LO   | CSS           | Batcl                    | h ID: B3                              | 0626      | F               | RunNo: 3  | 0626      |              |        |   |      |
| Prep Date:  |               | Analysis E               | Analysis Date: 12/4/2015              |           | S               | SeqNo: 9  | 35816     | Units: mg/h  | (g     |   |      |
| Analyte   |               | Result                   | PQL                                   | SPK value | SPK Ref Val     | %REC      | LowLimit  | HighLimit    | %RPD   | RPDLimit                                  | Qual |
| Benzene   |               | 0.98                     | 0.050                                 | 1.000     | 0               | 98.2      | 80        | 120          | 1.19   | 100                                       | 5.10 |
| Toluene   |               | 0.92                     | 0.050                                 | 1.000     | 0               | 91.6      | 80        | 120          |        |   |      |
| Ethylbenzene  |               | 0.94                     | 0.050                                 | 1.000     | 0               | 93.6      | 80        | 120          |        |   |      |
| Xylenes, Total  |               | 2.7                      | 0.10                                  | 3.000     | 0               | 90.6      | 80        | 120          |        |   |      |
| Surr: 4-Bromoflu  | uorobenzene   | 1.2                      |                                       | 1.000     | 1. 2. 2.        | 117       | 80        | 120          | - And  |   | 1    |
| Sample ID M   | B-22611       | SampT                    | ype: ME                               | BLK       | Tes             | tCode: El | PA Method | 8021B: Vola  | tiles  | 100                                       | 2.01 |
| Client ID: PE   | BS            | Batch                    | n ID: 22                              | 611       | F               | RunNo: 3  | 0626      |              |        |   |      |
| Prep Date: 1  | 12/3/2015     | Analysis D               | ate: 12                               | 2/4/2015  | S               | SeqNo: 9  | 35819     | Units: %RE   | с      |   |      |
| Analyte   |               | Result                   | PQL                                   | SPK value | SPK Ref Val     | %REC      | LowLimit  | HighLimit    | %RPD   | RPDLimit                                  | Qual |
| Surr: 4-Bromoflu  | uorobenzene   | 1.2                      |                                       | 1.000     |                 | 117       | 80        | 120          | 1.175  |   |      |
| Sample ID LC  | CS-22611      | SampT                    | ype: LC                               | S         | Tes             | tCode: El | PA Method | 8021B: Vola  | tiles  | STORE OF                                  |      |
| Client ID: LO   | CSS           | Batch                    | D: 22                                 | 611       | F               | RunNo: 3  | 0626      |              |        |   |      |
| Prep Date: 1  | 12/3/2015     | Analysis D               | ate: 12                               | 2/4/2015  | S               | SeqNo: 9  | 35820     | Units: %RE   | с      |   |      |
| Analyte   |               | Result                   | PQL                                   | SPK value | SPK Ref Val     | %REC      | LowLimit  | HighLimit    | %RPD   | RPDLimit                                  | Qual |
| Surr: 4-Bromoflu  | uorobenzene   | 1.3                      |                                       | 1.000     | P. 10 / 10 / 10 | 132       | 80        | 120          |        |   | S    |

#### Qualifiers:

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- ND Not Detected at the Reporting Limit
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- P Sample pH Not In Range
- RL Reporting Detection Limit

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| ENVIRONMENTAL<br>ANALYSIS<br>LABORATORY   | nvironmental Analysis I<br>4901 H<br>Albuquerque,<br>505-345-3975 FAX: 505<br>bsite: www.hallenvironn | awkins NE<br>NM 87109<br>-345-4107 | Sam       | ple Log-In Check List             |
|---|---|------------------------------------|-----------|-----------------------------------|
| Client Name: BLAGG Work O   | rder Number 151218  | 2                                  |           | RcpINo: 1                         |
| Received by/date: JA 12-10  | 14/15   |                                    |           |                                   |
| ogged By: Celina Sessa 12/4/2015  | 8:00:00 AM  | Cel                                | in S      | ma                                |
| Completed By: Celina Sessa 12/4/2015  | 9:09:59 AM  | Cel                                | in S      | -                                 |
| Reviewed By: 12 041   | 15  |                                    |           |                                   |
| hain of Custody   |   |                                    |           |                                   |
| 1. Custody seals intact on sample bottles?  | Yes [   | ] N                                |           | Not Present                       |
| 2. Is Chain of Custody complete?  | Yes 5   | e n                                |           | Not Present                       |
| 3. How was the sample delivered?  | Courie  |                                    |           |                                   |
| .og In  |   |                                    |           |                                   |
| 4. Was an attempt made to cool the samples?   | Yes   | N N                                | •         | na 🗆                              |
| 5. Were all samples received at a temperature of >0° C to   | o 6.0°C Yes   | ) No                               |           |                                   |
| 3. Sample(s) in proper container(s)?  | Yes   | N N                                | • 🗆       |                                   |
| 7. Sufficient sample volume for indicated test(s)?  | Yes 6   | 2 N                                |           |                                   |
| 3. Are samples (except VOA and ONG) properly preserved  | d? Yes 5  |                                    |           |                                   |
| <ol><li>Was preservative added to bottles?</li></ol>  | Yes [   | N                                  | •         | na 🗆                              |
| 0.VOA vials have zero headspace?  | Yes [   | N                                  | • 🗆       | No VOA Vials 🔽                    |
| 1. Were any sample containers received broken?  | Yes [   |                                    | 0 🗹       | # of preserved<br>bottles checked |
| 2. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)                                  | Yes 5   | n N                                | •         | for pH:<br>(<2 or >12 unless note |
| 3, Are matrices correctly identified on Chain of Custody?   | Yes 6   |                                    | ALC: 10.1 | Adjusted?                         |
| 4, is it clear what analyses were requested?  | Yes b   | 1.1                                |           | Ac. 10 10                         |
| 5. Were all holding times able to be met?<br>(If no, notify customer for authorization.)                            | Yes 5   | e n                                | •         | Checked by:                       |
| pecial Handling (if applicable)   |   |                                    |           |                                   |
| 6. Was client notified of all discrepancies with this order?  | Yes   | I N                                |           | NA 🗹                              |
| Person Notified:  | Date  |                                    |           |                                   |
| By Whom:  | Via: 📋 eMail  | Phone [                            | Fax       | In Person                         |
| Regarding:  |   |                                    |           |                                   |
| Client Instructions:  |   |                                    |           |                                   |
| 7. Additional remarks:<br>8. <u>Cooler Information</u><br>Cooler No   Temp <sup>®</sup> C   Condition   Seal Intact | Seal No Seal Date   | s Signed                           | By        |                                   |
| 1 1.3 Good Yes  | 4   |                                    |           |                                   |

| Chain-of-Custody Record<br>lient: BP Amenica<br>BLAGG ENGINEERING<br>ailling Address: | Turn-Around Time:       ASAP         Standard       SAME DAV         Project Name:       GCU         GCU       167E  |
|---|--|
|   | Project #: Tel. 505-345-3975 Fax 505-345-4107  |
| hone #: 505-320-1183<br>nail or Fax#:   | Analysis Request   |
| A/QC Package:   | J. BLAGG (Gas on Log States of |
| Ccreditation  | Sampler: J. BLAGG<br>On los: XYes □ No UL 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1  |
| EDD (Type)       Date     Time       Matrix     Sample Request ID                     | Alic Bubbles (Yor Nu)     Alic Bubbles (Soci)       BIEX + MIBE + IPH (Gas only)       BIEX + MIBE + IPH (Gas only)       Di Ice:       TPH (Method 418.1)       TPH (Method 504.1)       PAH's (8310 or 8270 SIMS)       RCRA 8 Metals       Anions (F.CI.NO <sub>3</sub> .NO <sub>2</sub> , PO4.SO <sub>4</sub> )       8270 (Semi-VOA)       B12 X + MIBE + IPH (Gas only)  |
| 3/2015 0940 SOIL BASE 5-PE COMP-  | 402×1 COOL -001 X X X  |
|   |  |
|   |  |
|   |  |
| ate: Time: Relinquished by:   | Received by:<br>Date Time<br>Received by:<br>Date Time<br>Date Time  |
| 3/15 1741 / pristre Wallers   | Det Ocht 12/04/15 0800 CONTACT : STEVE MUSKAL  |

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District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztee, 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

Form C-138 Revised August 1, 2011 te Management Facility Operator

\*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

|                     | <b>REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE</b>  |
|---------------------|--|
| 1.                  | Generator Name and Address:<br>BP America Production Co. 200 Energy Ct. Farmington, NM 87401   |
| 2.                  | Originating Site:<br>Gallegos Canyon Unit #167E<br>Paykey: VHIXONEVB2  |
| 3.                  |  |
| 4.<br>Es            | Source and Description of Waste: Hydrocarbon impacted soils<br>timated Volume 150 yd / bbls Known Volume (to be entered by the operator at the end of the haul) 100 (yd ybbls  |
| I, Irep hav         | Steve Moskal   |
|                     | Transporter:<br>ssfire   |
| N<br>A<br>M<br>Wast | Permitted Surface Waste Management Facility ame and Facility Permit #: Industrial Ecosystems Inc., JFJ Waste Management Facility (JFJ), Permit NM-01-0010B ddress of Facility: #49 CR 3150 Aztec, NM iethod of Treatment and/or Disposal:   Evaporation Injection Treating Plant Landfarm Landfall Other te Acceptance Status:  APPROVED DATE: HATURE:  Surface Waste Management Facility Authorized Agent |