## SITE INFORMATION

| Report Type: Closure Report                            |   |   |  |                            |                                     |                                       |  |  |  |  |
|--|---|---|--|----------------------------|-------------------------------------|---------------------------------------|--|--|--|--|
| General Site In  | formation:  |   |  | ·····                      |                                     |                                       |  |  |  |  |
| Site:  | and the second secon | Down South                                  | State Com #4H                          |                            | <u>, in prince as a second c</u>    |                                       | ana igin da dalamin and 1777 (1997). Alamanya ya manga ang ang da 1979 (1999). |  |  |  |
| Company:   |   | COG Operat                                  | ing LLC                                |                            |                                     | · · · · · · · · · · · · · · · · · · · |  |  |  |  |
| Section, Towns   | ship and Range  | Sec 19                                      | T 26S                                  | R 28E                      |                                     | ·                                     |  |  |  |  |
| Lease Number:  |   | API-30-015-3                                | 7256                                   |                            |                                     |                                       |  |  |  |  |
| County:  |   | Eddy County                                 | y                                      |                            |                                     |                                       |  |  |  |  |
| GPS:   |   |   | 32.02223° N                            |                            |                                     | 104.11                                | 917° W   |  |  |  |
| Surface Owner  | :   | State                                       | •                                      |                            |                                     |                                       |  |  |  |  |
| Mineral Owner:   |   |   |  |                            |                                     |                                       |  |  |  |  |
| Directions: From the inter-<br>apx. 3.0 miles<br>road. |   | From the inters<br>apx. 3.0 miles,<br>road. | section of Hwy 285<br>turn SOUTH and o | and Whites<br>continue for | s City Road, tra<br>2.7 miles to lo | avel WEST o<br>cation on We           | n Whites City Rd. for<br>est side of the lease                                 |  |  |  |
| · · ·  |   |   |  |                            |                                     |                                       |  |  |  |  |
| Release Data:  |   |   |  |                            |                                     |                                       |  |  |  |  |
| Date Released:   | <u></u> _   | 12/8/2013                                   |  | ·                          |                                     | ARTESI                                | A DISTRICT   |  |  |  |
| Type Release: Oil and Produ                            |   |   | iced water                             |                            |                                     | AHC                                   | N 0 0044   |  |  |  |
| Source of Contamination: Failed FWKC                   |   |   | ) Gasket                               |                            |                                     | AUG                                   | <del>2 9 2014</del>  |  |  |  |
| Fluid Released: 40 bbls                                |   |   |  |                            |                                     |                                       |  |  |  |  |
| Fluids Recovered: 0 bbls                               |   |   |  |                            | ·                                   | REC                                   | CEIVED   |  |  |  |
| Official Communication:                                |   |   |  | •                          |                                     |                                       |  |  |  |  |
| Name:  | Robert McNeil   |   |  | lke Tavarez                |                                     |                                       |  |  |  |  |
| Company:   | COG Operating, LI   | С   |  |                            | Tetra Tech                          |                                       |  |  |  |  |
| Address:   | One Concho Cente  |   |  |                            | 4000 N Big                          | Spring                                |  |  |  |  |
| Address.   |   | 51  |  |                            | 4000 N. Big                         | Spring                                |  |  |  |  |
| <b>O</b> <sup>th</sup> 11                              | 1000 W. IIIIIIOIS AVE   |   |  |                            | Ste 401                             |                                       |  |  |  |  |
|  | IVIIdiand Texas, 79   | /01   |  |                            | Midland, Ie                         | xas                                   |  |  |  |  |
| Phone number:  | (432) 686-3023  |   |  |                            | (432) 687-8                         | 110                                   |  |  |  |  |
| Fax:   | (432) 684-7137  |   |  |                            |                                     |                                       |  |  |  |  |
| Email:   | rmcneil@concho  | resources.com                               |  |                            | Ike.Tavare                          | z@tetratech                           | <u>n.com</u>   |  |  |  |
| <u> </u>   |   |   |  |                            |                                     |                                       |  |  |  |  |
| Ranking Criteri  | a,  |   | · · · · · · · · · · · · · · · · · · ·  |                            | , di ni înci în defende a           |                                       |  |  |  |  |
| Depth to Ground  | water:  |   | Banking Score                          | 1                          |                                     | Site Data                             |  |  |  |  |
| <50 ft   |   |   | 20                                     | +                          |                                     | Jile Dala                             |  |  |  |  |
| 50-99 ft   |   |   | 10                                     | -                          |                                     |                                       |  |  |  |  |
| >100 ft.   |   |   | 0                                      |                            |                                     |                                       |  |  |  |  |
| Walliand Drates  | et  |   |  | 1                          |                                     |                                       |  |  |  |  |
| Water Source <1  | 000 ft Privata <200 s   | f4  | Ranking Score                          |                            | · · · ·                             | Site Data                             |  |  |  |  |
| Water Source <1,                                       | 000 ft., Private >200 f   | t   | 20                                     |                            |                                     | 0                                     | · · ·  |  |  |  |
|  |   |   |  | 1                          |                                     |                                       | · · · · · · · · · · · · · · · · · · ·  |  |  |  |
| Surface Body of  | Water:  |   | Ranking Score                          |                            |                                     | Site Data                             |  |  |  |  |
| <200 ft.   |   |   | 20                                     |                            |                                     |                                       |  |  |  |  |
| 200 ft - 1,000 ft.                                     |   |   | 10                                     |                            |                                     |                                       |  |  |  |  |
| >1,000 π.  |   |   | 0                                      |                            |                                     | U                                     |  |  |  |  |
| То   | tal Ranking Score   |   | 20                                     | -                          |                                     |                                       |  |  |  |  |
|  |   |   | · · · · · · · · · · · · · · · · · · ·  |                            |                                     |                                       |  |  |  |  |
|  |   | Accepta                                     | ble Soil RRAL (                        | mg/kg)                     |                                     |                                       |  |  |  |  |
|  | Benzene   |   |  | TPH                        |                                     |                                       |  |  |  |  |
|  |   | 10  | 50                                     | 100                        |                                     |                                       |  |  |  |  |
|  |   |   |  |                            |                                     |                                       |  |  |  |  |



August 19, 2014

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., Down South State Com #4H Tank Battery, Unit p, Section 19, Township 26 South, Range 28 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 Down South State Com #4H Tank Battery, Unit P, Section 19, Township 26 South, Range 28 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.02223°, W 104.11917°. 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 December 8, 2013, and released approximately fifteen (15) barrels of oil and twenty five (25) barrels of produced water from a gasket on a free water knock out. To alleviate the problem, COG personnel replaced the gasket. Zero (0) barrels of standing fluids were recovered. The spill affected an area on the pad measuring approximately 100'x 100' and overspray initiated north of the pad affecting an area 125' X 75' in the pasture. The initial C-141 form is enclosed in Appendix A.

#### Groundwater

No water wells were listed within Section 19. According to the NMOCD groundwater map, the average depth to groundwater in this area is less than 50' below surface. The groundwater 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 100 mg/kg.

#### Soil Assessment and Analytical Results

On January 20, 2014, Tetra Tech personnel inspected and sampled the spill area. Five (5) auger holes (AH-1 through AH-5) were installed using a stainless steel hand auger to assess the impacted soils. Selected 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, none of the samples exceeded the BTEX RRAL; however all of the samples exceeded the total TPH RRAL of 100 mg/kg and were not vertically defined.

Chloride concentrations were detected in auger holes (AH-4 and AH-5) with chloride highs of 1,320 mg/kg at 0'-1' below surface and 1,740 mg/kg at 0'-1' below surface, respectively.

Based on previous assessment, the Way South Tank Battery is located approximately 1,000 feet south of the Down South Tank Battery. Tetra Tech had installed two background trenches to evaluate the natural chloride concentrations in the area and detected a chloride high of 3,650 mg/kg in the soils. The background results are summarized in Table 2. Based on background chlorides, the chloride concentrations detected at the site do not appear to be an environmental concern.

#### **Remediation Activities**

On April 23, 2014, Tetra Tech supervised the removal impacted material as highlighted (green) in Table 1 and shown on Figure 4. The area of auger holes (AH-1 through AH-5) were excavated to depths of approximately 0.5' below surface. Once the area was excavated to the appropriate depths, the excavations were backfilled with clean soil to grade, and approximately 460 cubic yards of excavated material was hauled to proper disposal. In addition, Tetra tech collected confirmation samples for TPH. The sampling results are presented in Table 1. Referring to Table 1, the TPH concentrations were all below the RRAL.



#### Conclusion

Based on the assessment and remedial work performed at this site, COG requests closure of this spill issue. A final C-141 is enclosed in Appendix A. If you have any questions or comments concerning the assessment or the remediation activities for this site, please call me at (432) 682-4559.

Respectfully submitted, TETRA TECH

Ike Tavarez PG Senior Project Manager

cc: Robert McNeil - COG

## FIGURES

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OVERSPRAY



2.4 2.5

States and a



Drawn By; Isabei Marmolejo



TABLES

#### Table 1

## COG Operating LLC.

Down South State Commingle #4H

#### Eddy County, New Mexico

| Sample    | Sample    | Excavation | Soil       | Status  | -       | ГРН (mg/k | (g)   | Benzene | Toluene | Ethlybenzene | Xylene  | Total   | Chloride |         |
|-----------|-----------|------------|------------|---------|---------|-----------|-------|---------|---------|--------------|---------|---------|----------|---------|
| Sample ID | Date      | Depth (ft) | Depth (ft) | In-Situ | Removed | GRO       | DRO   | Total   | (mg/kg) | (mg/kg)      | (mg/kg) | (mg/kg) | (mg/kg)  | (mg/kg) |
| AH-1      | 1/20/2014 | 0-1        | 0.5        |         | Х       | <20.0     | 871   | 871     | <0.100  | <0.100       | <0.100  | <0.100  | <0.100   | 152     |
| CS-1      | 7/9/2014  | 1-1.5      |            | Х       |         | <50.0     | <4.0  | <50.0   | -       | -            | -       | -       | -        | -       |
| AH-2      | 1/20/2014 | 0-0.5      | 0.5        |         | X       | <40.0     | 869   | 869     | <0.200  | <0.200       | <0.200  | <0.200  | <0.200   | 373     |
| CS-2      | 7/9/2014  | 1-1.5      |            | Х       |         | <50.0     | <4.0  | <50.0   | -       | -            | -       | -       | -        | -       |
| AH-3      | 1/20/2014 | 0-0.5      | 0.5        |         | X       | 68.2      | 865   | 933     | <0.100  | 0.129        | 0.212   | 1.64    | 1.98     | 757     |
| CS-3      | 7/9/2014  | 1-1.5      |            | Х       |         | <50.0     | <4.0  | <50.0   | -       | -            | -       | -       | -        | -       |
| AH-4      | 1/20/2014 | 0-0.5      | 0.5        |         | x       | 539       | 1,710 | 2,249   | 0.108   | 5.91         | 3.76    | 34.5    | 44.3     | 1,320   |
| CS-4      | 7/9/2014  | 1-1.5      |            | Х       |         | <50.0     | <4.0  | <50.0   | -       | -            | -       | -       | -        | -       |
| AH-5      | 1/20/2014 | 0-0.5      | 0.5        |         | X       | 440       | 3,720 | 4,160   | <0.800  | 0.830        | <0.800  | 10.6    | 11.4     | 1,740   |
| CS-5      | 7/9/2014  | 1-1.5      |            | Х       |         | <50.0     | <4.0  | <50.0   | -       | -            | -       | -       | -        | -       |

(-) Not Analyzed

(BEB) Below Excavation Bottom

Excavation Depth

#### Table 2

#### COG Operating LLC. Way South State Commingle #1H Tank Battery Chloride Background Concentrations Eddy County, New Mexico

| Sample ID                             |             | Sample     | Soil    | Status  | -   | TPH (mg/k | (g)   | Benzene | Toluene | Ethlybenzene | Xylene  | Total   | Chloride |
|---------------------------------------|-------------|------------|---------|---------|-----|-----------|-------|---------|---------|--------------|---------|---------|----------|
|                                       | Sample Date | Depth (ft) | In-Situ | Removed | GRO | DRO       | Total | (mg/kg) | (mg/kg) | (mg/kg)      | (mg/kg) | (mg/kg) | (mg/kg)  |
| Background Trench-1                   | 1/8/2013    | 0-1        | X       |         | -   | -         | -     | -       | -       | -            | -       | -       | 194      |
|                                       |             | 2          | X       |         | -   | -         | -     | -       | -       | -            | -       | -       | 995      |
|                                       | 11          | 4          | Х       |         | -   | -         | -     | -       | -       | -            | -       | -       | 2,160    |
|                                       | lt          | 6          | Х       | -       | -   | -         | -     | -       | -       | -            | -       | -       | 2,170    |
|                                       | "           | 8          | Х       |         | -   | -         | -     | -       | -       | -            | -       | -       | 1,080    |
|                                       | i)          | 10         | Х       |         | -   | -         | -     |         | -       | -            | -       | -       | 991      |
| Background Trench-2                   | 1/8/2013    | 0-1        | X       |         | -   | -         | -     | -       | -       | -            | -       | -       | <20.0    |
|                                       | 61          | 2          | Х       |         | -   | -         | -     | -       | -       | -            | -       | -       | 1,810    |
|                                       | 11          | 4          | Х       |         | -   | -         | -     | -       | -       | -            | -       | -       | 3,650    |
|                                       | 11          | 6          | Х       |         | -   | -         | -     | -       | -       | -            | -       | -       | 1,650    |
|                                       | 11          | 8          | Х       |         | -   | -         | -     | -       | -       | · -          | -       | -       | 1,340    |
| · · · · · · · · · · · · · · · · · · · | li          | 10         | Х       |         | -   | -         | -     |         | -       |              | -       | •       | 1,330    |

(-) Not Analyzed

PHOTOGRAPHS



TETRA TECH

View Southwest – Area of AH-1



View Southwest – Area of AH-2



TETRA TECH



View South – Area of AH-3



View South – Area of AH-4



TETRA TECH

View Northwest – Area of AH-5



View North – Area affected by overspray















View West - Excavated area of AH-5

## **APPENDIX A**

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

| Release Notificatio  | on and Corrective A   | Action  |   | and a second         |      |
|--|---|---|---|--|------|
|  | OPERATOR  | 5   | 7 Initial Rer   | ort 🗍 Final Ren  | nort |
| Name of Company COG OPERATING LLC  | Contact   | Robert Mc   | Neill   |  |      |
| Address 600 West Illinois Avenue, Midland, TX 79701  | Telephone No.   | 432-230-0   | 077   |  |      |
| Facility Name Down South State Com #004H   | Facility Type   | Tank Batt   | lery  | ······································   |      |
| Surface Owner State Mineral Owner  | · · · · · · · · · · · · · · · · · · ·   |   | Lease No. (A  | PI#) 30-015-37256  |      |
| LOCATIO  | ON OF RELEASE   |   |   |  |      |
| Unit LetterSectionTownshipRangeFeet from theNortP1926S28E  | h/South Line Feet from the  | East/We   | st Line Cou   | nty<br>Eddy  |      |
| Latitude 32.02223  | Longitude 104.1191  | 7   |   |  |      |
| NATURI   | E OF RELEASE  |   |   |  |      |
| Type of Release Oil and produced water   | Volume of Release 15bb  | ls of oil   | /olume Recove   | red Obbls of o   | oil  |
| Source of Release FWKO   | Date and Hour of Occurren   | ice [   | Date and Hour<br>2-08-2013 3:   | of Discovery<br>30pm   | er   |
| Was Immediate Notice Given?  | If YES, To Whom?  | Mike Brate  | her - NMOCD   | ······   |      |
| By Whom? Michelle Mullins  | Date and Hour 12-10-201   | 3 07:12ar   | n   |  |      |
| Was a Watercourse Reached?   | If YES, Volume Impacting  | ; the Waterc  | ourse.  |  |      |
| If a Watercourse was Impacted, Describe Fully.*  |   |   |   |  |      |
| Describe Cause of Problem and Remedial Action Taken.*  |   |   |   | • • • • • • • • • • • • • • • • • • •  |      |
| A gasket on a FWKO failed. Replaced the gasket to prevent a reoccurrent  | nce.  |   |   |  |      |
| Describe Area Affected and Cleanup Action Taken.*  |   |   |   |  |      |
| Initially an estimated 15bbls of oil and 25bbls of produced water were re<br>The spill area is located on the location and the adjacent pasture. Conche<br>release and we will present a work plan to the NMOCD for approval pri-  | eleased from a gasket failure or<br>o will have the spill area sampl<br>or to any significant remediation   | 1 a FWKO.<br>ed to deline<br>on work.                                       | We were unabi<br>ate any possibl  | e to recover any fluids.<br>e contamination from the   | ıe   |
| I hereby certify that the information given above is true and complete to regulations all operators are required to report and/or file certain release public health or the environment. The acceptance of a C-141 report by t should their operations have failed to adequately investigate and remedia or the environment. In addition, NMOCD acceptance of a C-141 report federal, state, or local laws and/or regulations. | the best of my knowledge and<br>notifications and perform corre-<br>the NMOCD marked as "Final<br>ate contamination that pose a th<br>does not relieve the operator o | understand<br>ective action<br>Report" doe<br>areat to grou<br>f responsibi | that pursuant t<br>as for releases<br>is not relieve th<br>and water, surfa<br>lity for compli- | o NMOCD rules and<br>which may endanger<br>the operator of liability<br>see water, human health<br>ance with any other | 1    |
|  | <u>OIL CON</u>  | <u>NSERVA</u>   | TION DIV  | ISION  |      |
| Signature: Kat + day   |   |   |   |  |      |
| Printed Name: Robert Kirubbs Jr.   | Approved by District Superv   | isor:   |   |  |      |
| Title: Senior Environmental Coordinator  | Approval Date:  | Ex  | piration Date:  |  |      |
| E-mail Address: rgrubbs@concho.com   | Conditions of Approval:   |   | An  | ached  |      |
| Date: 12-19-2013 Phone: 432-661-6601   |   |   |   |  |      |

\* Attach Additional Sheets If Necessary

State of New Mexico Energy Minerals and Natural Resources

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

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

#### **Release Notification and Corrective Action**

|  | OPERATOR                     | Initial Report                         | Final Report |
|--|------------------------------|--|--------------|
| Name of Company COG Operating LLC                      | Contact Robert McNeil        |  |              |
| Address 600 West Illinois Avenue, Midland, Texas 79701 | Telephone No. (432) 230-0077 |  |              |
| Facility Name Down South State Com #4H                 | Facility Type Tank Battery   | ······································ |              |
|  |                              |  |              |

Surface Owner: State

Mineral Owner

Lease No. (API#) 30-015-37256

#### LOCATION OF RELEASE

| Unit Letter<br>P | Section<br>19 | Township<br>26S | Range<br>28E | Feet from the | North/South Line | Feet from the | East/West Line | County<br>Eddy |
|------------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|----------------|
|                  |               |                 |              | ]             |                  |               |                |                |

Latitude N 32.02223° Longitude W 104.11917°

#### NATURE OF RELEASE

| Type of Release: Oil and Produced Water   | Volume of Release 15 bbls oil   | Volume Recovered 0 bbls oil  |
|---|---|--|
|   | 25 bbls produced water  | 0 bbls produced water  |
| Source of Release FWKO  | Date and Hour of Occurrence   | Date and Hour of Discovery   |
| Was Immediate Notice Civen?   | 12-08-2013  | 12-08-2013 3:30 pm   |
| Yes □ No □ Not Required   | Mike Bratcher – NMOCD   |  |
|   |   |  |
| By Whom?  | Date and Hour $12-10-2013 = 07:12$  | am   |
| $\square$ Ves $\square$ No  | N/A   | ercourse.  |
|   |   |  |
| If a Watercourse was Impacted, Describe Fully.*   |   |  |
|   |   | NM OIL CONSERVATION  |
| Describe Cause of Problem and Remedial Action Taken.*   |   | ARTESIA DISTRICT   |
| A gasket on a FWKO failed. Replaced the gasket to prevent reoccurrence  |   | AUG <b>2 9 2014</b>  |
|   |   | RECEIVED   |
| Describe Area Affected and Cleanup Action Taken.*   |   |  |
| Initially an estimated 15 bbls of oil and 25 bbls of produced water were rel<br>spill area is on the location and overspray on the adjacent pasture. Tetra T<br>exceeded RRAL was removed and hauled away for proper disposal. Site w<br>prepared closure report and submitted to NMOCD for review.   | leased from a failed gasket on a FWK<br>fech inspected site and collected samp<br>vas then brought up to surface grade w  | O. None of the fluids were recovered. The<br>les to define spills extent. Soil that<br>/ith clean backfill material. Tetra Tech  |
| I hereby certify that the information given above is true and complete to the regulations all operators are required to report and/or file certain release no public health or the environment. The acceptance of a C-141 report by the should their operations have failed to adequately investigate and remediate or the environment. In addition, NMOCD acceptance of a C-141 report do federal, state, or local have sand/or regulations. | te best of my knowledge and understa<br>otifications and perform corrective act<br>NMOCD marked as "Final Report" of<br>contamination that pose a threat to go<br>bes not relieve the operator of respons | nd that pursuant to NMOCD rules and<br>ions for releases which may endanger<br>loes not relieve the operator of liability<br>round water, surface water, human health<br>ibility for compliance with any other |
| Signature:  | <u>OIL CONSERV</u>  | ATION DIVISION   |
| Printed Name: Ike Tavarez (agent for COG)   | Approved by District Supervisor:  |  |
| Title: Senior Project Manager, P.G.   | Approval Date:  | Expiration Date:   |
| E-mail Address: <u>lke.Tavarez@tetratech.com</u>  | Conditions of Approval:   | Attached   |

|       | $\mathcal{C}$ | 15. | 1 | $\langle /$ |  |
|-------|---------------|-----|---|-------------|--|
| Date: | Ø             | 11  | 1 | 7           |  |

Attach Additional Sheets If Necessary

Phone: (432) 687-8110

## **APPENDIX B**

#### Water Well Data Average Depth to Groundwater (ft) COG - Down South State Com #4H Eddy County, New Mexico

|    | 25 \$ | South           |    | t  |                 |
|----|-------|-----------------|----|----|-----------------|
| 6  | 5     | 4               | 3  | 2  | 1               |
| 7  | 8     | 9               | 10 | 11 | 12<br><b>92</b> |
| 18 | 17    | 16              | 15 | 14 | 13              |
| 19 | 20    | 21              | 22 | 23 | 24              |
| 30 | 29    | 28              | 27 | 26 | 25              |
| 31 | 32    | 33<br><b>19</b> | 34 | 35 | 36              |

|       |          | 25 So    | uth         | 28           | East         |           |
|-------|----------|----------|-------------|--------------|--------------|-----------|
| Carls | 6<br>bad | 5        | 4 <b>35</b> | 3 <b>32</b>  | 2            | 1<br>Site |
|       | 7        | 8        | 9           | 10           | 11           | 12        |
|       | 18       | 17       | 16          | 15 <b>48</b> | 14           | 13        |
|       | 67       |          |             | 49           |              |           |
|       | 19       | 20<br>96 | 21          | 22           | 23           | 24        |
|       | 30       | 29<br>15 | 28<br>90    | 27           | 26 <b>40</b> | 25        |
|       | 31       | 32       | 33          | 34           | 35           | 36<br>40  |

|                 | 25 So           | outh | 29              | East |    |
|-----------------|-----------------|------|-----------------|------|----|
| 6<br>40         | 5-0             | 4    | 3               | 2    | 1  |
| R-r             | 8               | 9    | 10<br><b>40</b> | 11   | 12 |
| لر18            | 17              | 16   | 15<br>60        | 14   | 13 |
| 19              | 20              | 21   | 22              | 23   | 24 |
| 30<br><b>30</b> | <sup>29</sup> , | 28   | 27              | 26   | 25 |
| 31              | 32 115          | 33   | 34              | 35   | 36 |

|    | 26 So | uth | 27 | East |    |
|----|-------|-----|----|------|----|
| 6  | 5     | 4   | 3  | 2    | 1  |
|    | 12    |     |    |      |    |
| 7  | 8     | 9   | 10 | 11   | 12 |
| 18 | 17    | 16  | 15 | 14   | 13 |
|    |       |     |    |      | 35 |
| 19 | 20    | 21  | 22 | 23   | 24 |
|    |       |     | 50 |      |    |
| 30 | 29    | 28  | 27 | 26   | 25 |
| 31 | 32    | 33  | 34 | 35   | 36 |

|      | 26 Sc | outh | 28  | East         |     |
|------|-------|------|-----|--------------|-----|
| 6    | 5     | 4    | 3   | 2 <b>120</b> | 1 V |
|      |       |      |     | 21           |     |
| 7    | 8     | 9    | 10  | 11           | 12  |
|      |       |      |     |              | 100 |
| 18   | 17    | 16   | 15  | 14           | 13  |
|      |       |      |     | 120          | 56  |
| 19   | 20    | 21   | 22  | 23           | 24  |
| SITE | ļ     |      | 120 |              |     |
| 30   | 29    | 28   | 27  | 26           | 25  |
|      |       |      |     |              |     |
| 31   | 32    | 33   | 34  | 35           | 36  |
|      |       |      |     |              |     |

|      | 26 Sc | outh             | 29                 | East |    |
|------|-------|------------------|--------------------|------|----|
| 6    | 5 78  | 4                | 3                  | 2    | 1  |
| 7    | 8     | 9                | 10                 | 11   | 12 |
| 18   | 17    | 16<br><b>125</b> | 15                 | 14   | 13 |
| 19   | 20    | 21               | 22 <b>57</b><br>69 | 23   | 24 |
| 30 🗸 | 29    | 28               | 27                 | 26   | 25 |
| 31   | 32    | 33               | <b>3</b> 4         | 35   | 36 |

New Mexico State Engineers Well Reports

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

## APPENDIX C

. .

## **Summary Report**

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

Report Date: January 29, 2014

Work Order: 14012136

Project Location:Eddy Co, NMProject Name:COG/Down South State Com #4HProject Number:112MC06167

|        |             |        | Date       | Time  | Date       |
|--------|-------------|--------|------------|-------|------------|
| Sample | Description | Matrix | Taken      | Taken | Received   |
| 352054 | AH-1 0-1'   | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352055 | AH-2 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352056 | AH-3 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352057 | AH-4 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352058 | AH-5 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |

|                      | BTEX                    |                    |                    |                    | TPH DRO - NEW          | TPH GRO             |
|----------------------|-------------------------|--------------------|--------------------|--------------------|------------------------|---------------------|
|                      | Benzene                 | Toluene            | Ethylbenzene       | Xylene             | DRO                    | GRO                 |
| Sample - Field Code  | (mg/Kg)                 | (mg/Kg)            | (mg/Kg)            | (mg/Kg)            | (mg/Kg)                | (mg/Kg)             |
| 352054 - AH-1 0-1'   | <0.100 <sup>-1</sup> Qr | $< 0.100  { m Qr}$ | <0.100 Qr          | $< 0.100  { m Qr}$ | 871 Qs                 | <20.0 <sup>-2</sup> |
| 352055 - AH-2 0-0.5' | $< 0.200^{-3}$ gr       | < 0.200 gr         | $< 0.200 _{ m Qr}$ | <0.200 Qr          | 869 Qs                 | $<\!40.0^{-4}$      |
| 352056 - AH-3 0-0.5' | <0.100 <sup>5</sup> Qr  | 0.129 Qr           | $0.212 _{ m Qr}$   | 1.64 Qr            | 865 Qr.Qs              | 68.2                |
| 352057 - AH-4 0-0.5' | $0.108  _{Qr}$          | 5.91 Qr            | <b>3.76</b> Qr     | 34.5 Qr            | $1710  \mathrm{Qr.Qs}$ | 539                 |
| 352058 - AH-5 0-0.5' | $< 0.800^{-6}$ Qr       | 0.830 Qr           | < 0.800 Qr         | 10.6 Qr            | <b>3720</b> Qr.Qs      | 440                 |

#### Sample: 352054 - AH-1 0-1'

| Param    | Flag | Result | $\mathbf{Units}$ | RL |
|----------|------|--------|------------------|----|
| Chloride |      | 152    | mg/Kg            | 4  |

#### Sample: 352055 - AH-2 0-0.5'

<sup>1</sup>Dilution due to surfactants.

<sup>2</sup>Dilution due to surfactants.

 $^{3}$ Dilution due to surfactants.

<sup>4</sup>Dilution due to surfactants.

<sup>5</sup>Dilution due to hydrocarons.

<sup>6</sup>Dilution due to hydrocarons.

| Report Date: January 29, 2014 |                                       | Work Order: 14012136    | Page   | Page Number: 2 of 2 |  |  |
|-------------------------------|---------------------------------------|-------------------------|--------|---------------------|--|--|
| Param                         | Flag                                  | Result                  | Units  | RL                  |  |  |
| Chloride                      |                                       | 373                     | ung/Kg | 4                   |  |  |
| Sample: 352056 -              | - AH-3 0-0.5'                         |                         |        |                     |  |  |
| Param                         | Flag                                  | Result                  | Units  | RL                  |  |  |
| Chloride                      |                                       | 757                     | mg/Kg  | 4                   |  |  |
| Sample: 352057 -              | - AH-4 0-0.5'                         |                         |        |                     |  |  |
| Param                         | Flag                                  | Result                  | Units  | RL                  |  |  |
| Chloride                      | · · · · · · · · · · · · · · · · · · · | 1320                    | mg/Kg  | 4                   |  |  |
| Sample: 352058 -              | - AH-5 0-0.5'                         |                         |        |                     |  |  |
| Param                         | Flag                                  | $\operatorname{Result}$ | Units  | RL                  |  |  |
| Chloride                      |                                       | 1740                    | mg/Kg  | 4                   |  |  |

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E-Mail: lab@traceanalysis.com WEB. www.traceanalysis.com

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

## Analytical and Quality Control Report

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

Report Date: January 29, 2014

# Work Order: 14012136

Project Location:Eddy Co, NMProject Name:COG/Down South State Com #4HProject Number:112MC06167

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   |
| 352054 | AH-1 0-1'   | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352055 | AH-2 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352056 | AH-3 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352057 | AH-4 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |
| 352058 | AH-5 0-0.5' | soil   | 2014-01-20 | 00:00 | 2014-01-21 |

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.

Michael april

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

## **Report Contents**

| Case Narrative  | 5  |
|---|--|
| Analytical Report         Sample 352054 (AH-1 0-1')         Sample 352055 (AH-2 0-0.5')         Sample 352056 (AH-3 0-0.5')         Sample 352057 (AH-4 0-0.5')         Sample 352058 (AH-5 0-0.5')   | 6<br>7<br>8<br>10  |
| Method Blanks       1         QC Batch 108575 - Method Blank (1)       1         QC Batch 108577 - Method Blank (1)       1         QC Batch 108640 - Method Blank (1)       1         QC Batch 108641 - Method Blank (1)       1         QC Batch 108697 - Method Blank (1)       1         QC Batch 108697 - Method Blank (1)       1   | - <b>4</b><br>14<br>14<br>15<br>15   |
| Laboratory Control Spikes       1         QC Batch 108575 - LCS (1)       1         QC Batch 108577 - LCS (1)       1         QC Batch 108640 - LCS (1)       1         QC Batch 108641 - LCS (1)       1         QC Batch 108697 - LCS (1)       1         QC Batch 108697 - LCS (1)       1         QC Batch 108697 - MS (1)       1         QC Batch 108640 - MS (1)       1         QC Batch 108641 - MS (1)       1         QC Batch 108647 - MS (1)       1         QC Batch 108697 - MS (1) | . <b>6</b><br>16<br>16<br>17<br>17<br>18<br>18<br>19<br>20<br>20   |
| Calibration Standards       2         QC Batch 108575 - CCV (1)       2         QC Batch 108575 - CCV (2)       2         QC Batch 108575 - CCV (3)       2         QC Batch 108577 - CCV (1)       2         QC Batch 108577 - CCV (2)       2         QC Batch 108577 - CCV (3)       2         QC Batch 108640 - CCV (1)       2         QC Batch 108640 - CCV (2)       2         QC Batch 108640 - CCV (2)       2         QC Batch 108641 - CCV (3)       2         QC Batch 108641 - CCV (2)       2         QC Batch 108697 - CCV (1)       2         QC Batch 108697 - CCV (2)       2   | <b>?2</b> 22         22         22         22         23         23         23         23         24         24         24         25         25 |
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#### $\mathbf{Appendix}$

Report Definitions . . . . . . . .

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## Case Narrative

Samples for project COG/Down South State Com #4H were received by TraceAnalysis, Inc. on 2014-01-21 and assigned to work order 14012136. Samples for work order 14012136 were received intact at a temperature of 6.8 C. Samples on ice.

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

|                      |              | Prep                   | Prep                  | $\rm QC$ | Analysis              |
|----------------------|--------------|------------------------|-----------------------|----------|-----------------------|
| Test                 | Method       | $\operatorname{Batch}$ | Date                  | Batch    | Date                  |
| BTEX                 | S 8021B      | 91798                  | 2014-01-22 at 14:44   | 108575   | 2014-01-23 at 14:57   |
| Chloride (Titration) | SM 4500-Cl B | 91894                  | 2014-01-27 at $08:22$ | 108697   | 2014-01-28 at $14:23$ |
| TPH DRO - NEW        | S 8015 D     | 91896                  | 2014-01-24 at $16:00$ | 108640   | 2014-01-27 at $06:20$ |
| TPH DRO - NEW        | S 8015 D     | 91898                  | 2014-01-24 at 16:30   | 108641   | 2014-01-27 at 10:35   |
| TPH GRO              | S 8015 D     | 91798                  | 2014-01-22 at $14:44$ | 108577   | 2014-01-23 at $15:01$ |

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 14012136 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.

## **Analytical Report**

#### Sample: 352054 - AH-1 0-1'

| Laboratory: Midland           |      |            |           |           |             |        |              |          |
|-------------------------------|------|------------|-----------|-----------|-------------|--------|--------------|----------|
| Analysis: BTEX                |      | Analytical | Method:   | S 8021I   | 3           |        | Prep Method: | S 5035   |
| QC Batch: 108575              | ]    | Date Anal  | yzed:     | 2014-01   | -23         |        | Analyzed By: | AK       |
| Prep Batch: 91798             | 2    | Sample Pr  | eparation | : 2014-01 | -22         |        | Prepared By: | AK       |
|                               |      |            |           | RL        |             |        |              |          |
| Parameter                     | Flag | Cert       |           | Result    | Units       |        | Dilution     | RL       |
| Benzene                       | Qr.U | 2          |           | < 0.100   | mg/Kg       |        | 5            | 0.0200   |
| Toluene                       | Qr   | 2          |           | < 0.100   | mg/Kg       |        | 5            | 0.0200   |
| Ethylbenzene                  | Qr.U | 2          |           | < 0.100   | mg/Kg       |        | 5            | 0.0200   |
| Xylene                        | Qr   | 2          |           | < 0.100   | mg/Kg       | ·      | 5            | 0.0200   |
|                               |      |            |           |           |             | Spike  | Percent      | Recovery |
| Surrogate                     | Flag | Cert       | Result    | Units     | Dilution    | Amount | Recovery     | Limits   |
| Trifluorotoluene (TFT)        |      |            | 2.00      | mg/Kg     | 5           | 2.00   | 100          | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB)  |      |            | 2.27      | mg/Kg     | 5           | 2.00   | 114          | 70 - 130 |
|                               |      |            |           |           |             |        |              |          |
| Sample: 352054 - AH-1 0-1'    |      |            |           |           |             |        |              |          |
| Laboratory: Midland           |      |            |           |           |             |        |              |          |
| Analysis: Chloride (Titration | .)   | Anal       | ytical Me | thod: SI  | M 4500-Cl B |        | Prep Metho   | od: N/A  |
| QC Batch: 108697              |      | Date       | Analyzec  | l: 20     | 14-01-28    |        | Analyzed B   | y: AR    |

| Prep Batch: 91894 |  | Sample I | Preparation:          | 2014-01-27              | Prepared By: |          |               |
|-------------------|--|----------|-----------------------|-------------------------|--------------|----------|---------------|
|                   |  |          |                       | $\mathbf{RL}$           |              |          |               |
| Parameter         |  | Flag     | $\operatorname{Cert}$ | $\operatorname{Result}$ | Units        | Dilution | $\mathbf{RL}$ |
| Chloride          |  |          |                       | 152                     | mg/Kg        | 5        | 4.00          |

#### Sample: 352054 - AH-1 0-1'

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Laboratory: Lubbock<br>Analysis: TPH DRO - NEW<br>QC Batch: 108640<br>Prep Batch: 91896 |      | Analyti<br>Date A<br>Sample | cal Method:<br>nalyzed:<br>Preparation: | S 8015 D<br>2014-01-27<br>2014-01-24 | Prep Method:<br>Analyzed By:<br>Prepared By: | N/A<br>CM<br>DS |
|--|---|------|-----------------------------|---|--------------------------------------|--|-----------------|
| Parameter  |   | Flag | Cert                        | $\operatorname{RL}$ Result              | Units                                | Dilution                                     | RL              |
| DRO  |   | Qs   | 1                           | 871                                     | mg/Kg                                | 1  | 50.0            |

| Report Date<br>112MC06167 | : January 2<br>7                        | 29, 2014 |              | COG                 | Work Ore<br>/Down Sou | Page Number: 7 of 27<br>Eddy Co, NM |                |                                |                         |                    |
|---------------------------|---|----------|--------------|---------------------|-----------------------|-------------------------------------|----------------|--------------------------------|-------------------------|--------------------|
| Surrogate                 |   | Flag     | Cert         | Result              | Units                 | Dih                                 | ntion          | Spike<br>Amount                | Percent<br>Recovery     | Recovery<br>Limits |
| n-Tricosane               | Qsr                                     | Qsr      |              | 155                 | mg/Kg                 | 5                                   | 1              | 100                            | 155                     | 70 - 130           |
| Sample: 35                | 2054 - AH                               | [-1 0-1' |              |                     |                       |                                     |                |                                |                         |                    |
| Laboratory:<br>Analysis:  | Midland<br>TPH GRC                      | )        |              | Analytic<br>Data Ar | cal Method            | : S 8015                            | 5 D            |                                | Prep Metho              | d: S 5035          |
| Prep Batch:               | 91798                                   |          |              | Sample              | Preparatio            | n: 2014-0                           | )1-23<br>)1-22 |                                | Prepared By             | 7: AK              |
| Devenator                 |   |          | Flag         | Cant                |                       | RL                                  | TT             |                                | Dilution                | DI                 |
| $\frac{Parameter}{CRO}$   | 2                                       |          |              | Cert                |                       | $\frac{1}{200}$                     | <u></u>        | $\frac{11115}{\sqrt{K}\sigma}$ | 5                       | 4.00               |
|                           |   |          |              | 2                   |                       | <u>\20.0</u>                        | mg,            | ng                             | 0                       | 4.00               |
| Surrogate                 |   |          | Flag         | g Cert              | Result                | Units                               | Dilution       | Spike<br>Amount                | Percent<br>Recovery     | Recovery<br>Limits |
| Trifluorotolu             | ene (TFT)                               |          |              |                     | 1.93                  | mg/Kg                               | 5              | 2.00                           | 96                      | 70 - 130           |
| <u>4-Bromofluor</u>       | obenzene (4                             | 4-BFB)   | ·            |                     | 2.58                  | mg/Kg                               | 5              | 2.00                           | 129                     | 70 - 130           |
| Sample: 35                | 2055 - AH                               | [-2 0-0. | 5'           |                     |                       |                                     |                |                                |                         |                    |
| Laboratory:               | Midland<br>DTEV                         |          |              | Analutica           | 1 Mathad              | C 0001T                             | <b>.</b>       |                                | Duun Matha              | J. 8 5025          |
| OC Batch                  | 108575                                  |          |              | Date Ana            | dvzed                 | 2014-01                             | 2<br>_93       |                                | Analyzed By             | α. 3.5055<br>σ· ΔΚ |
| Prep Batch:               | 91798                                   |          |              | Sample P            | reparation            | 2014-01<br>: 2014-01                | -22            |                                | Prepared By             | Z: AK              |
|                           |   |          |              | <b>.</b>            |                       |                                     |                |                                | • <b>F</b> • • • • = ., |                    |
| D (                       |   |          |              | 0                   |                       | RL                                  | <b>T</b> T     | •.                             |                         | DI                 |
| Parameter                 |   |          | riag         | Cert                | j                     | result                              | U              | nts<br>V/m                     | Dilution                | KL                 |
| Toluona                   | , i i i i i i i i i i i i i i i i i i i |          | Qr.U         | 2                   | •                     | <0.200<br><0.200                    | mg/            | ng<br>Wa                       | 10                      | 0.0200             |
| Ethylbenzene              | `                                       |          | Qr.U<br>Or.U | 2                   |                       | <0.200                              | mg/            | ΊKσ                            | 10                      | 0.0200             |
| Xvlene                    |   |          | Or           | 2                   |                       | < 0.200                             | mø/            | Ϋ́δ                            | 10                      | 0.0200             |
|                           |   |          | ····         |                     |                       | <u></u>                             | /              | **0                            |                         |                    |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 1.93   | mg/Kg | 10       | 2.00            | 96                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 2.30   | mg/Kg | 10       | 2.00            | 115                 | 70 - 130           |

| Report Date<br>112MC06167  | COG  | Work Or<br>Down So        | Page Number: 8 of 27<br>Eddy Co, NM |                                 |                                      |                           |                                    |                  |         |  |                                |
|--|--|---------------------------|-------------------------------------|---------------------------------|--------------------------------------|---------------------------|------------------------------------|------------------|---------|--|--------------------------------|
| Sample: 35   | 2055 - AH  | <b>I-2</b> 0-0            | .5'                                 |                                 |                                      |                           |                                    |                  |         |  |                                |
| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch:               | Midland<br>Chloride<br>108697<br>91894             | (Titratio                 | on)                                 | Anal<br>Date<br>Samj            | ytical Me<br>Analyzec<br>ple Prepa   | thod:<br>l:<br>ration:    | SM 4500-<br>2014-01-2<br>2014-01-2 | CI B<br>18<br>17 |         | Prep Met<br>Analyzed<br>Prepared       | hod: N/A<br>By: AR.<br>By: AR. |
|  |  |                           |                                     |                                 |                                      | RL                        |                                    |                  |         |  |                                |
| Parameter  |  |                           | Flag                                | $\operatorname{Cert}$           |                                      | Result                    |                                    | Units            |         | Dilution                               | RL                             |
| Chloride   |  |                           |                                     |                                 |                                      | 373                       | 1                                  | ng/Kg            |         | 5                                      | 4.00                           |
| Sample: 35<br>Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | 2055 - AH<br>Lubbock<br>TPH DR0<br>108640<br>91896 | <b>1-2 0-0</b><br>D - NEV | .5'<br>N                            | Ana<br>Dat<br>San               | dytical M<br>e Analyze<br>10le Prepa | ethod:<br>ed:<br>aration: | S 8015 I<br>2014-01-<br>2014-01-   | )<br>27<br>24    |         | Prep Met<br>Analyzed<br>Prepared       | hod: N/A<br>By: CM<br>By: DS   |
| r rop Basan  | 01000  |                           |                                     | 500                             | .p.o op.                             |                           | _01101                             |                  |         | - repared                              |                                |
| Parameter  |  |                           | Flag                                | Cert                            |                                      | RL<br>Result              |                                    | Units            |         | Dilution                               | RL                             |
| DRO  |  |                           | Qs                                  | 1                               |                                      | 869                       | 1                                  | ng/Kg            |         | 1                                      | 50.0                           |
| Surrogate  |  | Flag                      | Cert                                | Result                          | Units                                | ; I                       | Dilution                           | Spik<br>Amou     | e<br>nt | Percent<br>Recovery                    | Recovery<br>Limits             |
| n-Tricosane  | Qsr  | Qsr                       |                                     | 140                             | mg/K                                 | g                         | 1                                  | 100              |         | 140                                    | 70 - 130                       |
| Sample: 35<br>Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | 2055 - AH<br>Midland<br>TPH GR0<br>108577<br>91798 | <b>I-2 0-0</b>            | .5'                                 | Analytic<br>Date An<br>Sample I | al Methoc<br>alyzed:<br>Preparatic   | l: S 8<br>201<br>on: 201  | 015 D<br>4-01-23<br>4-01-22        |                  |         | Prep Metho<br>Analyzed B<br>Prepared B | od: S 5035<br>Sy: AK<br>y: AK  |
| Paramatar  |  |                           | Flog                                | Cont                            |                                      | RL                        |                                    | Unite            |         | Dilution                               | RI                             |
| GRO  | 4  |                           | u u                                 | ,                               |                                      | <40.0                     |                                    | mg/Kg            |         | 10                                     | 4.00                           |
|  |  |                           |                                     |                                 |                                      | 10.0                      |                                    |                  | Spike   | Percent                                | Recovery                       |
| Surrogate  | · · · · · · · · · · · · · · · · · · ·              |                           | Flag                                | $\operatorname{Cert}$           | Result                               | Unit                      | s Dilut                            | ion A            | mount   | Recovery                               | Limits                         |
| Trifluorotolu  | ene (TFT)  | יססס                      |                                     |                                 | 1.95                                 | mg/K                      | .g 10                              | )                | 2.00    | 98                                     | 70 - 130<br>70 - 130           |
| 4-Bromofluor   | obenzene (   | 4-BFB)                    |                                     |                                 | 2.58                                 | mg/K                      | .g 10                              | J                | 2.00    | 129                                    | 70 - 130                       |

| Report Date: January 29, 2014<br>112MC06167 |      | COG/2 | Work Or<br>Down So    |           | Page Number: 9 of 27<br>Eddy Co, NM |          |        |              |               |
|---|------|-------|-----------------------|-----------|-------------------------------------|----------|--------|--------------|---------------|
| Sample: 352056 - AH-3 0-0.                  | 5'   |       |                       |           |                                     |          |        |              |               |
| Laboratory: Midland<br>Analysis: BTEX       |      | Aı    | nalvtical             | Method:   | S 8021B                             |          |        | Prep Method  | S 5035        |
| QC Batch: 108575                            |      | Da    | ate Analy             | vzed:     | 2014-01-                            | 23       |        | Analyzed By: | AK            |
| Prep Batch: 91798                           |      | Sa    | mple Pro              | eparation | : 2014-01-                          | 22       |        | Prepared By: | AK            |
|   |      |       |                       |           | $\mathbf{RL}$                       |          |        |              |               |
| Parameter                                   | Flag |       | Cert                  |           | Result                              | Units    |        | Dilution     | $\mathbf{RL}$ |
| Benzene 5                                   | Qr.U |       | 2                     |           | < 0.100                             | ng/Kg    |        | 5            | 0.0200        |
| Toluene                                     | Qr   |       | 2                     |           | 0.129                               | mg/Kg    |        | 5            | 0.0200        |
| Ethylbenzene                                | Qr   |       | 2                     |           | 0.212                               | mg/Kg    |        | 5            | 0.0200        |
| Xylene                                      | Qr   |       | 2                     |           | 1.64                                | mg/Kg    |        | 5            | 0.0200        |
|   |      |       |                       |           |                                     |          | Spike  | Percent      | Recovery      |
| Surrogate                                   |      | Flag  | $\operatorname{Cert}$ | Result    | Units                               | Dilution | Amount | Recovery     | Limits        |
| Trifluorotoluene (TFT)                      |      |       |                       | 1.87      | mg/Kg                               | 5        | 2.00   | 94           | 70 - 130      |
| 4-Bromofluorobenzene (4-BFB)                | Qsr  | Qsr   |                       | 2.91      | mg/Kg                               | 5        | 2.00   | 146          | 70 - 130      |

#### Sample: 352056 - AH-3 0-0.5'

| Laboratory: | Midland               |                       |                         |              |              |      |
|-------------|-----------------------|-----------------------|-------------------------|--------------|--------------|------|
| Analysis:   | Chloride (Titration)  | Analytic              | al Method:              | SM 4500-Cl B | Prep Method: | N/A  |
| QC Batch:   | 108697                | Date Ar               | nalyzed:                | 2014-01-28   | Analyzed By: | AR   |
| Prep Batch: | 91894                 | Sample                | Preparation:            | 2014-01-27   | Prepared By: | AR   |
|             |                       |                       | RL                      |              |              |      |
| Parameter   | $\operatorname{Flag}$ | $\operatorname{Cert}$ | $\operatorname{Result}$ | Units        | Dilution     | R.L  |
| Chloride    |                       |                       | 757                     | mg/Kg        | 5            | 4.00 |

#### Sample: 352056 - AH-3 0-0.5'

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Lubbock<br>TPH DRO - NI<br>108641<br>91898 | EW    | Ana<br>Dat<br>Sam | lytical Meth<br>e Analyzed:<br>iple Preparat | od: S 8015<br>2014-0<br>tion: 2014-0 | D<br>1-27<br>1-24 | Prep Me<br>Analyze<br>Preparec | thod: N/A<br>d By: DS<br>d By: DS |
|--|--|-------|-------------------|--|--------------------------------------|-------------------|--------------------------------|-----------------------------------|
|  |  |       |                   |  | RL                                   |                   |                                |                                   |
| Parameter  |  | Flag  | Cert              | Res  | sult                                 | Units             | Dilution                       | RL                                |
| DRO  |  | Qr.Qs | 1                 | 8  | 365                                  | mg/Kg             | 1                              | 50.0                              |
| Surrogate  | Flag                                       | Cert  | Result            | Units  | Dilution                             | Spike<br>Amount   | Percent<br>Recovery            | Recovery<br>Limits                |
| n-Tricosane  |  |       | 125               | mg/Kg  | 1                                    | 100               | 125                            | 70 - 130                          |
|  |  |       |                   |  | •                                    |                   |                                |                                   |
| Report Date: January 29, 2014 | Work Order: 14012136         | Page Number: 10 of 27 |
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| 112MC06167                    | COG/Down South State Com #4H | Eddy Co, NM           |
|                               | ······                       |                       |

### Sample: 352056 - AH-3 0-0.5'

| Laboratory:    | Midland          |      |      |                       |            |               |          |        |              |          |
|----------------|------------------|------|------|-----------------------|------------|---------------|----------|--------|--------------|----------|
| Analysis:      | TPH GRO          |      | A    | Analytica             | al Method: | S 8015        | D        |        | Prep Method  | : S 5035 |
| QC Batch:      | 108577           |      | Γ    | Date Ana              | alyzed:    | 2014-01       | 1-23     |        | Analyzed By  | AK       |
| Prep Batch:    | 91798            |      | S    | ample P               | reparation | n: 2014-01    | 1-22     |        | Prepared By: | AK       |
|                |                  |      |      |                       |            | $\mathbf{RL}$ |          |        |              |          |
| Parameter      |                  | Flag |      | $\operatorname{Cert}$ | F          | lesult        | Units    | 5      | Dilution     | RL       |
| GRO            |                  |      |      | 2                     |            | 68.2          | mg/Kg    | 5      | 5            | 4.00     |
|                |                  |      |      |                       |            |               |          | Spike  | Percent      | Recovery |
| Surrogate      |                  |      | Flag | $\operatorname{Cert}$ | Result     | Units         | Dilution | Amount | Recovery     | Limits   |
| Trifluorotolue | ene (TFT)        |      |      |                       | 1.93       | mg/Kg         | 5        | 2.00   | 96           | 70 - 130 |
| 4-Bromofluor   | obenzene (4-BFB) | Qsr  | Qsr  |                       | 4.07       | mg/Kg         | 5        | 2.00   | 204          | 70 - 130 |
|                |                  |      |      |                       |            |               |          |        |              |          |

### Sample: 352057 - AH-4 0-0.5'

.

| Laboratory: Midland<br>Analysis: BTEX<br>QC Batch: 108575<br>Prep Batch: 91798 |      | A<br>D<br>S | nalytical<br>Pate Analy<br>ample Pre | Method:<br>yzed:<br>eparation | S 8021B<br>2014-01-<br>: 2014-01- | 23<br>22 |        | Prep Method<br>Analyzed By:<br>Prepared By: | S 5035<br>AK<br>AK |
|--|------|-------------|--------------------------------------|-------------------------------|-----------------------------------|----------|--------|---|--------------------|
|  |      |             |                                      |                               | $\mathbf{RL}$                     |          |        |   |                    |
| Parameter  | Flag |             | $\operatorname{Cert}$                | I                             | Result                            | Units    |        | Dilution                                    | $\mathbf{RL}$      |
| Benzene  | Qr   |             | 2                                    |                               | 0.108                             | mg/Kg    |        | 5   | 0.0200             |
| Toluene  | Qr   |             | 2                                    |                               | 5.91                              | mg/Kg    |        | 5   | 0.0200             |
| Ethylbenzene   | Qr   |             | 2                                    |                               | 3.76                              | mg/Kg    |        | 5   | 0.0200             |
| Xylene   | Qr   |             | 2                                    | n <del>a</del>                | 34.5                              | mg/Kg    |        | 5   | 0.0200             |
|  |      |             |                                      |                               |                                   |          | Spike  | Percent                                     | Recovery           |
| Surrogate  |      | Flag        | Cert                                 | Result                        | Units                             | Dilution | Amount | Recovery                                    | Limits             |
| Trifluorotoluene (TFT)   |      |             |                                      | 1.63                          | mg/Kg                             | 5        | 2.00   | 82  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB)   | Qsr  | Qsr         |                                      | 5.78                          | mg/Kg                             | 5        | 2.00   | 289   | 70 - 130           |

#### Sample: 352057 - AH-4 0-0.5'

| Laboratory: | Midland              |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| QC Batch:   | 108697               | Date Analyzed:      | 2014-01-28   | Analyzed By: | AR. |
| Prep Batch: | 91894                | Sample Preparation: | 2014-01-27   | Prepared By: | AR. |

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continued ...

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sample 352057 continued ...

|           |                       |      | $\mathbf{RL}$ |       |          |      |
|-----------|-----------------------|------|---------------|-------|----------|------|
| Parameter | Flag                  | Cert | Result        | Units | Dilution | RL   |
|           |                       |      | RL            |       |          |      |
| Parameter | $\operatorname{Flag}$ | Cert | Result        | Units | Dilution | RL   |
| Chloride  |                       |      | 1320          | mg/Kg | 10       | 4.00 |

### Sample: 352057 - AH-4 0-0.5'

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Lubbock<br>TPH DR<br>108641<br>91898 | :<br>RO - NEV | W                     | Ana<br>Date<br>Sam | lytical Metho<br>e Analyzed:<br>ple Preparati | od: S 8015<br>2014-0<br>ion: 2014-0 | D<br>1-27<br>1-24      | Prep Me<br>Analyze<br>Preparec | thod: N/A<br>d By: DS<br>d By: DS |
|--|--------------------------------------|---------------|-----------------------|--------------------|---|-------------------------------------|------------------------|--------------------------------|-----------------------------------|
|  |                                      |               |                       | _                  | I   | RL                                  |                        |                                |                                   |
| Parameter  |                                      |               | Flag                  | Cert               | Res   | ult                                 | $\operatorname{Units}$ | Dilution                       | $\operatorname{RL}$               |
| DRO  |                                      |               | Qr.Qs                 | 1                  | 17  | 10                                  | mg/Kg                  | 1                              | 50.0                              |
| Surrogate  |                                      | Flag          | $\operatorname{Cert}$ | Result             | Units   | Dilution                            | Spike<br>Amount        | Percent<br>Recovery            | Recovery<br>Limits                |
| n-Tricosane  | Qsr                                  | Qsr           |                       | 184                | mg/Kg   | 1                                   | 100                    | 184                            | 70 - 130                          |

### Sample: 352057 - AH-4 0-0.5'

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Midland<br>TPH GRO<br>108577<br>91798 |      | A<br>L<br>S | analytica<br>Date Ana<br>Cample F | al Method:<br>alyzed:<br>Preparation | S 8015<br>2014-01<br>: 2014-01 | D<br>1-23<br>1-22 |                 | Prep Method<br>Analyzed By<br>Prepared By | d: S 5035<br>7: AK<br>7: AK |
|--|---------------------------------------|------|-------------|-----------------------------------|--------------------------------------|--------------------------------|-------------------|-----------------|---|-----------------------------|
|  |                                       |      |             |                                   |                                      | RL                             |                   |                 |   |                             |
| Parameter  |                                       | Flag |             | $\operatorname{Cert}$             | R                                    | esult                          | $\mathbf{Unit}$   | s               | Dilution                                  | RL                          |
| GRO  |                                       |      |             | 2                                 |                                      | 539                            | mg/Kg             | 5               | 5   | 4.00                        |
| Surrogate  |                                       |      | Flag        | Cert                              | Result                               | Units                          | Dilution          | Spike<br>Amount | Percent<br>Recovery                       | Recovery<br>Limits          |
| Trifluorotolue                                       | ne (TFT)                              |      |             |                                   | 1.66                                 | mg/Kg                          | 5                 | 2.00            | 83  | 70 - 130                    |
| 4-Bromofluor   | obenzene (4-BFB)                      | Qsr  | Qsr         |                                   | 11.4                                 | mg/Kg                          | 5                 | 2.00            | 570                                       | 70 - 130                    |

| Report Date: January 29, 2014<br>112MC06167 |               |       | Work<br>COG/Down | Order: 1401213<br>South State Co | Page Number: 12 of 2<br>Eddy Co, Ni |              |        |
|---|---------------|-------|------------------|----------------------------------|-------------------------------------|--------------|--------|
| Sample: 35                                  | 2058 - AH-5 ( | -0.5' |                  |                                  |                                     |              |        |
| Laboratory:                                 | Midland       |       |                  |                                  |                                     |              |        |
| Analysis:                                   | BTEX          |       | Analytical Met   | hod: S 8021B                     |                                     | Prep Method: | S 5035 |
| QC Batch:                                   | 108575        |       | Date Analyzed:   | 2014-01-                         | 23                                  | Analyzed By: | AK     |
| Prep Batch:                                 | 91798         |       | Sample Prepara   | ation: 2014-01-                  | 22                                  | Prepared By: | AK     |
|   |               |       |                  | RL                               |                                     |              |        |
| Parameter                                   |               | Flag  | Cert             | Result                           | Units                               | Dilution     | RL     |

| Benzene <sup>6</sup>         | Qr.U    | 1        | 2                     |        | < 0.800 | mg/Kg    |        | 40       | 0.0200   |
|------------------------------|---------|----------|-----------------------|--------|---------|----------|--------|----------|----------|
| Toluene                      | $Q_{T}$ |          | 2                     |        | 0.830   | mg/Kg    | r<br>5 | 40       | 0.0200   |
| Ethylbenzene                 | Qr.U    |          | 2                     |        | < 0.800 | mg/Kg    |        | 40       | 0.0200   |
| Xylene                       | Qr      |          | 2                     |        | 10.6    | mg/Kg    |        | 40       | 0.0200   |
|                              |         |          |                       |        |         |          | Spike  | Percent  | Recovery |
| Surrogate                    |         | Flag     | $\operatorname{Cert}$ | Result | Units   | Dilution | Amount | Recovery | Limits   |
| Trifluorotoluene (TFT)       |         |          |                       | 2.13   | mg/Kg   | 40       | 2.00   | 106      | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | Qsr     | $Q_{ST}$ |                       | 7.87   | mg/Kg   | 40       | 2.00   | 394      | 70 - 130 |

### Sample: 352058 - AH-5 0-0.5'

| Chloride    |                      |          | 1740         | mg/Kg        | 10           | 4.00 |
|-------------|----------------------|----------|--------------|--------------|--------------|------|
| Parameter   | Flag                 | Cert     | RL<br>Result | Units        | Dilution     | RL   |
| Prep Batch: | 91894                | Sample I | Preparation: | 2014-01-27   | Prepared By: | AR   |
| QC Batch:   | 108697               | Date An  | alyzed:      | 2014-01-28   | Analyzed By: | AR   |
| Analysis:   | Chloride (Titration) | Analytic | al Method:   | SM 4500-Cl B | Prep Method: | N/A  |
| Laboratory: | Midland              |          |              |              |              |      |

### Sample: 352058 - AH-5 0-0.5'

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Lubbock<br>TPH DF<br>108641<br>91898 | RO - NEV | V     | Ana<br>Date<br>Sam | lytical Metho<br>2 Analyzed:<br>ple Preparat | od: S 8015<br>2014-0<br>ion: 2014-0 | D<br>1-27<br>1-24 | Prep Me<br>Analyzec<br>Preparec | thod: N/A<br>l By: DS<br>l By: DS |
|--|--------------------------------------|----------|-------|--------------------|--|-------------------------------------|-------------------|---------------------------------|-----------------------------------|
|  |                                      |          |       |                    | ]  | RL                                  |                   |                                 |                                   |
| Parameter  |                                      |          | Flag  | Cert               | Res  | ult                                 | Units             | Dilution                        | $\mathbf{RL}$                     |
| DRO  |                                      |          | Qr.Qs | 1                  | 37   | 20                                  | mg/Kg             | 1                               | 50.0                              |
| Surrogate  |                                      | Flag     | Cert  | Result             | Units  | Dilution                            | Spike<br>Amount   | Percent<br>Recovery             | Recovery<br>Limits                |
| n-Tricosane  | Qsr                                  | Qsr      |       | 226                | mg/Kg  | 1                                   | 100               | 226                             | 70 - 130                          |

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|------------------------------------|-------------|------|-----------------------|----------------------|----------------------------|--------------|--------|------------------|---------------------------|
| Sample: 352058 - A                 | H-5 0-0.5'  |      |                       |                      |                            |              |        |                  |                           |
| Laboratory: Midland                | l           |      |                       |                      |                            |              |        |                  |                           |
| Analysis: TPH GI                   | RO          | A    | Analytica             | al Method            | : S 8015                   | D            |        | Prep Metho       | d: S 5035                 |
| QC Batch: 108577                   |             | Ι    | Date Ana              | alyzed:              | 2014-01                    | 1-23         |        | Analyzed By      | 7: AK                     |
| Prep Batch: 91798                  |             | S    | Sample P              | reparation           | n: 2014-01                 | 1-22         |        | Prepared By      | r: AK                     |
|                                    |             |      |                       |                      | RL                         | ,            |        |                  |                           |
| Parameter                          | Flag        |      | $\operatorname{Cert}$ | F                    | Result                     | Units        | 5      | Dilution         | RL                        |
| GRO                                |             |      | 2                     |                      | 440                        | mg/Kg        | r<br>5 | 40               | 4.00                      |
|                                    |             |      |                       |                      |                            |              | Spike  | Percent          | Recovery                  |
| Surrogate                          |             | Flag | $\operatorname{Cert}$ | Result               | Units                      | Dilution     | Amount | Recovery         | Limits                    |
| Trifluorotoluene (TFT              | ) Qsr       | Qsr  |                       | 0.00                 | mg/Kg                      | 40           | 2.00   | 0                | 70 - 130                  |
| 4-Bromofluorobenzene               | (4-BFB) Qsr | Qsr  |                       | 12.7                 | $\mathrm{mg/Kg}$           | 40           | 2.00   | 635              | 70 - 130                  |

# Method Blanks

| Method Blank (1)     | QC Batch: 108575 |                       |                       |           |           |        |          |          |
|----------------------|------------------|-----------------------|-----------------------|-----------|-----------|--------|----------|----------|
| QC Batch: 108575     | )                | Date A                | .nalyzed:             | 2014-01-3 | 23        |        | Analyzed | By: AK   |
| Prep Batch: 91798    |                  | QC Pre                | eparation:            | 2014-01-2 | 22        |        | Prepared | By: AK   |
|                      |                  |                       |                       |           | MDL       |        |          |          |
| Parameter            | Flag             |                       | $\operatorname{Cert}$ |           | Result    |        | Units    | RL       |
| Benzene              |                  |                       | 2                     |           | < 0.00533 | 1      | ng/Kg    | 0.02     |
| Toluene              |                  |                       | 2                     |           | < 0.00645 | 1      | ng/Kg    | 0.02     |
| Ethylbenzene         |                  |                       | 2                     |           | < 0.0116  | 1      | ng/Kg    | 0.02     |
| Xylene               |                  |                       | 2                     |           | < 0.00874 | 1      | ng/Kg    | 0.02     |
|                      |                  |                       |                       |           |           | Spike  | Percent  | Recovery |
| Surrogate            | Flag             | $\operatorname{Cert}$ | Result                | Units     | Dilution  | Amount | Recovery | Limits   |
| Trifluorotoluene (TF | T)               |                       | 1.93                  | mg/Kg     | 1         | 2.00   | 96       | 70 - 130 |
| 4-Bromofluorobenzer  | ne (4-BFB)       |                       | 2.13                  | mg/Kg     | 1         | 2.00   | 106      | 70 - 130 |

### Method Blank (1) QC Batch: 108577

| QC Batch: 108577<br>Prep Batch: 91798                  |      | Date A<br>QC Pr | analyzed:<br>eparation: | 2014-01-2<br>2014-01-2 | 3<br>2        |                 | Analyzec<br>Prepared | l By: AK<br>By: AK   |
|--|------|-----------------|-------------------------|------------------------|---------------|-----------------|----------------------|----------------------|
| Parameter  | Flag |                 | Cert                    |                        | MDL<br>Result |                 | Units                | RL                   |
| GRO  |      |                 | 2                       |                        | <2.32         |                 | mg/Kg                | 4                    |
| Surrogate  | Flag | Cert            | Result                  | Units                  | Dilution      | Spike<br>Amount | Percent<br>Recovery  | Recovery<br>Limits   |
| Trifluorotoluene (TFT)<br>4-Bromofluorobenzene (4-BFB) |      |                 | $2.06 \\ 2.15$          | mg/Kg<br>mg/Kg         | 1<br>1        | 2.00<br>2.00    | 103<br>108           | 70 - 130<br>70 - 130 |

Method Blank (1) QC Batch: 108640

| QC Batch:   | 108640 | Date Analyzed:  | 2014-01-27 | Analyzed By: | CM |
|-------------|--------|-----------------|------------|--------------|----|
| Prep Batch: | 91896  | QC Preparation: | 2014-01-24 | Prepared By: | CM |

| Report Date: Janua<br>112MC06167     | ary 29, 2014 | <u>l</u>    | COG              | Work Order<br>Down South | :: 14012136<br>1 State Com #4  | 1H              | Page Num<br>E       | ber: 15 of 27<br>Iddy Co, NM |
|--------------------------------------|--------------|-------------|------------------|--------------------------|--------------------------------|-----------------|---------------------|------------------------------|
| Parameter                            |              | Fla         | Q.               | ·Cert                    | M<br>Res                       | DL              | Units               | RL                           |
| DRO                                  |              |             | 0                | 1                        | <5                             | .22             | mg/Kg               | 50                           |
| Surrogate                            | Flag         | Cert        | Result           | Units                    | Dilution                       | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits           |
| n-Tricosane                          |              | ·           | 91.6             | mg/Kg                    | 1                              | 100             | 92                  | 70 - 130                     |
| QC Batch: 10864<br>Prep Batch: 91898 | 1            |             | Date A<br>QC Pro | nalyzed:                 | 2014-01-27<br>2014-01-24<br>_M | DL              | Analyze<br>Prepare  | d By: DS<br>d By: CM         |
| Parameter                            |              | Fla         | g                | Cert                     | Res                            | ult<br>         | Units               | <u>RL</u>                    |
| Surrogate                            | Flag         | Cert        | Result           | Units                    | <br>Dilution                   | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits           |
| n-Tricosane                          |              |             | 101              | mg/Kg                    | 1                              | 100             | 101                 | 70 - 130                     |
| Method Blank (1)                     | QC I         | Batch: 1086 | 97               |                          |                                |                 |                     |                              |

| QC Batch:<br>Prep Batch: | $108697 \\ 91894$ |      | Date Analyzed:<br>QC Preparation: | 2014-01-28<br>2014-01-27 | Analyzed By:<br>Prepared By: | AR.<br>AR. |
|--------------------------|-------------------|------|-----------------------------------|--------------------------|------------------------------|------------|
| Parameter                |                   | Flag | Cert                              | ${ m MDL} { m Result}$   | Units                        | RL         |
| Chloride                 |                   |      |                                   | <3.85                    | mg/Kg                        | 4          |

# Laboratory Control Spikes

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

| QC Batch:   | 108575 | Date Analyzed:  | 2014-01-23 | Analyzed By: | AK |
|-------------|--------|-----------------|------------|--------------|----|
| Prep Batch: | 91798  | QC Preparation: | 2014-01-22 | Prepared By: | AK |

|              |   |              | LCS    |                           |      | Spike  | $\operatorname{Matrix}$ |      | $\operatorname{Rec.}$  |
|--------------|---|--------------|--------|---------------------------|------|--------|-------------------------|------|------------------------|
| Param        | F | $\mathbf{C}$ | Result | Units                     | Dil. | Amount | Result                  | Rec. | $\operatorname{Limit}$ |
| Benzene      |   | 2            | 1.61   | mg/Kg                     | 1    | 2.00   | < 0.00533               | 80   | 70 - 130               |
| Toluene      |   | 2            | 1.72   | $\mathrm{mg}/\mathrm{Kg}$ | 1    | 2.00   | < 0.00645               | 86   | 70 - 130               |
| Ethylbenzene |   | 2            | 1.85   | $\mathrm{mg/Kg}$          | 1    | 2.00   | < 0.0116                | 92   | 70 - 130               |
| Xylene       |   | 2            | 5.68   | $\mathrm{mg/Kg}$          | 1    | 6.00   | < 0.00874               | 95   | 70 - 130               |

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

|              |    |    |              | LCSD   |       |      | Spike  | Matrix    |      | Rec.                   |     | RPD   |
|--------------|----|----|--------------|--------|-------|------|--------|-----------|------|------------------------|-----|-------|
| Param        |    | F  | $\mathbf{C}$ | Result | Units | Dil. | Amount | Result    | Rec. | $\operatorname{Limit}$ | RPD | Limit |
| Benzene      | Qr | Qr | 2            | 2.07   | mg/Kg | 1    | 2.00   | < 0.00533 | 104  | 70 - 130               | 25  | 20    |
| Toluene      | Qr | Qr | 2            | 2.28   | mg/Kg | 1    | 2.00   | < 0.00645 | 114  | 70 - 130               | 28  | 20    |
| Ethylbenzene | Qr | Qr | 2            | 2.56   | mg/Kg | 1    | 2.00   | < 0.0116  | 128  | 70 - 130               | 32  | 20    |
| Xylene       | Qr | Qr | 2            | 7.79   | mg/Kg | 1    | 6.00   | < 0.00874 | 130  | 70 - 130               | 31  | 20    |

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

|                              | LCS    | LCSD                    |       |      | Spike  | LCS  | LCSD | Rec.                   |
|------------------------------|--------|-------------------------|-------|------|--------|------|------|------------------------|
| Surrogate                    | Result | $\operatorname{Result}$ | Units | Dil. | Amount | Rec. | Rec. | $\operatorname{Limit}$ |
| Trifluorotoluene (TFT)       | 1.68   | 2.22                    | mg/Kg | 1    | 2.00   | 84   | 111  | 70 - 130               |
| 4-Bromofluorobenzene (4-BFB) | 1.94   | 2.45                    | mg/Kg | 1    | 2.00   | 97   | 122  | 70 - 130               |

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

| QC Batch:   | 108577 |   | D            | ate Analyz              | ed: 2014-   | 01-23 |                         | I                       | Analyzed | By: AK                 |
|-------------|--------|---|--------------|-------------------------|-------------|-------|-------------------------|-------------------------|----------|------------------------|
| Prep Batch: | 91798  |   | Q            | C Preparat              | tion: 2014- | 01-22 |                         | F                       | Prepared | By: AK                 |
|             |        |   |              | LCS                     |             |       | Spike                   | Matrix                  |          | Rec.                   |
| Param       |        | F | $\mathbf{C}$ | $\operatorname{Result}$ | Units       | Dil.  | $\operatorname{Amount}$ | $\operatorname{Result}$ | Rec.     | $\operatorname{Limit}$ |
| GRO         |        |   | 2            | 16.3                    | mg/Kg       | 1     | 20.0                    | <2.32                   | 82       | 70 - 130               |

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

| control spikes continued<br>Param  | F                                       |                               |   |  |  |  |  |   |  |   |   |   |  |
|--|---|-------------------------------|---|--|--|--|--|---|--|---|---|---|--|
| Param  | F                                       |                               |   |  |  | - · ·  |  | _   |  | _   |   |   |  |
| Param  | - H                                     | a                             | LCSD  | <b>T</b> T •   |  | Spike  | M                                      | latrix  | D  | Rec   | ).  |   | RPD  |
|  | *                                       | C                             | Result  | Unit   | ts Dil.  | Amount   | R                                      | esult   | Rec.   | Lim   | it  | RPD                                     | Limit  |
|  |   | ~                             | LCSD  | •• .   |  | Spike  | M                                      | latrix  | _  | Rec   |   |   | RPD  |
| Param  | F                                       | C                             | Result  |  | ts Dil.  | Amount   | R                                      | lesult  | Rec.   | Lim   | it  | RPD                                     | Limit  |
| GRO  |   | 2                             | 17.2  | mg/r   | ng 1   | 20.0   |  | (2.32   | 86   | /0 - 1  | .30   | 5                                       | 20   |
| Percent recovery is based on the s   | pike                                    | resul                         | t. RPD  | s base   | d on the   | spike and a  | spike                                  | duplica   | ate res  | ult.  |   |   |  |
|  |   |                               | LC  | 5 I  | LCSD   |  |  | Spi   | ke   | LCS   | LCS   | SD                                      | Rec.   |
| Surrogate  |   |                               | Rest  | ilt F  | Result   | Units  | Dil.                                   | Amo   | unt  | Rec.  | R.ec  | C                                       | Limit  |
| Trifluorotoluene (TFT)   |   |                               | 1.7   | 3  | 1.87   | mg/Kg  | 1                                      | 2.0   | 0  | 88  | 94  |   | 70 - 130   |
| 4-Bromofluorobenzene (4-BFB)   |   |                               | 2.1   | 3  | 2.17   | mg/Kg  | 1                                      | 2.0   | 0  | 106   | 108   | 8                                       | 70 - 130   |
| QC Batch: 108640<br>Prep Batch: 91896  |   | ,                             | Date<br>QC F  | Analy:<br>'repara  | zed: 20<br>ation: 20   | 014-01-27<br>014-01-24   |  |   |  | A<br>F  | analyz<br>Prepar                                    | ed By<br>ed By                          | y: CM<br>7: CM   |
| QC Batch: 108640<br>Prep Batch: 91896  |   | ,                             | Date<br>QC F  | Analy:<br>Prepara  | zed: 20<br>ation: 20   | 014-01-27<br>014-01-24   |  | Spike   | М  | A<br>F<br>atrix   | nalyz<br>Yrepar                                     | ed By<br>ed By                          | y: CM<br>7: CM<br>Rec.   |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param   |   | F                             | Date<br>QC F<br>C F   | Analy:<br>repara<br>LCS<br>tesult  | zed: 24<br>ation: 24<br>Unit   | 014-01-27<br>014-01-24<br>s Dil.   | A                                      | Spike   | M<br>R   | A<br>F<br>atrix<br>esult  | nalyz<br>repar<br>Rec                               | zed By<br>red By<br>c.                  | y: CM<br>y: CM<br>Rec.<br>Limit  |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO  |   | F                             | Date<br>QC F  | Analy<br>repara<br>LCS<br>cesult<br>215  | zed: 24<br>ation: 24<br>Unit<br>mg/k   | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  | A                                      | Spike<br>amount<br>250  | M<br>R<br><  | A<br>F<br>atrix<br>esult<br>5.22  | Analyz<br>Prepar<br>Rec<br>86                       | zed By<br>red By                        | 7: CM<br>7: CM<br>Rec.<br>Limit<br>70 - 130  |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO<br>Percent recovery is based on the sp   | pike                                    | F<br>resul                    | Date<br>QC F<br>C F<br>1<br>t. RPD  | Analy:<br>Prepara<br>LCS<br>cesult<br>215<br>s base                                    | zed: 24<br>ation: 24<br>Unit<br>mg/k<br>cd on the  | 014-01-27<br>014-01-24<br>s Dil.<br><u>5 1</u><br>spike and s  | Aspike                                 | Spike<br>amount<br>250<br>duplica   | M<br>R<br><ate res<="" td=""><td>A<br/>F<br/>atrix<br/>esult<br/>5.22<br/>ult.</td><td>Analyz<br/>Prepar<br/>Rec<br/>86</td><td>zed By<br/>red By</td><td>y: CM<br/>y: CM<br/>Rec.<br/>Limit<br/>70 - 130</td></ate> | A<br>F<br>atrix<br>esult<br>5.22<br>ult.  | Analyz<br>Prepar<br>Rec<br>86                       | zed By<br>red By                        | y: CM<br>y: CM<br>Rec.<br>Limit<br>70 - 130  |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO<br>Percent recovery is based on the sp   | pike                                    | F<br>resul                    | Date<br>QC F<br>C F<br>1<br>t. RPD<br>LCSD                                      | Analy<br>Prepara<br>LCS<br>Cesult<br>215<br>s base                                     | zed: 24<br>ation: 24<br>Unit<br><u>Mg/K</u><br>d on the                                  | 014-01-27<br>014-01-24<br>s Dil.<br>5 Dil.<br>5 Dil.<br>5 Dike and s<br>5 Spike                        | A<br>spike<br>M                        | Spike<br>mount<br>250<br>duplica<br>latrix  | M<br>R<br>ate res  | A<br>F<br>esult<br>5.22<br>ult.<br>Rec  | Analyz<br>Prepar<br>Rec<br>86                       | ed By<br>ed By                          | 7: CM<br>7: CM<br>Rec.<br>Limit<br>70 - 130<br>RPD                                 |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO<br>Percent recovery is based on the sp<br>Param  | pike F                                  | F<br>resul<br>C               | Date<br>QC F<br><u>1</u><br>t. RPD<br>LCSD<br>Result                            | Analy<br>Prepara<br>LCS<br>cesult<br>215<br>s base<br>Unit                             | zed: 2<br>ation: 2<br>Unit<br>mg/K<br>d on the<br>ts Dil.                                | 014-01-27<br>014-01-24<br><u>s Dil.<br/>(g 1</u><br>spike and s<br>Spike<br>Amount                     | A<br>spike<br>M                        | Spike<br>mount<br>250<br>duplica<br>latrix<br>esult                                     | M<br>R<br>ate res<br>Rec.  | A<br>F<br>atrix<br>esult<br>5.22<br>ult.<br>Rec<br>Lim                              | Rec<br>Rec<br>86<br>c.<br>it                        | ed By<br>ed By<br>c.<br>RPD             | y: CM<br>r: CM<br>Rec.<br>Limit<br>70 - 130<br>RPD<br>Limit                        |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO<br>Percent recovery is based on the sp<br>Param<br>DRO   | pike F                                  | F<br>resul<br>C               | Date<br>QC F<br>1<br>t. RPD<br>LCSD<br>Result<br>213                            | Analy<br>Prepara<br>LCS<br>Cesult<br>215<br>s base<br>Unit                             | zed: 24<br>ation: 24<br>Unit<br>mg/K<br>d on the<br>ts Dil.<br>Kg 1                      | 014-01-27<br>014-01-24<br><u>5 Dil.<br/>5 Dil.</u><br>5 pike and s<br>Spike<br>Amount<br>250           | A<br>spike<br>M<br>R<br><              | Spike<br>mount<br>250<br>duplica<br>latrix<br>esult<br>5.22                             | M<br>R<br>ate res<br>Rec.<br>85  | A<br>F<br>esult<br>5.22<br>ult.<br>Rec<br>Lim<br>70 - 1                             | Analyz<br>Prepar<br>Rec<br>86<br>2.<br>it<br>130    | xed By<br>red By<br>c.<br>RPD<br>1      | y: CM<br>r: CM<br>Rec.<br>Limit<br>70 - 130<br>RPD<br>Limit<br>20                  |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO<br>Percent recovery is based on the sp<br>Param<br>DRO<br>Percent recovery is based on the sp              | pike r                                  | F<br>resul<br>C<br>i<br>resul | Date<br>QC F<br>1<br>t. RPD<br>LCSD<br>Result<br>213<br>t. RPD                  | Analy<br>Prepara<br>LCS<br>cesult<br>215<br>s base<br>Unit<br>mg/H<br>s base           | zed: 20<br>ation: 20<br>Unit<br>mg/K<br>d on the<br>ts Dil.<br>Kg 1<br>d on the          | 014-01-27<br>014-01-24<br><u>s</u> Dil.<br><u>Spike</u> and s<br>Spike<br>Amount<br>250<br>spike and s | A<br>spike<br>M<br>R<br>spike          | Spike<br>mount<br>250<br>duplica<br>latrix<br>esult<br>(5.22<br>duplica                 | M<br>R<br>ate res<br><u>Rec.</u><br>85<br>ate res  | A<br>F<br>esult<br>5.22<br>ult.<br>Rec<br>Lim<br>70 - 1<br>ult.                     | Rec<br>Rec<br>86<br>2.<br>it<br>130                 | ed By<br>ed By<br>c.<br>RPD<br>1        | 7: CM<br>7: CM<br>Rec.<br>Limit<br>70 - 130<br>RPD<br>Limit<br>20                  |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO<br>Percent recovery is based on the sp<br>Param<br>DRO<br>Percent recovery is based on the sp              | pike F<br>pike b                        | F<br>resul<br>resul           | Date<br>QC F<br>1<br>t. RPD<br>LCSD<br>Result<br>213<br>t. RPD<br>LCSI          | Analy<br>Prepara<br>LCS<br>Cesult<br>215<br>s base<br>Unit<br>mg/H<br>s base           | zed: 24<br>ation: 24<br>Unit<br>mg/K<br>d on the<br>ts Dil.<br>Kg 1<br>d on the          | 014-01-27<br>014-01-24<br><u>5</u> 51<br>591ke and s<br>591ke<br>Amount<br>250<br>591ke and s          | A<br>spike<br>M<br>R<br>spike<br>Spike | Spike<br>mount<br>250<br>duplica<br>fatrix<br>esult<br>5.22<br>duplica<br>pike          | M<br>R<br>ate res<br>Rec.<br>85<br>ate res<br>LC   | A<br>F<br>atrix<br>esult<br>5.22<br>ult.<br>Rec<br>Lim<br>70 - 1<br>ult.<br>S       | Rec<br>Rec<br>86<br>2.<br>it<br>130                 | ed By<br>ed By<br>c.<br>RPD<br>1        | v: CM<br>r: CM<br>Rec.<br>Limit<br>70 - 130<br>RPD<br>Limit<br>20<br>Rec.          |
| QC Batch: 108640<br>Prep Batch: 91896<br>Param<br>DRO<br>Percent recovery is based on the sp<br>Param<br>DRO<br>Percent recovery is based on the sp<br>Surrogate | pike pike pike pike pike pike pike pike | F<br>resul<br>resul           | Date<br>QC F<br>1<br>t. RPD<br>LCSD<br>Result<br>213<br>t. RPD<br>LCSI<br>Resul | Analy<br>Prepara<br>LCS<br>cesult<br>215<br>s base<br>Unit<br>mg/H<br>s base<br>0<br>t | zed: 24<br>ation: 24<br>Unit<br>mg/K<br>d on the<br>ts Dil.<br>Kg 1<br>d on the<br>Units | 014-01-27<br>014-01-24<br>s Dil.<br><u>Spike and s</u><br>Spike and s<br>250<br>spike and s<br>Dil.    | A<br>spike<br>M<br>R<br>Spike<br>Spike | Spike<br>mount<br>250<br>duplica<br>latrix<br>esult<br>5.22<br>duplica<br>pike<br>nount | M<br>R<br>ate res<br>Rec.<br>85<br>ate res<br>LC<br>Re   | A<br>F<br>atrix<br>esult<br>5.22<br>ult.<br>Rec<br>Lim<br>70 - 1<br>ult.<br>S<br>c. | Rec<br>Rec<br>86<br>2.<br>it<br>130<br>LCSD<br>Rec. | ed By<br>ed By<br>c.<br><u>RPD</u><br>1 | 7: CM<br>7: CM<br>Rec.<br>Limit<br>70 - 130<br>RPD<br>Limit<br>20<br>Rec.<br>Limit |

|       |   |              | LCS                     |       |      | Spike  | Matrix                  |      | Rec.                   |
|-------|---|--------------|-------------------------|-------|------|--------|-------------------------|------|------------------------|
| Param | F | $\mathbf{C}$ | $\operatorname{Result}$ | Units | Dil. | Amount | $\operatorname{Result}$ | Rec. | $\operatorname{Limit}$ |
| DRO   |   | 1            | 202                     | mg/Kg | 1    | 250    | <5.22                   | 81   | 70 - 130               |

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

|                                       |              |              | LCSD                    |                        |                 | Spike                  | Matrix                  | 5          | Rec.                   |                    | RPD                    |
|---------------------------------------|--------------|--------------|-------------------------|------------------------|-----------------|------------------------|-------------------------|------------|------------------------|--------------------|------------------------|
| Param                                 | F            | $\mathbf{C}$ | Result                  | Units                  | Dil.            | Amount                 | : Result                | Rec.       | $\operatorname{Limit}$ | RPD                | $\operatorname{Limit}$ |
| DRO                                   |              | 1            | 209                     | mg/Kg                  | 1               | 250                    | < 5.22                  | 84         | 70 - 130               | 3                  | 20                     |
| Percent recovery is based on          | the spike    | e rest       | ılt. RPD                | is based               | on the          | spike and s            | spike dupl              | icate resu | ılt.                   |                    |                        |
|                                       | $\mathbf{L}$ | CS           | LCS                     | D                      |                 |                        | Spike                   | LCS        | S LCS                  | D                  | Rec.                   |
| Surrogate                             | Re           | sult         | Resu                    | ilt U                  | nits            | Dil.                   | Amount                  | Rec        | . Rec                  |                    | Limit                  |
| n-Tricosane                           | 8            | 8.7          | 90.                     | 7 m                    | g/Kg            | 1                      | 100                     | 89         | 91                     |                    | 70 - 130               |
| QC Batch: 108697<br>Prep Batch: 91894 |              |              | Date<br>QC              | e Analyze<br>Preparati | d: 20<br>on: 20 | 014-01-28<br>014-01-27 |                         |            | Anal<br>Prep           | yzed By<br>ared By | 7: AR<br>7: AR         |
|                                       |              |              | I                       | LCS                    |                 |                        | Spike                   | Matri      | X                      | ]                  | Rec.                   |
| Param                                 |              | F            | C R                     | esult                  | Units           | Dil                    | Amount                  | Resul      | t Rec.                 | I                  | init                   |
| Chloride                              |              |              | 2                       | 2730 1                 | ng/Kg           | 1                      | 2500                    | <3.8       | 5 109                  | 89.7               | - 115.9                |
| Percent recovery is based on          | the spike    | e rest       | ılt. RPD                | is based               | on the          | spike and s            | spike dup               | icate resu | ılt.                   |                    |                        |
|                                       |              |              | LCSD                    |                        |                 | Spike                  | Matrix                  |            | Rec.                   |                    | RPD                    |
| Param                                 | $\mathbf{F}$ | $\mathbf{C}$ | $\operatorname{Result}$ | Units                  | Dil.            | Amount                 | $\operatorname{Result}$ | Rec.       | $\operatorname{Limit}$ | RPD                | $\operatorname{Limit}$ |

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

mg/Kg

2640

#### Matrix Spike (MS-1) Spiked Sample: 352019

Chloride

| QC Batch:   | 108575 | Date Analyzed:  | 2014-01-23 | Analyzed By: | ΑK |
|-------------|--------|-----------------|------------|--------------|----|
| Prep Batch: | 91798  | QC Preparation: | 2014-01-22 | Prepared By: | AK |

1

2500

106

 $<\!\overline{3.85}$ 

89.7 - 115.9

20

3

|              |              |              | MS     |       |      | Spike  | Matrix    |      | Rec.                   |
|--------------|--------------|--------------|--------|-------|------|--------|-----------|------|------------------------|
| Param        | $\mathbf{F}$ | $\mathbf{C}$ | Result | Units | Dil. | Amount | Result    | Rec. | $\operatorname{Limit}$ |
| Benzene      |              | 2            | 1.64   | mg/Kg | 1    | 2.00   | < 0.00533 | 82   | 70 - 130               |
| Toluene      |              | 2            | 1.80   | mg/Kg | 1    | 2.00   | < 0.00645 | 90   | 70 - 130               |
| Ethylbenzene |              | 2            | 1.88   | mg/Kg | 1    | 2.00   | < 0.0116  | 94   | 70 - 130               |
| Xylene       |              | 2            | 5.75   | mg/Kg | 1    | 6.00   | < 0.00874 | 96   | 70 - 130               |

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

| Report Date: January 29, 2014<br>112MC06167                        |       |              | CC                    | Wo<br>DG/Dov          | rk Orde<br>vn Sout | er: 14<br>th Sta  | 4012136<br>ate Com | ₩4H     |              |         | Pag         | ge Nur              | nber:<br>Eddy  | 19 of 27<br>Co, NM   |
|--|-------|--------------|-----------------------|-----------------------|--------------------|-------------------|--------------------|---------|--------------|---------|-------------|---------------------|----------------|----------------------|
| matrix spikes continued  |       |              | MSD                   |                       |                    |                   | Spile              | Mot     |              |         | Po          | 0                   |                | מפמ                  |
| Param  | F     | Ċ            | Result                | Unit                  | s Dil              | l. A              | mount              | Res     | ult          | Rec.    | Lin         | c.<br>nit           | RPD            | Limit                |
|  |       |              | MSD                   |                       |                    |                   | Spike              | Mat     | riv          |         | Be          | c                   |                | RPD                  |
| Param  | F     | $\mathbf{C}$ | Result                | Unit                  | s Dil              | 1. A              | mount              | Res     | ult          | Rec.    | Lin         | nit                 | RPD            | Limit                |
| Benzene  |       | 2            | 1.70                  | mg/ŀ                  | Kg 1               |                   | 2.00               | < 0.00  | )533         | 85      | 70 -        | 130                 | 4              | 20                   |
| Toluene  |       | 2            | 1.84                  | mg/ŀ                  | Kg 1               |                   | 2.00               | < 0.00  | )645         | 92      | 70 -        | 130                 | 2              | 20                   |
| Ethylbenzene   |       | 2            | 2.01                  | mg/ŀ                  | Kg 1               |                   | 2.00               | < 0.0   | 116          | 100     | 70 -        | 130                 | 7              | 20                   |
| Xylene   |       | 2            | 6.14                  | mg/ŀ                  | (g 1               |                   | 6.00               | < 0.00  | )874         | 102     | 70 -        | 130                 | 7              | 20                   |
| Percent recovery is based on the                                   | spike | rest         | ılt. RPD              | is base               | ed on tl           | he sp             | ike and            | spike d | uplica       | te res  | ult.        |                     |                |                      |
|  |       |              | N                     | ſS                    | MSD                |                   |                    |         | $_{\rm Spi}$ | ke      | MS          | MS                  | D              | Rec.                 |
| Surrogate  |       |              | Re                    | $\operatorname{sult}$ | Result             | Ţ                 | Jnits              | Dil.    | Amo          | unt     | Rec.        | $\operatorname{Re}$ | з.             | Limit                |
| Trifluorotoluene (TFT)   |       |              | 1.                    | 67                    | 1.74               | m                 | g/Kg               | 1       | 2            |         | 84          | 87                  | ,              | 70 - 130             |
| 4-Bromofluorobenzene (4-BFB)                                       |       |              | 1.                    | 82                    | 1.94               | m                 | g/Kg               | 1       | 2            |         | 91          | 97                  |                | 70 - 130             |
| Matrix Spike (MS-1) Spike<br>QC Batch: 108577<br>Prep Batch: 91798 | d Sa  | mple         | : 352019<br>Dat<br>QC | e Analy<br>Prepar     | zed:<br>zion:      | 2014<br>2014      | 4-01-23<br>4-01-22 |         |              |         | A<br>F      | Analyz<br>Prepar    | ed By<br>ed By | : AK<br>: AK         |
| Dawara   |       | F            | C                     | MS                    | T I.               | aita              | Dil                | Sp      | oike         | Ma      | atrix       | Poo                 |                | Rec.                 |
|  |       | 1            |                       | $\frac{16.2}{16.2}$   |                    | $\frac{108}{/Ka}$ | 1                  | 2       | 0.0          |         | <u>9 29</u> |                     | ·              | $\frac{1}{20} - 130$ |
| Percent recovery is based on the s                                 | spike | rest         | ılt. RPD              | is base               | ed on th           | he sp             | ike and a          | spike d | uplica       | te resi |             |                     |                | 0 - 100              |
| v  |       |              | MSD                   |                       |                    | 1                 | Spike              | Mat     | riv          |         | Bor         |                     |                | RPD                  |
| Param  | F     | $\mathbf{C}$ | Result                | Uni                   | ts D               | );                | Amount             | : Res   | ult          | Rec     | Lim         | it.                 | RPD            | Limit                |
| GRO  | -     | 2            | 16.1                  | mg/                   | Kg                 | 1                 | 20.0               | <2.     | .32          | 80      | 70 - 1      | 130                 | 1              | 20                   |
| Percent recovery is based on the s                                 | spike | resu         | ılt. RPD              | is base               | ed on th           | he sp             | ike and a          | spike d | uplica       | te resi | ılt.        |                     |                |                      |
|  |       |              | Ν                     | IS                    | MSD                |                   |                    |         | Spi          | ke      | MS          | MS                  | D              | Rec.                 |
| Surrogate  |       |              | Re                    | sult                  | Result             | Ţ                 | Jnits              | Dil.    | Amo          | unt     | Rec.        | Re                  | 2.             | Limit                |
| Trifluorotoluene (TFT)   |       |              | 1.                    | 75                    | 1.68               | m                 | g/Kg               | 1       | 2            |         | 88          | 84                  | . 7            | 0 - 130              |
| 4-Bromofluorobenzene (4-BFB)                                       |       |              | 2.                    | 04                    | 2.00               | m                 | g/Kg               | 1       | 2            |         | 102         | 10                  | ) 7            | 70 - 130             |

Matrix Spike (MS-1) \_ Spiked Sample: 351575

| QC Batch:   | 108640 | Date Analyzed:  | 2014-01-27 | Analyzed By: | CM |
|-------------|--------|-----------------|------------|--------------|----|
| Prep Batch: | 91896  | QC Preparation: | 2014-01-24 | Prepared By: | CM |

| Report Date: January<br>112MC06167 | 29, 2014      | 2014 Work Order: 14012136<br>COG/Down South State Com #4H |          |            |         |            |             |         | Page                   | Number<br>Eddy | : 20 of 27<br>v Co, NM |
|------------------------------------|---------------|---|----------|------------|---------|------------|-------------|---------|------------------------|----------------|------------------------|
|                                    |               |   |          | MS         |         |            | Spike       | Ma      | atrix                  |                | Rec.                   |
| Param                              |               | F   | C R      | lesult     | Units   | Dil.       | Amount      | Re      | esult                  | Rec.           | Limit                  |
| DRO                                | Q             | s Qs  | 1        | 2370       | mg/Kg   | 1          | 250         | 2       | 770                    | -160           | 70 - 130               |
| Percent recovery is bas            | sed on the sp | oike result   | . RPD is | s based or | the sp  | ike and sp | ike duplica | te resu | ılt.                   |                |                        |
|                                    |               |   | MSD      |            |         | Spike      | Matrix      |         | Rec.                   |                | RPD                    |
| Param                              |               | F C   | Result   | Units      | Dil.    | Amount     | Result      | Rec.    | $\operatorname{Limit}$ | RPE            | ) Limit                |
| DRO                                | Qs            | Qs 1  | 2880     | mg/Kg      | 1       | 250        | 2770        | 44      | 70 - 13                | ) 19           | 20                     |
| Percent recovery is bas            | sed on the sp | oike result   | . RPD is | s based on | the sp  | ike and sp | ike duplica | te resu | ılt.                   |                |                        |
|                                    |               | MS  | MS       | D          |         |            | Spike       | М       | S N                    | ISD            | Rec.                   |
| Surrogate                          |               | Result  | Res      | ult U      | Jnits   | Dil.       | Amount      | Re      | ec. F                  | lec.           | $\operatorname{Limit}$ |
| n-Tricosane <sub>Qsr</sub>         | Qsr           | 166   | 18       | 7 m        | g/Kg    | 1          | 100         | 16      | 6                      | .87            | 70 - 130               |
|                                    |               |   |          |            |         |            |             |         |                        |                |                        |
|                                    |               |   |          |            |         |            |             |         |                        |                |                        |
| Matrix Spike (MS-1                 | l) Spiked     | Sample: 3   | 352056   |            |         |            |             |         |                        |                |                        |
| QC Batch: 108641                   |               |   | Date .   | Analyzed:  | 2014    | 1-01-27    |             |         | Ana                    | alyzed B       | y: DS                  |
| Prep Batch: 91898                  |               |   | QC P     | reparation | n: 2014 | 1-01-24    |             |         | Pre                    | pared B        | y: CM                  |

|       |    |    |              | MS                      |       |      | Spike  | Matrix |      | Rec.                   |
|-------|----|----|--------------|-------------------------|-------|------|--------|--------|------|------------------------|
| Param |    | F  | $\mathbf{C}$ | $\operatorname{Result}$ | Units | Dil. | Amount | Result | Rec. | $\operatorname{Limit}$ |
| DRO   | Qs | Qs | 1            | 548                     | mg/Kg | 1    | 250    | 865    | -125 | 70 - 130               |

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

|       |       |       |              | MSD    |       |      | Spike  | Matrix |      | Rec.     |      | RPD                    |
|-------|-------|-------|--------------|--------|-------|------|--------|--------|------|----------|------|------------------------|
| Param |       | F     | $\mathbf{C}$ | Result | Units | Dil. | Amount | Result | Rec. | Limit    | R.PD | $\operatorname{Limit}$ |
| DRO   | Qr,Qs | Qr.Qs | 1            | 881    | mg/Kg | 1    | 250    | 865    | 6    | 70 - 130 | 47   | 20                     |

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

| Surrogate   | MS<br>Result | $egin{array}{c} \mathrm{MSD} \ \mathrm{Result} \end{array}$ | Units | Dil. | Spike<br>Amount | MS<br>Rec. | MSD<br>Rec. | ${ m Rec.}\ { m Limit}$ |
|-------------|--------------|---|-------|------|-----------------|------------|-------------|-------------------------|
| n-Tricosane | 109          | 133   | mg/Kg | 1    | 100             | 109        | 133         | 70 - 130                |

### Matrix Spike (MS-1) Spiked Sample: 352058

| QC Batch:<br>Prep Batch: | 108697<br>91894 | Date Analyzed:  | 2014-01-28 | Analyzed By:<br>Propared By: | AR<br>AR |
|--------------------------|-----------------|-----------------|------------|------------------------------|----------|
| r top Daton.             | 310.54          | QUI reparation. | 2014-01-27 | Trepared by.                 | ΠL.      |

|          |   |              | MS     |       |      | Spike  | Matrix |      | Rec.             |
|----------|---|--------------|--------|-------|------|--------|--------|------|------------------|
| Param    | F | $\mathbf{C}$ | Result | Units | Dil. | Amount | Result | Rec. | $\mathbf{Limit}$ |
| Chloride |   |              | 4390   | mg/Kg | 10   | 2500   | 1740   | 106  | 78.9 - 121       |

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

|          |              |              | MSD    |       |      | Spike  | Matrix |      | Rec.             |     | RPD                    |
|----------|--------------|--------------|--------|-------|------|--------|--------|------|------------------|-----|------------------------|
| Param    | $\mathbf{F}$ | $\mathbf{C}$ | Result | Units | Dil. | Amount | Result | Rec. | $\mathbf{Limit}$ | RPD | $\operatorname{Limit}$ |
| Chloride |              |              | 4510   | mg/Kg | 10   | 2500   | 1740   | 111  | 78.9 - 121       | 3   | 20                     |

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

# **Calibration Standards**

### Standard (CCV-1)

| QC Batch: 108575 |      |                       | Date An | alyzed: 20   | 14-01-23      |                 | Analy    | zed By: AK |
|------------------|------|-----------------------|---------|--------------|---------------|-----------------|----------|------------|
|                  |      |                       |         | CCVs<br>True | CCVs<br>Found | CCVs<br>Percent | Percent  | Data       |
| Param            | Flag | $\operatorname{Cert}$ | Units   | Conc.        | Conc.         | Recovery        | Limits   | Analyzed   |
| Benzene          |      | 2                     | mg/kg   | 0.100        | 0.0961        | 96              | 80 - 120 | 2014-01-23 |
| Toluene          |      | 2                     | mg/kg   | 0.100        | 0.103         | 103             | 80 - 120 | 2014-01-23 |
| Ethylbenzene     |      | 2                     | mg/kg   | 0.100        | 0.102         | 102             | 80 - 120 | 2014-01-23 |
| Xylene           |      | - 2                   | mg/kg   | 0.300        | 0.310         | 103             | 80 - 120 | 2014-01-23 |

### Standard (CCV-2)

| QC Batch: 108575 |      |                       | Date An | Analy | zed By: AK |                          |                         |            |
|------------------|------|-----------------------|---------|-------|------------|--------------------------|-------------------------|------------|
|                  |      |                       |         | CCVs  | CCVs       | CCVs                     | Percent                 |            |
|                  |      |                       |         | True  | Found      | $\operatorname{Percent}$ | Recovery                | Date       |
| Param            | Flag | $\operatorname{Cert}$ | Units   | Conc. | Conc.      | Recovery                 | $\operatorname{Limits}$ | Analyzed   |
| Benzene          |      | 2                     | mg/kg   | 0.100 | 0.0980     | 98                       | 80 - 120                | 2014-01-23 |
| Toluene          |      | 2                     | mg/kg   | 0.100 | 0.102      | 102                      | 80 - 120                | 2014-01-23 |
| Ethylbenzene     |      | 2                     | mg/kg   | 0.100 | 0.102      | 102                      | 80 - 120                | 2014-01-23 |
| Xylene           |      | 2                     | mg/kg   | 0.300 | 0.311      | 104                      | 80 - 120                | 2014-01-23 |

### Standard (CCV-3)

| QC Batch: 108575 |                 |                       | Date An | alyzed: 20 | 14-01-23        |          | Analy    | zed By: AK     |
|------------------|-----------------|-----------------------|---------|------------|-----------------|----------|----------|----------------|
|                  |                 |                       |         | CCVs       | $\mathrm{CCVs}$ | CCVs     | Percent  |                |
|                  |                 |                       |         | True       | Found           | Percent  | Recovery | Date           |
| Param            | $\mathbf{Flag}$ | $\operatorname{Cert}$ | Units   | Conc.      | Conc.           | Recovery | Limits   | Analyzed       |
| Benzene          |                 | 2                     | mg/kg   | 0.100      | 0.0989          | 99       | 80 - 120 | 2014-01-23     |
| Toluene          |                 | 2                     | mg/kg   | 0.100      | 0.104           | 104      | 80 - 120 | 2014 - 01 - 23 |
| Ethylbenzene     |                 | 2                     | mg/kg   | 0.100      | 0.102           | 102      | 80 - 120 | 2014-01-23     |
| Xylene           |                 | 2                     | mg/kg   | 0.300      | 0.312           | 104      | 80 - 120 | 2014-01-23     |

| Report Date:<br>112MC06167 | January 29, 2 | 2014  | CO             | Work Or<br>G/Down So  | der: 14012136<br>outh State Com | ₁ #4H                       | Page Nu                       | mber: 23 of 27<br>Eddy Co, NM |  |
|----------------------------|---------------|-------|----------------|-----------------------|---------------------------------|-----------------------------|-------------------------------|-------------------------------|--|
| Standard (C                | CV-1)         |       |                |                       |                                 |                             |                               |                               |  |
| QC Batch: 10               | 08577         |       | Date           | Analyzed:             | 2014-01-23                      |                             | Analy                         | zed By: AK                    |  |
| Param                      | Flag          | Cert  | Units          | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc.          | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed              |  |
| GRO                        |               | 2     | mg/Kg          | 1.00                  | 1.03                            | 103                         | 80 - 120                      | 2014-01-23                    |  |
| Standard (C                |               |       |                |                       |                                 |                             |                               |                               |  |
| QC Batch: 10               | )8577         |       | Date           | Analyzed:             | 2014-01-23                      |                             | Analy                         | zed By: AK                    |  |
| QC Batch: 108577           |               |       |                | CCVs<br>True          | CCVs<br>Found                   | CCVs<br>Percent             | Percent<br>Recovery           | Date                          |  |
| Param<br>GRO               | Flag          |       | Units<br>mg/Kg | Conc.<br>1.00         | Conc.<br>0.943                  | Recovery<br>94              | Limits<br>80 - 120            | Analyzed<br>2014-01-23        |  |
| Standard (CO               | CV-3)         |       |                |                       |                                 |                             |                               |                               |  |
| QC Batch: 10               | 08577         |       | Date           | Analyzed:             | 2014-01-23                      |                             | Analy                         | zed By: AK                    |  |
| Param                      | Flag          | Cert  | Units          | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc.          | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed              |  |
| GRO                        |               | 2     | mg/Kg          | 1.00                  | 0.976                           | 98                          | 80 - 120                      | 2014-01-23                    |  |
| Standard (CC               | CV-1)         |       |                |                       |                                 |                             |                               |                               |  |
| QC Batch: 108640           |               |       | Date           | Analyzed:             | 2014-01-27                      |                             | Analyzed By:                  |                               |  |
| QU Batch. 100040           |               | -     |                | CCVs<br>True          | CCVs<br>Found                   | CCVs<br>Percent             | Percent<br>Recovery           | Date                          |  |
| Param<br>DRO               | Flag          | Cert. | Units<br>mg/Kg | Conc.<br>250          | Conc.<br>202                    | Recovery.<br>81             | Limits<br>80 - 120            | Analyzed<br>2014-01-27        |  |

### Standard (CCV-2)

| Report Date:<br>112MC06167 | January 29, 2 | 2014 | COO           | Work Or<br>G/Down So  | der: 14012136<br>uth State Com | #4H                         | Page Nu                       | mber: 24 of 27<br>Eddy Co, NM |
|----------------------------|---------------|------|---------------|-----------------------|--------------------------------|-----------------------------|-------------------------------|-------------------------------|
| Param Flag<br>DRO          |               | Cert | 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                        |               | 1    | mg/Kg         | 250                   | 208                            | 83                          | 80 - 120                      | 2014-01-27                    |
|                            |               |      |               |                       |                                |                             |                               |                               |
| Standard (C                | CCV-3)        |      |               |                       |                                |                             |                               |                               |
| QC Batch: 108640           |               |      | Date          | Analyzed:             | 2014-01-27                     |                             | Analy                         | zed By: CM                    |
| 5                          |               |      | <b>TT</b> 1.  | CCVs<br>True          | CCVs<br>Found                  | CCVs<br>Percent             | Percent<br>Recovery           | Date                          |
| Param                      | Flag          | Cert | Units         | Conc.                 | Conc.                          | Recovery                    | Limits                        | Analyzed                      |
| QC Batch: 1                | 108641        |      | Date          | Analyzed:             | 2014-01-27                     |                             | Analy                         | zed By: DS                    |
|                            |               |      |               | CCVs<br>True          | CCVs<br>Found                  | CCVs<br>Percent             | Percent<br>Recovery           | Date                          |
| Param                      | Flag          | Cert | Units         | Conc.                 | Conc.                          | Recovery                    | Limits                        | Analyzed                      |
| DRO                        |               | 1    | mg/Kg         | 250                   | 204                            | 82                          | 80 - 120                      | 2014-01-27                    |
| Standard (C                | CCV-2)        |      |               |                       |                                |                             |                               |                               |
| QC Batch: 1                | 108641        |      | Date          | Analyzed:             | 2014-01-27                     |                             | Analy                         | vzed By: DS                   |
| Demonstra                  | 1-1           | C I  | <b>TT</b> - 4 | CCVs<br>True          | CCVs<br>Found                  | CCVs<br>Percent             | Percent<br>Recovery           | Date                          |
| Param<br>DBO               | Flag          | Cert | Units         | <u> </u>              | <u> </u>                       | Recovery                    | Limits                        | Analyzed                      |
|                            |               | 1    | mg/ rrg       | 200                   | 214                            | 00                          | <u> 80 - 120</u>              | 2014-01-27                    |

### Standard (CCV-3)

QC Batch: 108641

Date Analyzed: 2014-01-27

Analyzed By: DS

| 112MC06167                            | January 29, 20         | 014  | COG             | Work Orde<br>Down Sout               | Page Number: 25 of 27<br>Eddy Co, NM |                             |  |                                |  |  |
|---------------------------------------|------------------------|------|-----------------|--------------------------------------|--------------------------------------|-----------------------------|--|--------------------------------|--|--|
| Param                                 | Flag                   | Cert | 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                                   |                        | 1    | mg/Kg           | 250                                  | 212                                  | 85                          | 80 - 120                               | 2014-01-27                     |  |  |
|                                       |                        |      |                 |                                      |                                      |                             |  |                                |  |  |
| Standard (CO                          | CV-1)                  |      |                 |                                      |                                      |                             |  |                                |  |  |
| Standard (CO<br>QC Batch: 10          | C <b>V-1)</b><br>98697 |      | Date            | Analyzed:                            | 2014-01-28                           |                             | Analy                                  | zed By: AR                     |  |  |
| Standard (CO<br>QC Batch: 10<br>Param | CV-1)<br>98697<br>Flag | Cert | Date .<br>Units | Analyzed: :<br>CCVs<br>True<br>Conc. | 2014-01-28<br>CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Analy<br>Percent<br>Recovery<br>Limits | zed By: AR<br>Date<br>Analyzed |  |  |

### Standard (CCV-2)

| QC Batch: | 108697 |      |                       | Date A | Analyzed:    | 2014-01-28    |                 | Analy               | zed By: AR |
|-----------|--------|------|-----------------------|--------|--------------|---------------|-----------------|---------------------|------------|
|           |        |      |                       |        | CCVs<br>True | CCVs<br>Found | CCVs<br>Percent | Percent<br>Recovery | Date       |
| Param     |        | Flag | $\operatorname{Cert}$ | Units  | Conc.        | Conc.         | Recovery        | Limits              | Analyzed   |
| Chloride  |        |      |                       | mg/Kg  | 100          | 99.8          | 100             | 85 - 115            | 2014-01-28 |

Work Order: 14012136 COG/Down South State Com #4H Page Number: 26 of 27 Eddy Co, NM

# Appendix

### **Report Definitions**

NameDefinitionMDLMethod Detection LimitMQLMinimum Quantitation LimitSDLSample Detection Limit

### Laboratory Certifications

|              | Certifying | Certification       | Laboratory    |
|--------------|------------|---------------------|---------------|
| $\mathbf{C}$ | Authority  | Number              | Location      |
| -            | NCTRCA     | WFWB384444Y0909     | TraceAnalysis |
| -            | DBE        | VN 20657            | TraceAnalysis |
| -            | HUB        | 1752439743100-86536 | TraceAnalysis |
| -            | WBE        | 237019              | TraceAnalysis |
| 1            | NELAP      | T104704219-13-9     | Lubbock       |
| 2            | NELAP      | T104704392-13-7     | Midland       |

### Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- $\label{eq:linear} \mbox{Je} \quad \mbox{Estimated concentration exceeding calibration range}.$
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.
- Qsr Surrogate recovery outside of laboratory limits.
- U The analyte is not detected above the SDL

Work Order: 14012136 COG/Down South State Com #4H Page Number: 27 of 27 Eddy Co, NM

### **Result Comments**

- 1 Dilution due to surfactants.
- 2 Dilution due to surfactants.
- 3 Dilution due to surfactants.
- 4 Dilution due to surfactants.
- 5 Dilution due to hydrocarons.
- 6 Dilution due to hydrocarons.

### Attachments

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

| Analysis                            | Request of                                 | Chain of Custor  | dy Record  | ļ                    |                                  | P  |                          | C   | )F:              |          |
|-------------------------------------|--|--|--|----------------------|----------------------------------|--|--------------------------|---|------------------|----------|
|                                     | U Constant and the state                   |  | <b>y</b>   | -                    |                                  | ANALYS<br>(Circle or Sp                  | IS REQUES<br>ecify Metho | iT<br>id No.)                                   |                  |          |
|                                     | 1910<br>Midla<br>(432) 6                   | <b>TRA TECI-</b><br><b>N. Big Spring St.</b><br>and, Texas 79705<br>82-4559 • Fax (432) 682-3946 |  | 5 (Ext. to C35)      | Cr Pb Hg Se<br>I Vr Pd Hg Se     |  |                          |   | DS               |          |
| CLIENT NAME:                        | SITE                                       | MANAGER:<br>8 Taxañe 7   | PRESERVATIVE                                       | TX100                | s Ba Co<br>s Ba Co               | s<br>60/624<br>270/625                   |                          |   | ns, pH, T        |          |
| PROJECT NO .:<br>112 MCQULLEZ       | PROJECT NAME:<br>DOLOD SOUT                | State Con #4H  | IF CONTA   | 5 MOD.               | als Ag A<br>als Ag A<br>als Ag A | ii Volatile:<br>1. 8240/82<br>mi. Vol. 8 | 0/608                    | bec.<br>a (Air)<br>istos)                       | ins/Catio        |          |
| LAB I.D.<br>NUMBER DATE TIN<br>2014 | WE MATRIX<br>COMP<br>GRAB                  | SAMPLE IDENTIFICATION  | NUMBER C<br>FILTERED<br>HCL<br>HN03<br>ICE<br>NONE | ытех 8021<br>ТКН 801 | PAH 8270<br>RCRA Met<br>TCLP Met | TCLP Sem<br>RCI<br>GC.MS Vo<br>GC.MS Se  | PCB's 808<br>Pest. 808/  | Gamma S <sub>1</sub><br>Alpha Beta<br>PLM (Asbe | Major Anic       |          |
| 520541/20                           | 5 X AH-1                                   | 0-1  | X  | KK                   |                                  |  | K                        |   |                  |          |
| 055                                 | AH-2                                       | 0-,5   | X  | XX                   |                                  |  | K                        |   |                  |          |
| 056                                 | PH-3                                       | 0-,5   | Т I  | KK                   |                                  |  | K                        |   |                  |          |
| 057                                 | AIL-4_                                     | 0-5  |  | KK                   |                                  |  |                          |   |                  |          |
| 058                                 | PH-5                                       | 05   | X  | XX                   |                                  |  |                          |   |                  |          |
|                                     |  |  |  |                      |                                  |  |                          |   |                  |          |
|                                     |  |  |  |                      | <u> </u>                         |  |                          |   |                  |          |
|                                     |  |  |  |                      |                                  |  |                          |   |                  | ┝╌┼      |
| A.A.                                |  |  |  |                      |                                  |  |                          |   |                  |          |
| REUNODISHED BY (Signature)          | Date: 1.12<br>Lés Time: 1.55<br>Date: 1.55 | RECEIVED BY: (Signature)   | Date: <u>1021,11</u><br>Time: <u>15,5</u><br>Date: |                      | SAMPLED BY                       | (Print & Initial)                        |                          | Date:<br>Time:                                  |                  | .م.ن     |
| RELINQUISHED BY: (Signature)        |  | RECEIVED BY: (Signature)   | Time:<br>Date:                                     |                      | FEDEX<br>HAND DELI               | BUS<br>/ERED UPS                         |                          | OTHER:  | *:               |          |
| RECEIVING LABORATORY:               | Time:                                      | RECEPTED (* Dignature)   | Time:  |                      | TETRA TECH                       | CONTACT PERSO                            | N:                       | Re  | sults by:        |          |
| ADDHESS:ST<br>CITY:ST<br>CONTACT:ST | ATE: ZIP:<br>PHONE:                        |  | тіме: 9:30   |                      |                                  |  |                          | Au  | thorized:<br>Yes | 905<br>/ |
| SAMPLE CONDITION WHEN RECEI         | VED: REMARKS                               | New BTENLOPOLON  | Lunger Der   | •                    | 16.2                             | A QAR                                    | 2/1                      |   |                  |          |

Ŕ

| Α  |  |                                       |            | <u> </u>                              |   |  |             |                     | x                       |      | _A     | T          |               |             |             |                              |               |              | PAG         | E:            | wa ta bio kwa |            | 0              | F:                      | 1                |     |
|--|--|---------------------------------------|------------|---------------------------------------|---|--|-------------|---------------------|-------------------------|------|--------|------------|---------------|-------------|-------------|------------------------------|---------------|--------------|-------------|---------------|---------------|------------|----------------|-------------------------|------------------|-----|
| An   | alys   | SIS F                                 | 100        | qu                                    | lest of Cr                                | nain of Custo  | ау н        | e                   | CC                      | orc  |        | $\vdash$   |               |             |             |                              | A             | NAL          | rsis        | REC           |               | <br>ST     |                |                         | <u> </u>         |     |
|  |  |                                       |            |                                       | 1910 N. Bi<br>Midland, T<br>(432) 682-455 | A TECH<br>g Spring St.<br>exas 79705<br>9 • Fax (432) 682-3946 |             |                     |                         |      |        |            | (Ext. to C35) | Cr Pb Hg Se | Vr Pd Hg Se | (C                           | ircle         | or S         | Speci       | ify M         | letho         | d No       | p.)            | S                       |                  |     |
| CLIENT NAM                                     |  |                                       |            |                                       | SITE MANA                                 | GER:   | S           | Τ                   | PRE                     | SERV | /ATIVE |            | X1005         | a Cd        | a Cd        |                              |               | 624          | (625        |               |               |            |                | он, ті                  |                  |     |
| COG  |  |                                       | - <b>r</b> |                                       | ike T                                     | avairz   | VINEP       |                     | M                       | IETH | OD     |            | F<br>7.       | 4s B        | As B        | y y                          | 2             | 260/         | 8270        |               |               |            |                | ons, t                  |                  |     |
| PROJECT N                                      | 0.:<br>\\nt\^ <b>-</b>   | 2                                     |            | DIEC.                                 | INAME:                                    | ( Day ++ /11)  | TNOC        | Ê                   |                         |      |        | ,          | ₿<br>V        | Ag          | Ag          | S                            |               | 240/5        | No.         | 0             |               | 1          | (sc            | /Cati                   |                  |     |
| LAB I.D.<br>NUMBER                             | 12 MCOLOLIEZ DOLOD South State Com #4H<br>LABID. DATE TIME HE BE SAMPLE IDENTIFICATION<br>NUMBER 2014 W 00 5 Eddy Co. NM |                                       |            |                                       |   |  | NUMBER OF C | FILTERED (Y/<br>HCL | HN03                    | ICE  | NONE   | BIEX 8021B | TRH 8015      | RCRA Metals | TCLP Metals | TCLP Volatile<br>TCLP Semi V | RCI COM       | GC.MS Vol. 8 | GC.MS Semi. | Pest. 808/608 | Chloride      | Gamma Spec | PLM (Asbeste   | Major Anions            |                  |     |
| 552154   | 1/20   |                                       | 5          | K                                     | AH-1 0-                                   |  |             |                     |                         | K    |        | K          | 4             |             |             |                              |               |              |             |               | X             |            |                |                         |                  |     |
| 055  |  | · · · · · · · · · · · · · · · · · · · |            |                                       | AH-2 0 -                                  |  |             |                     |                         | 8    |        | X          | X             |             |             |                              |               |              |             |               | K             |            |                |                         |                  |     |
| 056  |  |                                       |            |                                       | AH-3 0-                                   |  |             |                     |                         | X    |        | K          | X             |             |             |                              |               |              |             |               | K             |            |                |                         |                  |     |
| 057  |  |                                       |            |                                       | A14-4 0.                                  | 5  |             |                     |                         | X    |        | K          | $\kappa$      |             |             |                              |               |              |             |               | X             |            |                |                         |                  |     |
| 058  | .↓   |                                       |            | ¥                                     | AH-5 0-                                   | .5   |             | -                   |                         | X    |        | K          | x             |             |             |                              |               |              |             |               | X             |            | _              |                         | _                |     |
|  |  |                                       |            | _                                     |   |  |             |                     |                         |      |        |            |               |             |             |                              |               |              |             |               |               |            |                |                         |                  |     |
|  |  |                                       |            |                                       |   |  |             |                     |                         |      |        |            | _             |             |             |                              |               |              |             |               |               |            | _              |                         |                  |     |
| 11   |  |                                       |            |                                       | ·····                                     |  |             |                     |                         |      |        | ,          |               |             |             |                              |               |              |             |               |               |            |                |                         |                  |     |
| REVINDUISHED                                   | BY Signatur  | izale                                 | 1          | ومعربين والمعادر                      | Date: 11<1/14                             | HECEWED BY: (Signature)  |             |                     | Date:<br>Time:<br>Date: | 15   | .52    |            | -   9         | K-F         | EDB         | Y: (Pri                      | $\frac{1}{1}$ | nitial)      |             |               | f             | -          | Date:<br>Time: | _\-/-                   | <i>إ</i> ن.2     | -19 |
| THEINGOLD                                      |  | ¥                                     |            |                                       | Time:                                     |  |             |                     | Time:                   |      |        |            |               | FEDI        | EX<br>D DFI | IVER                         | ED            | BUS          | ,           |               |               | Alf<br>OT  | HER:           | #:                      |                  |     |
| HELINQUISHED                                   | Br: (Signatur  | e)                                    |            | · · · · · · · · · · · · · · · · · · · | Time:                                     |  |             | _                   | Date:<br>Time:          |      |        |            |               | ETRA        | TECH        | 1 CON                        | TACT          | PER          | SON:        |               |               |            | Re             | sults b                 | <i>y</i> :       |     |
| HECEIVING LAB<br>ADDRESS:<br>CITY:<br>CONTACT: | UHAIUHY:   | STATE:                                |            | PHON                                  | ZIP:                                      |  |             |                     | 9;                      | W    |        |            | -             |             |             |                              |               |              |             |               |               |            | RU<br>Aut      | SH Ch<br>thorize<br>Yes | arges<br>d:<br>N |     |
| SAMPLE CONDI                                   | TION WHEN F  | RECEIVED:<br>3.5/2                    | ろ          |                                       | HEMAHKS:<br>Mudlay                        | -BTEX/GRO/CA   | Lul         | lei                 | сĥ                      | - (  | DRO    |            |               | 15          | Ĺĺ          | 20                           | 8             | 208          | 9/          | 0             |               |            |                |                         |                  |     |

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

# **Summary Report**

Ike TavarezTetra Tech1901 N. Big Spring St.Midland, TX 79705

Report Date: July 16, 2014

# Work Order: 14071024

Project Location: NM Project Name: COG/Down South Project Number: TBD

|        |                       |        | Date       | Time  | Date       |
|--------|-----------------------|--------|------------|-------|------------|
| Sample | Description           | Matrix | Taken      | Taken | Received   |
| 367977 | CS-1 (AH-1) 1-1.5 BS  | soil   | 2014-07-09 | 00:00 | 2014-07-10 |
| 367978 | CS-2 (AH-2) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |
| 367979 | CS-3 (AH-3) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |
| 367980 | CS-4 (AH-4) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |
| 367981 | CS-5 (AH-5) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |

|                                | TPH DRO - NEW | TPH GRO |
|--------------------------------|---------------|---------|
|                                | DRO           | GRO     |
| Sample - Field Code            | (mg/Kg)       | (mg/Kg) |
| 367977 - CS-1 (AH-1) 1-1.5' BS | <50.0         | <4.()() |
| 367978 - CS-2 (AH-2) 1-1.5' BS | <50.0         | <4.()() |
| 367979 - CS-3 (AH-3) 1-1.5' BS | <50.0         | <4.00   |
| 367980 - CS-4 (AH-4) 1-1.5' BS | <50.0         | <4.00   |
| 367981 - CS-5 (AH-5) 1-1.5' BS | <50.0         | <4.00   |

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296 This is only a summary. Please, refer to the complete report package for quality control data.



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915-585-3443 FAX 915-585-4944 432-689-6301 FAX 432-689-6313 972-242-7750

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806-794-1295

Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Oklahoma Kansas ISO 17025

### Analytical and Quality Control Report

Ike Tavarez Tetra Tech 1901 N. Big Spring St. Midland, TX, 79705

Report Date: July 16, 2014

#### Work Order: 14071024

Project Location: NM **Project Name:** COG/Down South Project Number: TBD

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   |  |
| 367977 | CS-1 (AH-1) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |  |
| 367978 | CS-2 (AH-2) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |  |
| 367979 | CS-3 (AH-3) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |  |
| 367980 | CS-4 (AH-4) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |  |
| 367981 | CS-5 (AH-5) 1-1.5' BS | soil   | 2014-07-09 | 00:00 | 2014-07-10 |  |

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(cs) in which your sample(s) were analyzed.

This report consists of a total of 14 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Blain Lafturch

Dr. Blair Leftwich, Director James Taylor, Assistant Director

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# Case Narrative

Samples for project COG/Down South were received by TraceAnalysis, Inc. on 2014-07-10 and assigned to work order 14071024. Samples for work order 14071024 were received intact at a temperature of 5.2 C.

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

|               |          | Prep  | Prep                | QC     | Analysis            |
|---------------|----------|-------|---------------------|--------|---------------------|
| Test          | Method   | Batch | Date                | Batch  | Date                |
| TPH DRO - NEW | S 8015 D | 96138 | 2014-07-15 at 13:30 | 113663 | 2014-07-16 at 10:34 |
| TPH GRO       | S 8015 D | 96024 | 2014-07-11 at 10:22 | 113610 | 2014-07-15 at 07:38 |

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 14071024 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: July 16, 2014 TBD

# Analytical Report

#### Sample: 367977 - CS-1 (AH-1) 1-1.5' BS

| n-Tricosane  |  | 3    | 108                | mg/Kg  | 1                                   | 100                   | 108                             | 70 - 130                          |
|--|--|------|--------------------|--|-------------------------------------|-----------------------|---------------------------------|-----------------------------------|
| Surrogate  | Flag                                       | Cert | Result             | Units  | Dilution                            | Spike<br>Amount       | Percent<br>Recovery             | Recovery<br>Limits                |
| DRO  |  | JI.  | 1.2.3.4            | <5   | 0.0                                 | mg/Kg                 | 1                               | 50.0                              |
| Parameter  |  | Flag | Cert               | Res  | RL<br>ult                           | Units                 | Dilution                        | RL                                |
| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Lubbock<br>TPH DRO - NE<br>113663<br>96138 | W    | Ana<br>Data<br>Sam | lytical Methe<br>e Analyzed:<br>ple Preparat | od: S 8015<br>2014-0<br>ion: 2014-0 | 5 D<br>)7-16<br>)7-15 | Prep Me<br>Analyzee<br>Preparec | thod: N/A<br>l By: CM<br>l By: CM |

#### Sample: 367977 - CS-1 (AH-1) 1-1.5' BS

| Laboratory: Midland<br>Analysis: TPH GRO<br>QC Batch: 113610<br>Prep Batch: 96024 |       |          | Analytic<br>Date An<br>Sample I | al Methoo<br>alyzed:<br>Preparatic | l: S 8015<br>2014-0<br>m: 2014-0 | 5 D<br>17-15<br>17-11 |                 | Prep Metho<br>Analyzed By<br>Prepared By | l: S 5035<br>7: AK<br>7: AK |
|---|-------|----------|---------------------------------|------------------------------------|----------------------------------|-----------------------|-----------------|--|-----------------------------|
|   |       |          |                                 |                                    | RL                               |                       |                 |  |                             |
| Parameter   | Flag  |          | Cert                            |                                    | Result                           | Uni                   | ts              | Dilution                                 | R.L                         |
| GRO   | U     |          | 5                               |                                    | <4.00                            | mg/K                  | g               | 1  | 4.00                        |
| Surrogate   |       | Flag     | Cert                            | Result                             | Units                            | Dilution              | Spike<br>Amount | Percent<br>Recovery                      | Recovery<br>Limits          |
| Trifluorotoluene (TFT)  | · · · | <u> </u> |                                 | 2.20                               | mg/Kg                            | 1                     | 2.00            | 110                                      | 70 - 130                    |
| 4-Bromofluorobenzene (4-BF  | B)    |          |                                 | 1.81                               | mg/Kg                            | 1                     | 2.00            | 90                                       | 70 - 130                    |

#### Sample: 367978 - CS-2 (AH-2) 1-1.5' BS

| Laboratory: | Lubbock       |                     |            |              |     |
|-------------|---------------|---------------------|------------|--------------|-----|
| Analysis:   | TPH DRO - NEW | Analytical Method:  | S 8015 D   | Prep Method: | N/A |
| QC Batch:   | 113663        | Date Analyzed:      | 2014-07-16 | Analyzed By: | CM  |
| Prep Batch: | 96138         | Sample Preparation: | 2014-07-15 | Prepared By: | CM  |

| Report Date: July 16, 2014<br>TBD |      |      | W       | /ork Order:<br>COG/Down | Page Number: 6 of 14<br>NM |                 |                     |                    |
|-----------------------------------|------|------|---------|-------------------------|----------------------------|-----------------|---------------------|--------------------|
| Parameter                         |      | Flag | Cert    | Res                     | RL<br>ult                  | Units           | Dilution            | RL                 |
| DRO                               |      | U    | 1.2.3.4 | <5                      | 0.0                        | mg/Kg           | 1                   | 50.0               |
| Surrogate                         | Flag | Cert | Result  | Units                   | Dilution                   | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
| n-Tricosane                       |      | 3    | 110     | mg/Kg                   | 1                          | 100             | 110                 | 70 - 130           |

#### Sample: 367978 - CS-2 (AH-2) 1-1.5' BS

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Midland<br>TPH GRO<br>113610<br>96024 |      |      | Analytic<br>Date An<br>Sample I | al Methoc<br>alyzed:<br>Preparatic | l: S 8015<br>2014-0<br>m: 2014-0 | 5 D<br>17-15<br>17-11 |                 | Prep Methoo<br>Analyzed By<br>Prepared By | l: S 5035<br>7: AK<br>1: AK |
|--|---------------------------------------|------|------|---------------------------------|------------------------------------|----------------------------------|-----------------------|-----------------|---|-----------------------------|
|  |                                       |      |      |                                 |                                    | RL                               |                       |                 |   |                             |
| Parameter  |                                       | Flag |      | Cert                            |                                    | Result                           | Uni                   | ts              | Dilution                                  | RL                          |
| GRO  |                                       | U    |      | 5                               |                                    | <4.00                            | mg/Iv                 | g               | 1   | 4.00                        |
| Surrogate  |                                       |      | Flag | Cert                            | Result                             | Units                            | Dilution              | Spike<br>Amount | Percent<br>Recovery                       | Recovery<br>Limits          |
| Trifluorotolue                                       | ne (TFT)                              |      |      |                                 | 2.04                               | mg/Kg                            | 1                     | 2.00            | 102                                       | 70 - 130                    |
| 4-Bromofluor   | obenzene (4-BFB)                      |      |      |                                 | 1.65                               | mg/Kg                            | 1                     | 2.00            | 82  | 70 - 130                    |

### Sample: 367979 - CS-3 (AH-3) 1-1.5' BS

| Laboratory:<br>Analysis:<br>QC Batch:<br>Prep Batch: | Lubbock<br>TPH DRC<br>113663<br>96138 | ) - NE' | W    | Ana<br>Dato<br>Sam    | lytical Metho<br>2 Analyzed:<br>ple Preparati | od: S 8015<br>2014-0<br>ion: 2014-0 | 5 D<br>7-16<br>7-15 | Prep Me<br>Analyzee<br>Preparec | thod: N/A<br>l By: CM<br>l By: CM |
|--|---------------------------------------|---------|------|-----------------------|---|-------------------------------------|---------------------|---------------------------------|-----------------------------------|
|  |                                       |         |      |                       | 1   | RL                                  |                     |                                 |                                   |
| Parameter  |                                       |         | Flag | $\operatorname{Cert}$ | Res   | ult                                 | Units               | Dilution                        | RL                                |
| DRO  |                                       |         | U    | 1.2.3.4               | <50   | ).0                                 | mg/Kg               | 1                               | 50.0                              |
|  |                                       |         |      |                       |   |                                     | Spike               | Percent                         | Recovery                          |
| Surrogate  | 1                                     | Flag    | Cert | Result                | Units   | Dilution                            | Amount              | Recovery                        | Limits                            |
| n-Tricosane  |                                       |         | 3    | 110                   | mg/Kg   | 1                                   | 100                 | 110                             | 70 - 130                          |

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| TBD                        | COG/Down South       | NM                   |
|                            |                      |                      |

#### Sample: 367979 - CS-3 (AH-3) 1-1.5' BS

| Laboratory:MidlandAnalysis:TPH GROQC Batch:113610Prep Batch:96024 |                  |      |      | Analytic<br>Date An<br>Sample I | al Methoo<br>alyzed:<br>Preparatio | d: S 8013<br>2014-0<br>pm: 2014-0 | 5 D<br>)7-15<br>)7-11 |                 | Prep Methoe<br>Analyzed By<br>Prepared By | l: S 5035<br>: AK<br>: AK |
|---|------------------|------|------|---------------------------------|------------------------------------|-----------------------------------|-----------------------|-----------------|---|---------------------------|
|   |                  |      |      |                                 |                                    | RL                                |                       |                 |   |                           |
| Parameter   |                  | Flag |      | $\operatorname{Cert}$           |                                    | Result                            | Uni                   | $^{ m ts}$      | Dilution                                  | RL                        |
| GRO   |                  | U    |      | õ                               |                                    | <4.00                             | mg/ŀ                  | g               | 1   | 4.00                      |
| Surrogate   |                  |      | Flag | Cert                            | Result                             | Units                             | Dilution              | Spike<br>Amount | Percent<br>Recovery                       | Recovery<br>Limits        |
| Trifluorotoluc  | ene (TFT)        |      |      |                                 | 2.24                               | mg/Kg                             | L                     | 2.00            | 112                                       | 70 - 130                  |
| 4-Bromofluor  | obenzene (4-BFB) |      |      |                                 | 1.81                               | mg/Kg                             | 1                     | 2.00            | 90  | 70 - 130                  |

### Sample: 367980 - CS-4 (AH-4) 1-1.5' BS

| Laboratory: | Lubbock     |      |         |              |             |        |          |           |
|-------------|-------------|------|---------|--------------|-------------|--------|----------|-----------|
| Analysis:   | TPH DRO - N | IEW  | Ana     | lytical Meth | od: S 8015  | 5 D    | Prep Mo  | thod: N/A |
| QC Batch:   | 113663      |      | Date    | e Analyzed:  | 2014-0      | )7-16  | Analyzee | d By: CM  |
| Prep Batch: | 96138       |      | Sam     | ple Preparat | ion: 2014-0 | 07-15  | Preparec | I By: CM  |
|             |             |      |         |              | RL          |        |          |           |
| Parameter   |             | Flag | Cert    | Res          | ult         | Units  | Dilution | RL        |
| DRO         |             | U    | 1,2,3,4 | <5           | 0.0         | mg/Kg  | 1        | 50.0      |
|             |             |      |         |              |             | Spike  | Percent  | Recovery  |
| Surrogate   | Flag        | Cert | Result  | Units        | Dilution    | Amount | Recovery | Limits    |
| n-Tricosane |             | з    | 109     | mg/Kg        | 1           | 100    | 109      | 70 - 130  |
|             |             |      |         |              |             |        |          |           |

### Sample: 367980 - CS-4 (AH-4) 1-1.5' BS

| Laboratory: | Midland |      |              |                  |       |              |        |
|-------------|---------|------|--------------|------------------|-------|--------------|--------|
| Analysis:   | TPH GRO |      | Analytical M | Iethod: S 8015   | D     | Prep Method: | S 5035 |
| QC Batch:   | 113610  |      | Date Analyz  | ed: 2014-07      | 7-15  | Analyzed By: | AK     |
| Prep Batch: | 96024   |      | Sample Prep  | aration: 2014-07 | 7-11  | Prepared By: | АК     |
|             |         |      |              | RL               |       |              |        |
| Parameter   |         | Flag | Cert         | Result           | Units | Dilution     | RL     |
| GRO         |         | U    | 5            | <4.00            | mg/Kg | 1            | 4.00   |

| Report Date: July 16, 2014<br>TBD |      | · · · · · · · · · · · · · · · · · · · |        | Page Number: 8 of 14<br>NM |          |                 |                     |                    |
|-----------------------------------|------|---------------------------------------|--------|----------------------------|----------|-----------------|---------------------|--------------------|
| Surrogate                         | Flag | Cert                                  | Result | Units                      | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
| Trifluorotoluene (TFT)            |      |                                       | 1.60   | mg/Kg                      | 1.       | 2.00            | 80                  | 70 - 130           |
| 4-Bromottuorobenzene (4-BFB)      |      |                                       | 1.40   | ung/Kg                     | 1        | 2.00            | 70                  | 70 - 130           |

#### Sample: 367981 - CS-5 (AH-5) 1-1.5' BS

~

| Laboratory: Lubbock<br>Analysis: TPH DRO - NEW<br>QC Batch: 113663<br>Prep Batch: 96138 |                                   | Ana<br>Dato<br>Sam  | lytical Metho<br>e Analyzed:<br>ple Preparat   | od: S 8015<br>2014-0<br>ion: 2014-0  | D<br>7-16<br>7-15  | Prep Meth<br>Analyzed I<br>Prepared f  | od: N/A<br>3y: CM<br>3y: CM  |
|---|-----------------------------------|---|--|--|--|--|--|
|   | Flag                              | Cert  | Res  | RL<br>ult  | Units  | Dilution   | RL   |
|   | U                                 | 1.2.3.4   | <5   | 0.0  | mg/Kg  | 1  | 50.0   |
| Flag  | Cert                              | Result  | Units  | Dilution   | Spike<br>Amount  | Percent<br>Recovery  | Recovery<br>Limits   |
|   | 'PH DRO - NE<br>13663<br>6138<br> | 'PH DRO - NEW<br>13663<br>6138<br><u>Flag</u> <u>σ</u><br>Flag <u>Cert</u><br>3 | 'PH DRO - NEW         Ana           13663         Date           6138         Sam           Flag         Cert           0         1.2.3.4           Flag         Cert           Result         3 | 'PH DRO - NEW     Analytical Method       13663     Date Analyzed:       6138     Sample Preparat       Flag     Cert     Res       0     1.2.3.4     <5 | 'PH DRO - NEWAnalytical Method:S 801513663Date Analyzed:2014-06138Sample Preparation:2014-0RLGert Result $\sigma$ 1.2.3.4FlagCertResultI Preparation:2014-0RLFlagCertResultI Preparation:2014-0RLFlagCert ResultUnitsDilution3108mg/Kg | 'PH DRO - NEWAnalytical Method:S 8015 D13663Date Analyzed: $2014-07-16$ 6138Sample Preparation: $2014-07-15$ RLImage: Result Cert Result Units0 $1.2.3.4$ SpikeFlag Cert Result UnitsSpikeFlag Cert Result Units Dilution Amount3108mg/Kg100 | 'PH DRO - NEWAnalytical Method:S 8015 DPrep Meth13663Date Analyzed:2014-07-16Analyzed I6138Sample Preparation:2014-07-15Prepared IRL $I = I = I = I = I = I = I = I = I = I =$ |

### Sample: 367981 - CS-5 (AH-5) 1-1.5' BS

| Laboratory:    | Midland          |      |      |          |            |            |          |        |             |          |
|----------------|------------------|------|------|----------|------------|------------|----------|--------|-------------|----------|
| Analysis:      | TPH GRO          |      |      | Analytic | al Metho   | d: S 8015  | 5 D      |        | Prep Method | : S 5035 |
| QC Batch:      | 113610           |      |      | Date An  | alyzed:    | 2014-0     | )7-15    |        | Analyzed By | : AK     |
| Prep Batch:    | 96024            |      |      | Sample I | Preparatio | on: 2014-0 | 7-11     |        | Prepared By | AK AK    |
|                |                  |      |      |          |            | RL         |          |        |             |          |
| Parameter      |                  | Flag |      | Cert     |            | Result     | Uni      | ts     | Dilution    | RL       |
| GRO            |                  | U    |      | 5        |            | <4.00      | mg/K     | g      | 1           | 4.00     |
|                |                  |      |      |          |            |            |          | Spike  | Percent     | Recovery |
| Surrogate      |                  |      | Flag | Cert     | Result     | Units      | Dilution | Amount | Recovery    | Limits   |
| Trifluorotolue | ene (TFT)        |      |      |          | 1.89       | mg/Kg      | 1        | 2.00   | 94          | 70 - 130 |
| 4-Bromofluor   | obenzene (4-BFB) |      |      |          | 1.55       | mg/Kg      | 1        | 2.00   | 78          | 70 - 130 |

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| TBD                        | COG/Down South       | NM                   |
|                            |                      |                      |

# Method Blanks

| Method Blank (1) QC Ba                | atch: 113610 |                  |                       |                          |               |                                       |                      |                    |
|---------------------------------------|--------------|------------------|-----------------------|--------------------------|---------------|---------------------------------------|----------------------|--------------------|
| QC Batch: 113610<br>Prep Batch: 96024 |              | Date A<br>QC Pro | nalyzed:<br>paration: | 2014-07-11<br>2014-07-11 | 5<br>1        |                                       | Analyzed<br>Prepared | By: AK<br>By: AK   |
| Parameter                             | Flao         |                  | Cert                  |                          | MDL<br>Besult |                                       | Units                | RI                 |
| GRO                                   |              |                  | 5                     |                          | <2.32         | · · · · · · · · · · · · · · · · · · · | mg/Kg                | 4                  |
| Surrogate                             | Flag         | Cert             | Result                | Units                    | Dilution      | Spike<br>Amount                       | Percent<br>Recovery  | Recovery<br>Limits |
| Trifluorotoluene (TFT)                |              |                  | 1.84                  | mg/Kg                    | 1             | 2.00                                  | 92                   | 70 - 130           |
| 4-Bromoffuorobenzene (4-BFB)          |              |                  | 1.50                  | mg/Kg                    | 1             | 2.00                                  | 75                   | 70 - 130           |
|                                       |              |                  | <u></u>               |                          |               |                                       |                      |                    |

| Method Bla               | ank (1)         | QC E | Batch: 11360 | 53              |                          |                          |               |             |                     |                        |          |
|--------------------------|-----------------|------|--------------|-----------------|--------------------------|--------------------------|---------------|-------------|---------------------|------------------------|----------|
| QC Batch:<br>Prep Batch: | 113663<br>96138 |      |              | Date A<br>QC Pi | Analyzed:<br>reparation: | 2014-07-16<br>2014-07-15 |               |             | Analyz<br>Prepare   | ed By: CM<br>ed By: CM | VI<br>VI |
| Parameter                |                 |      | Flag         | r<br>5          | Cert                     |                          | MDL<br>Result |             | Units               | Ŀ                      | ₹.L      |
| DRO                      |                 |      |              |                 | 1,2,3,4                  |                          | 5.43          |             | mg/Kg               | Ę                      | 50       |
| Surrogate                |                 | Flag | Cert         | Result          | Units                    | Dilutio                  | Sp<br>1 Am    | ike<br>ount | Percent<br>Recovery | Recove<br>Limit        | ry<br>s  |
| n-Tricosane              |                 |      | 3            | 108             | mg/Kg                    | 1                        | 1             | 00          | 108                 | 70 - 13                | 30       |

# Laboratory Control Spikes

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

| QC Batch: 113610<br>Prep Batch: 96024                                 |        |        | Date              | Analyzed              | : 201             | 4-07-15                     |                    |                | A                | nalyzed E            | By: AK           |
|---|--------|--------|-------------------|-----------------------|-------------------|-----------------------------|--------------------|----------------|------------------|----------------------|------------------|
|   |        |        | QUI               | торагано              | n. 201            | 4-07-11                     |                    |                | L                | repared b            | y. AK            |
|   |        |        | I                 | LCS                   |                   |                             | Spike              | М              | atrix            |                      | Rec.             |
| Param   | Ι      | 3      | C R               | esult                 | Units             | Dil.                        | Amount             | R              | esult            | Rec.                 | Limit            |
| GRO   |        |        | 5                 | 17.0                  | mġ/Kg             | 1                           | 20.0               | <              | (2.32            | 85                   | 70 - 130         |
| Percent recovery is based on the sp                                   | pike r | esult  | RPD is            | s based o             | n the sp          | ike and s                   | pike duplica       | te res         | ult.             |                      |                  |
|   |        |        | LCSD              |                       |                   | Spike                       | Matrix             |                | Rec.             |                      | RPD              |
| Param   | F      | С      | Result            | Units                 | Dil.              | Amount                      | Result             | Rec.           | Limi             | t RPE                | ) Limit          |
| GRO   |        | 5      | 17.0              | mg/Kg                 | 1                 | 20.0                        | <2.32              | 85             | 70 - 13          | 30 0                 | 20               |
| Percent recovery is based on the sp                                   | oike r | esult  | . RPD is          | s based o             | n the sp          | ike and s                   | pike duplica       | te res         | ult.             |                      |                  |
|   |        |        | LCS               | 5 LCS                 | D                 |                             | Spil               | ۲C             | LCS              | LCSD                 | Rec.             |
| Surrogate   |        |        | Resu              | lt Resi               | ılt U             | Juits I                     | Dil. Amo           | unt            | Rec.             | Rec.                 | Linit            |
| Trifluorotoluene (TFT)  |        |        | 2.06              | 5 1.9                 | 9 m               | g/Kg                        | 1 2.0              | 0              | 103              | 100                  | 70 - 130         |
| 4-Bromofluorobenzene (4-BFB)  |        |        | 1.89              | 1.8                   | 0 m               | g/Kg                        | 1 2.0              | 0              | 94               | 90                   | 70 - 130         |
| Laboratory Control Spike (LC<br>QC Batch: 113663<br>Prep Batch: 96138 | S-1)   |        | Date A<br>QC Pa   | Analyzed<br>reparatio | : 2014<br>n: 2014 | 1-07-16<br>1-07 <b>-</b> 15 |                    |                | Aı<br>Pr         | alyzed B<br>epared B | y: CM<br>y: CM   |
|   |        |        |                   | LCS                   |                   |                             | Spileo             | N              | latvix           |                      | Rec              |
| Param   | F      |        | С                 | Result                | Units             | Dil                         | Amount             | Ē              | lesult           | Rec                  | Limit            |
| DRO   |        |        | 2.2.1             | 241                   | mø/Ke             | r = 1                       | 250                |                | 5 43             | 94                   | 70 - 130         |
| Percent recovery is based on the sr                                   | oike r | esult. | RPD is            | s based of            | 1 the sp          | ike and s                   | pike duplica       | te res         | ult.             |                      |                  |
| υ   |        |        | LOOD              |                       | -                 | о ч                         |                    |                | D                |                      | סממ              |
| D   | D      | C      | - LCSD<br>Bossult | T Tanàna              | Dil               | Spike                       | Matrix<br>+ Double | Dag            | Kec.             | + DDL                | RPD<br>Limit     |
|   | r      | U      | 241               |                       | <u>. 1</u>        | 250                         | 5 42               | <u>- n.ec.</u> | $\frac{1}{70}$ 1 | 30 0                 | 20<br>20         |
| Percent recovery is based on the sr                                   | ike r  | esult  | <br>RPD is        | based o               | the sp            | ike and s                   | pike duplica       | te res         | nlt.             | <u> </u>             |                  |
| r croche rocovery to onood on the op                                  | A CO   |        |                   | , isabee 01           | r and ob          | me and b                    | a                  | гол            | о. т             | CCD                  | Dur              |
| 0   | LCS    | 5      | LCSD              |                       | .,                | נים                         | Spike              | LC<br>D        | ע 3<br>יי        | USD<br>Der           | Kec.             |
| Surrogate   | Resu   | lt     | Result            | Ui                    |                   | <u>Dil.</u>                 | Amount             | - K.C          | c. t             | $\frac{106}{106}$    | LIIIII<br>70 120 |
| n-Tricosane 3   | 105    |        | 106               | mg/                   | /Kg               | 1                           | 100                | 10             | <u> </u>         | 100                  | 70 - 150         |

# Matrix Spikes

| Matrix Spike (MS-1) | Spiked Sample: 367977 |
|---------------------|-----------------------|
|---------------------|-----------------------|

| QC Batch:   | 113610 | Date Analyzed:  | 2014-07-15 | Analyzed By: | AK |
|-------------|--------|-----------------|------------|--------------|----|
| Prep Batch: | 96024  | QC Preparation: | 2014-07-11 | Prepared By: | AK |

|       |   |             | MS     |       |      | Spike  | Matrix |       | Rec.     |
|-------|---|-------------|--------|-------|------|--------|--------|-------|----------|
| Param | F | $C_{\perp}$ | Result | Units | Dil. | Amount | Result | R.ec. | Limit    |
| GRO   |   | 5           | 15.6   | mg/Kg | 1    | 20.0   | <2.32  | 78    | 70 - 130 |

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

|       |   |              | MSD    |       |      | Spike  | Matrix |      | Rec.                   |     | RPD   |
|-------|---|--------------|--------|-------|------|--------|--------|------|------------------------|-----|-------|
| Param | F | $\mathbf{C}$ | Result | Units | Dil. | Amount | Result | Rec. | $\operatorname{Limit}$ | RPD | Limit |
| GRO   |   | 5            | 15.8   | mg/Kg | 1    | 20.0   | <2.32  | 79   | 70 - 130               | 1   | 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 | Rec. | Rec. | Limit    |
| Triffuorotoluene (TFT)       | 2.05   | 1.93   | mg/Kg | 1    | 2      | 102  | 96   | 70 - 130 |
| 4-Bromofluorobenzene (4-BFB) | 1.86   | 1.81   | mg/Kg | 1    | 2      | 93   | 90   | 70 - 130 |

#### Matrix Spike (MS-1) Spiked Sample: 368067

| QC Batch:   | 113663 | Date Analyzed:  | 2014-07-16 | Analyzed By: | CM |
|-------------|--------|-----------------|------------|--------------|----|
| Prep Batch: | 96138  | QC Preparation: | 2014-07-15 | Prepared By: | CM |

|                                  |              |             | MS         |           |           | Spike       | Ma      | atrix    |      | Rec.     |
|----------------------------------|--------------|-------------|------------|-----------|-----------|-------------|---------|----------|------|----------|
| Param                            | $\mathbf{F}$ | С           | Result     | Units     | Dil.      | Amount      | Re      | sult F   | lec. | Limit    |
| DRO                              |              | 1,2,3,4     | 257        | mg/Kg     | 1         | 250         | 8       | .26      | 99   | 70 - 130 |
| Percent recovery is based on the | spike res    | ult. RPD is | s based or | i the spi | ke and sp | ike duplica | te resu | lt.      |      |          |
|                                  |              | MSD         |            |           | Spike     | Matrix      |         | Rec.     |      | RPD      |
| Param                            | F C          | C Result    | Units      | Dil.      | Amount    | Result      | Rec.    | Limit    | RPD  | Limit    |
| DRO                              | 1.2.3        | 3.4 262     | mg/Kg      | 1         | 250       | 8.26        | 101     | 70 - 130 | 2    | 20       |
| Percent recovery is based on the | spike res    | ult. RPD is | s based on | n the spi | ke and sp | ike duplica | te resu | lt.      |      |          |
|                                  | MS           | MSD         |            |           |           | Spike       | MS      | s MS     | D    | Rec.     |
| Surrogate                        | Result       | Resul       | t Un       | nits      | Dil.      | Amount      | Rec     | e. Re    | с.   | Limit    |
| n-Tricosane 3                    | 106          | 108         | nıg,       | /Kg       | 1         | 100         | 100     | 3 10     | 8    | 70 - 130 |

# **Calibration Standards**

Standard (CCV-1)

| QC Batch: | 113610 |      | Date  | Analyzed:    | 2014-07-15    |                 | Analy               | zed By: AK |
|-----------|--------|------|-------|--------------|---------------|-----------------|---------------------|------------|
|           |        |      |       | CCVs<br>True | CCVs<br>Found | CCVs<br>Percent | Percent<br>Recovery | Date       |
| Param     | Flag   | Cert | Units | Conc.        | Conc.         | Recovery        | Limits              | Analyzed   |
| GRO       |        | 5    | mg/Kg | 1.00         | 0.916         | 92              | 80 - 120            | 2014-07-15 |

### Standard (CCV-2)

| QC Batch: | 113610 |      | Date  | Analyzed:    | 2014-07-15    |                 | Analy               | zed By: AK |
|-----------|--------|------|-------|--------------|---------------|-----------------|---------------------|------------|
|           |        |      |       | CCVs<br>Truc | CCVs<br>Found | CCVs<br>Percent | Percent<br>Recovery | Date       |
| Param     | Flag   | Cert | Units | Conc.        | Conc.         | Recovery        | Limits              | Analyzed   |
| GRO       |        | 5    | mg/Kg | 1.00         | 0.972         | 97              | 80 - 120            | 2014-07-15 |

### Standard (CCV-1)

| QC Batch: | 113663   |         | Date Analyzed: |                      |                       |                             | Analyzed By: CM     |            |  |
|-----------|----------|---------|----------------|----------------------|-----------------------|-----------------------------|---------------------|------------|--|
| Param     | Flag     | Cort    | Unite          | CCVs<br>True<br>Conc | CCVs<br>Found<br>Cong | CCVs<br>Percent<br>Becovery | Percent<br>Recovery | Date       |  |
| i atam    | <u> </u> | OUL     | Units          | Conc.                | Conc.                 | Recovery                    | Linnes              | Anaryzen   |  |
| DRO       |          | 1,2,3,4 | mg/Kg          | 250                  | 239                   | 96                          | 80 - 120            | 2014-07-16 |  |

### Standard (CCV-2)

| QC Batch: | 113663 |         | Date  | Analyzed:             | 2014-07-16             |                             | Analyzed By: CM               |                  |  |
|-----------|--------|---------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|--|
| Param     | Flag   | Cert    | Units | CCVs<br>Truc<br>Conc. | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |  |
| DRO       |        | 1.2.3.4 | mg/Kg | 250                   | 247                    | 99                          | 80 - 120                      | 2014-07-16       |  |

Work Order: 14071024 COG/Down South Page Number: 13 of 14 NM

### Appendix

### **Report Definitions**

| Name | Definition                 |
|------|----------------------------|
| MDL  | Method Detection Limit     |
| MQL  | Minimum Quantitation Limit |
| SDL  | Sample Detection Limit     |

### Laboratory Certifications

|                | Certifying | Certification         | Laboratory    |
|----------------|------------|-----------------------|---------------|
| С              | Authority  | Number                | Location      |
| -              | NCTRCA     | WFWB384444Y0909       | TraceAnalysis |
| -              | DBE        | VN 20657              | TraceAnalysis |
| -              | HUB        | 1752439743100 - 86536 | TraceAnalysis |
| -              | WBE        | 237019                | TraceAnalysis |
| 1              | PJLA       | L14-93                | Lubbock       |
| $\overline{2}$ | Kansas     | Kansas E-10317        | Lubbock       |
| 3              | LELAP      | LELAP-02003           | Lubbock       |
| 4              | NELAP      | Т104704219-14-10      | Lubbock       |
| 5              | NELAP      | T104704392-14-8       | Midland       |
| 6              |            | 2013-083              | Lubbock       |

### Standard Flags

- F Description
- B Analyte detected in the corresponding method blank above the method detection limit
- H Analyzed out of hold time
- J Estimated concentration
- Jb The analyte is positively identified and the value is approximated between the SDL and MQL. Sample contains less then ten times the concentration found in the method blank. The result should be considered non-detect to the SDL.
- Je Estimated concentration exceeding calibration range.
- MI1 Split peak or shoulder peak
- MI2 Instrument software did not integrate
- MI3 Instrument software misidentified the peak
- MI4 Instrument software integrated improperly
- MI5 Baseline correction
- Qc Calibration check outside of laboratory limits.
- Qr RPD outside of laboratory limits
- Qs Spike recovery outside of laboratory limits.

Report Date: July 16, 2014 TBD

Work Order: 14071024 COG/Down South Page Number: 14 of 14 NM

#### F Description

| Qsr | Surrogate recovery outside of laboratory limits. |
|-----|--|
| U   | The analyte is not detected above the SDL        |

### Attachments

.

The scanned attachments will follow this page. Please note, each attachment may consist of more than one page.

|  |  |           | 14                          | 07/  | 12/14   |        |                        |  |  |            |                 |                                       |             |            |          |                 | _         |           |                       |                  |            | <del></del>  |                       |                   |                           |   |              |
|--|--|-----------|-----------------------------|------|---------|--------|------------------------|--|--|------------|-----------------|---------------------------------------|-------------|------------|----------|-----------------|-----------|-----------|-----------------------|------------------|------------|--------------|-----------------------|-------------------|---------------------------|---|--------------|
| Analysis Request of Chain of Custody Record  |  |           |                             |      |         |        |                        |  | PAGE: / OF: /                                    |            |                 |                                       |             |            |          |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
| TETRA TECH<br>1910 N. Big Spring St.<br>Midland, Texas 79705<br>(432) 682-4559 • Fax (432) 682-3946  |  |           |                             |      |         |        |                        |  |  |            | 5 (Ext. to C35) | Cr Pb Hg Se                           | Vr Pd Hg Se | (Cir       | rcle     | or Sp           |           | ty Me     | ethoo                 | ( No.)           | SO         |              |                       |                   |                           |   |              |
| CLIENT NAME:   |  |           | SITE MANAGER:<br>TUF TAUARF |      |         |        |                        | ·····                                  | PRESERVATIVE                                     |            |                 |                                       |             |            | YTX100:  | Ba Cd           | Ba        |           |                       | 50/624<br>70/625 | 1.20101    |              |                       |                   | s, pH, T                  |   |              |
| PROJECT NO .:  |  |           | PROJECT NAME:<br>DUWN SQUTH |      |         |        |                        |  | CONTAIN  | (N/)       |                 |                                       |             | MOD.       | Is Ag As | ls Ag As<br>lec | Volatiles |           | 8240/82(<br>ii Vol 82 | (608             | 8          | , i          | (Air)                 | itos)<br>s/Cation |                           |   |              |
| LAB I.D.<br>NUMBER   | DATE<br>ZO14-  | TIME      | MATRIX                      | GRAB |         | SAMF   | LE IDENTIFICATION      |  | NUMBER OF  | FILTERED ( | HNO3            | ICE                                   | NONE        | BTEX 80216 | PAH 8270 | RCRA Meta       | TCLP Meta | TCLP Semi | RCI                   | GC.MS Vol.       | PCB's 8080 | Pest. 808/6( | Chloride<br>Gamma Spe | Alpha Beta        | PLM (Asbes<br>Major Anion |   |              |
| <i>ೆ67</i> ,777  | 7/9  |           | 5                           | Х    | C5-1    | ' (A4  | 1-1)-1-1               | 5'85                                   | 1  | N          |                 | X                                     |             |            | X        |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
| 978  |  |           |                             |      | C5-2    | ZCA    | 4-2 1-1                | 5'85                                   |  |            |                 |                                       |             |            |          |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
| 979  |  |           |                             |      | CS-     | 3 (2)  | 1-3) 1-1.3             | T'BS                                   |  |            |                 |                                       |             |            |          |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
| 98)  |  |           |                             |      | C5-4    | - CAH  | +-4) 1-1.5             | ' BS                                   |  |            |                 |                                       |             |            |          |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
| 981  | ×  |           | Ļ                           | Ł    | CS-5    | (AH    | -5) 1-1.5              | ' BS                                   | V  | 4          |                 | 7                                     |             |            | -        |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
|  |  |           |                             |      |         |        |                        |  |  |            |                 |                                       |             |            |          |                 |           |           | _                     |                  |            |              |                       |                   |                           |   |              |
|  |  |           |                             |      |         |        |                        |  |  |            |                 |                                       | _           |            | _        |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
|  |  | <u> </u>  |                             |      |         |        |                        | ·                                      |  |            |                 |                                       |             |            |          |                 |           |           |                       |                  |            |              |                       |                   |                           |   | $\downarrow$ |
|  |  |           |                             |      |         |        |                        |  |  | _          |                 |                                       |             |            |          |                 |           |           | _                     |                  |            |              | _                     |                   | ╧                         | _ | +            |
| RELINCUISHED   | BY: (Signature   |           |                             |      | Date:7/ | 10/14- | RECEIVED BY: (Signatum | 2)                                     |  |            | Date:           |                                       | -10-        |            | SA       | MBLE            | D BY:     | (Pript    | & Initi               | ial)             |            |              |                       | Date              | <u> </u>                  |   | Xit          |
| RELINQUISHED   | Linouished BY: (Signature)     Time:     13:04       Allison     Johnson     Time:     13:04       Date:      RECEIVED BY: (Signature)     Date: |           |                             |      |         |        |                        | SAMPLE SHIPPED BY: (Circle) AIRBILL #: |  |            |                 |                                       |             |            |          |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |
| RELINOUISHED BY: (Signature) Date:   |  |           |                             |      | Time:   |        |                        |  |  |            |                 | TETRA TECH CONTACT PERSON: Results by |             |            |          |                 |           |           |                       |                  |            | <br>y:       |                       |                   |                           |   |              |
| RECEIVING LABORATORY:         TEACE           ADDRESS:         TEACE           CITY:         MTTXAND           STATE:         ZIP:           CONTACT:         PHONE: |  |           |                             |      |         |        |                        |  | TKE TAVAREZ RUSH Charges<br>Authorized:<br>Yes M |            |                 |                                       |             |            |          |                 |           |           | No                    |                  |            |              |                       |                   |                           |   |              |
| SAMPLE CONDI   | TION WHEN F  | RECEIVED: |                             |      | REMAR   | (S:    |                        |  |  |            |                 |                                       |             |            |          |                 |           |           |                       |                  |            |              |                       |                   |                           |   |              |

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