

# SITE INFORMATION

2RP-906

## Report Type: Closure Report

### General Site Information:

|                             |                                                                                                                                                        |              |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Site:                       | Antelope State Tank Battery                                                                                                                            |              |
| Company:                    | COG Operating LLC                                                                                                                                      |              |
| Section, Township and Range | Unit K - Section 36 - T-17S - R-31E                                                                                                                    |              |
| Lease Number:               | 30-015-32040                                                                                                                                           |              |
| County:                     | Eddy County                                                                                                                                            |              |
| GPS:                        | 32.78810° N                                                                                                                                            | 103.82630° W |
| Surface Owner:              | State                                                                                                                                                  |              |
| Mineral Owner:              |                                                                                                                                                        |              |
| Directions:                 | From CR 126 and Hwy 529 travel west on Hwy 529 for 3.1 miles, turn left onto lease road and travel 0.8 miles, turn right and travel 0.6 miles to site. |              |
|                             |                                                                                                                                                        |              |
|                             |                                                                                                                                                        |              |
|                             |                                                                                                                                                        |              |

### Release Data:

|                          |                |
|--------------------------|----------------|
| Date Released:           | 8/30/2012      |
| Type Release:            | Produced Fluid |
| Source of Contamination: | Water Tank     |
| Fluid Released:          | 15 bbls        |
| Fluids Recovered:        | 13 bbls        |

### Official Communication:

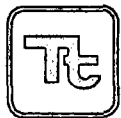
|               |                             |                            |
|---------------|-----------------------------|----------------------------|
| Name:         | Pat Ellis                   | Ike Tavaréz                |
| Company:      | COG Operating, LLC          | Tetra Tech                 |
| Address:      | 550 W. Texas Ave. Ste. 1300 | 1910 N. Big Spring         |
| P.O. Box      |                             |                            |
| City:         | Midland Texas, 79701        | Midland, Texas             |
| Phone number: | (432) 686-3023              | (432) 682-4559             |
| Fax:          | (432) 684-7137              |                            |
| Email:        | pellis@conchoresources.com  | ike.tavarez@tetrattech.com |

### Ranking Criteria

| Depth to Groundwater:                     | Ranking Score | Site Data |
|-------------------------------------------|---------------|-----------|
| <50 ft                                    | 20            |           |
| 50-99 ft                                  | 10            |           |
| >100 ft.                                  | 0             | 0         |
| WellHead Protection:                      | Ranking Score | Site Data |
| Water Source <1,000 ft., Private <200 ft. | 20            |           |
| Water Source >1,000 ft., Private >200 ft. | 0             | 0         |
| Surface Body of Water:                    | Ranking Score | Site Data |
| <200 ft.                                  | 20            |           |
| 200 ft - 1,000 ft.                        | 10            |           |
| >1,000 ft.                                | 0             | 0         |
| Total Ranking Score:                      |               | 0         |

### Acceptable Soil RRAL (mg/kg)

| Benzene | Total BTEX | TPH   |
|---------|------------|-------|
| 10      | 50         | 5,000 |



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SEP 06 2012

NMOCD ARTESIA

May 10, 2012

Mr. Mike Bratcher  
Environmental Engineer Specialist  
Oil Conservation Division, District 2  
1301 West Grand Avenue  
Artesia, New Mexico 88210

**Re: Closure Report for the COG Operating LLC., Antelope State Tank Battery, Unit K, Section 36, Township 17 South, Range 31 East, Eddy County, New Mexico.**

Mr. Bratcher:

Tetra Tech, Inc. (Tetra Tech) was contacted by COG Operating LLC. (COG) to assess a spill from the Antelope State Tank Battery located in Unit K, Section 36, Township 17 South, Range 31 East, Eddy County, New Mexico (Site). The spill site coordinates are N 32.7881°, W 103.8263°. The site location is shown on Figures 1 and 2.

### **Background**

According to the State of New Mexico C-141 Initial Report, the leak was discovered on August 30, 2011. The water tank overflowed and released approximately fifteen (15) barrels of produced fluids. A total of thirteen (13) barrels of standing fluids were recovered. The entire spill was contained inside the facility berms. The spill impacted an area measuring approximately 12' x 165'. The initial C-141 form is enclosed in Appendix A.

### **Groundwater**

No water wells were listed within Section 36. One well was listed in Section 34 with a recorded depth of 271' according to the *Geology and Groundwater Resources of Eddy County, New Mexico (Report 3)*. The NMOCD groundwater map shows a groundwater depth of approximately 350' below surface. The groundwater data is shown in Appendix B.

Tetra Tech

1910 North Big Spring, Midland, TX 79705

Tel 432.682.4559

Fax 432.682.3946

www.tetrattech.com



## **Regulatory**

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

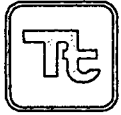
## **Soil Assessment and Analytical Results**

On September 19, 2011, Tetra Tech personnel inspected and sampled the spill area. Four (4) auger holes (AH-1 and AH-4) were installed using a stainless steel hand auger. 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 reports and chain-of-custody documentation are included in Appendix C. The sampling results are summarized in Table 1. The auger hole locations are shown on Figure 3.

Referring to Table 1, all submitted samples were below the RRAL for TPH and BTEX. Elevated chloride concentrations were detected in all the auger holes and not vertically defined. The auger hole bottom samples showed chloride concentrations of AH-1 (24,200 mg/kg at 6-6.5'), AH-2 (3,870 mg/kg at 6-6.5'), AH-3 (5,760 mg/kg at 7-7.5') and AH-4 (15,300 mg/kg at 7-7.5').

On January 31, 2012, Tetra Tech personnel supervised the installation of four (4) boreholes (BH-1, BH-2, BH-3 and BH-4) using an air rotary rig. Due to the limited access of the site, the facility berm was removed to gain access for the drilling rig. Samples were collected and submitted for chloride analysis. The sampling results are summarized in Table 1. The borehole locations are shown on Figure 3.

Referring to Table 1, all of the borehole locations were vertically defined. Boreholes (BH-2, BH-3 and BH-4) showed a significant chloride decline at 9-10' below surface. BH-1 showed a deeper impact to the soils with a chloride high at 6-7' of 14,100 mg/kg and declining with depth to 507 mg/kg at 19-20' below surface. A chloride spiked was also detected at 25-



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25' of 2,570 mg/kg, which declined at 29-30' to 474 mg/kg. The chloride spike appears to be cross-contaminated with the upper soils.

### **Closure Activities**

Based on the approved work plan, Tetra Tech personnel supervised the excavation of the site. The excavated area and depths are highlighted in Table 1. The final excavation depth of the soil remediation was met as stated in the approved work plan. As discussed in the work plan, COG proposed to excavate the impacted soils to a depth of 3.0' to 4.0' below surface, if accessible. Approximately 200 cubic yards of soil were excavated and hauled to proper disposal.

The excavated area measured approximately 12' x 165' at a depth of approximately 4.0' below surface. Once excavated, a clay material was placed into the excavation bottom (0.5' to 1.0' thick) and backfilled to grade.

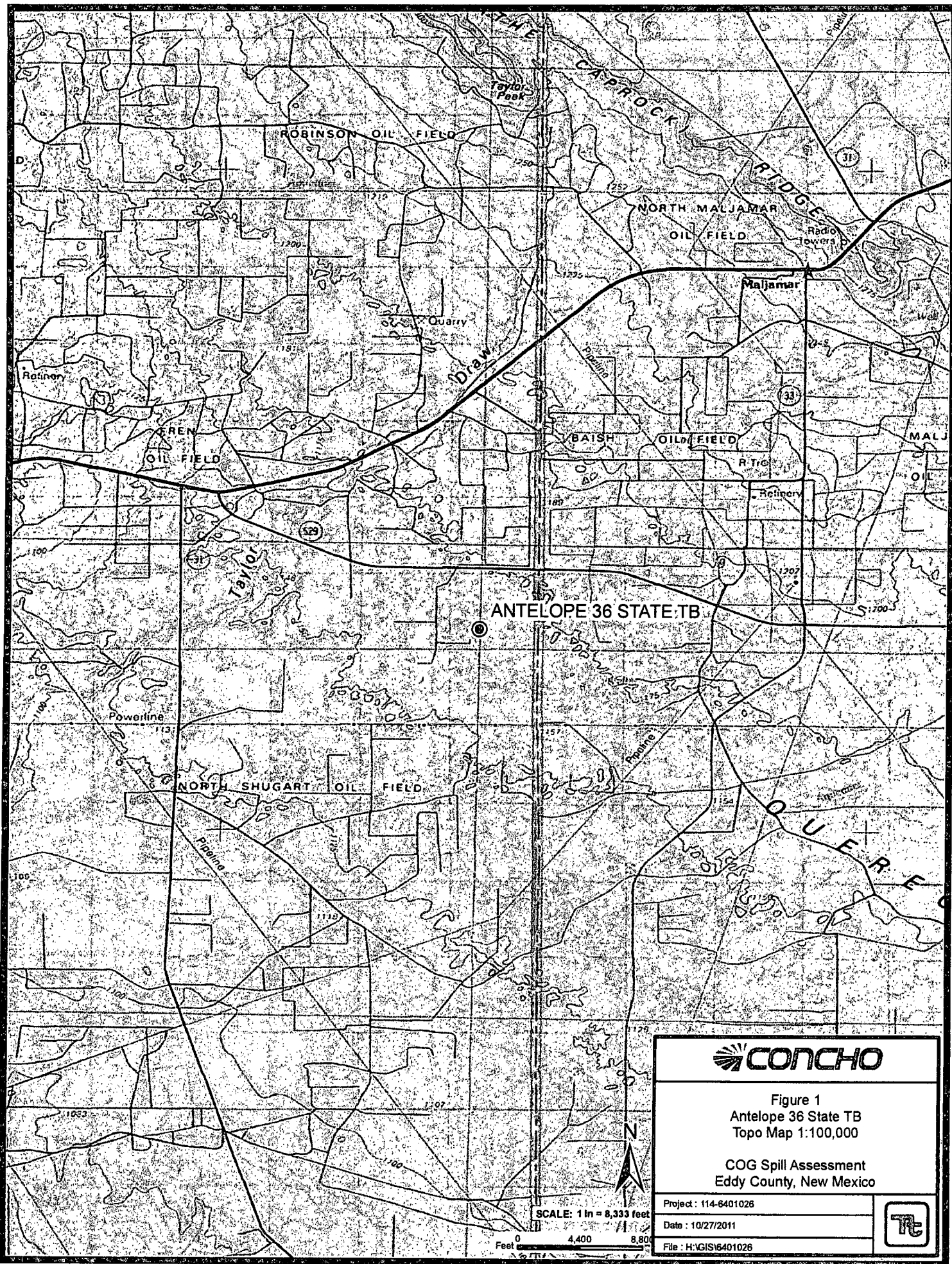
Based on the remedial activities performed, COG request closure of the site. A copy of the C-141 (Final) is included in Appendix A. If you have any questions or comments concerning the remedial activities, please call at (432) 682-4559.

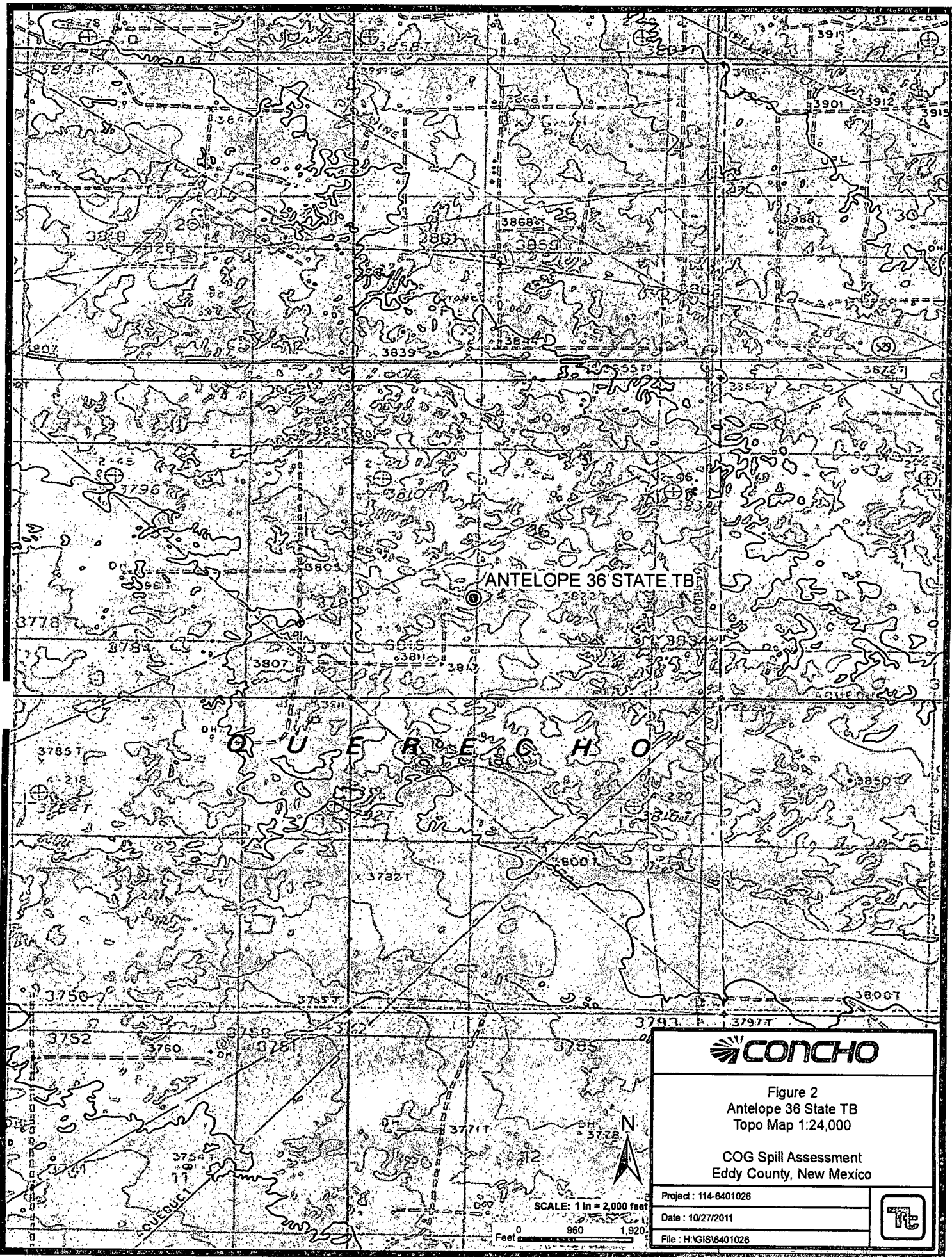
Respectfully submitted,  
TETRA TECH

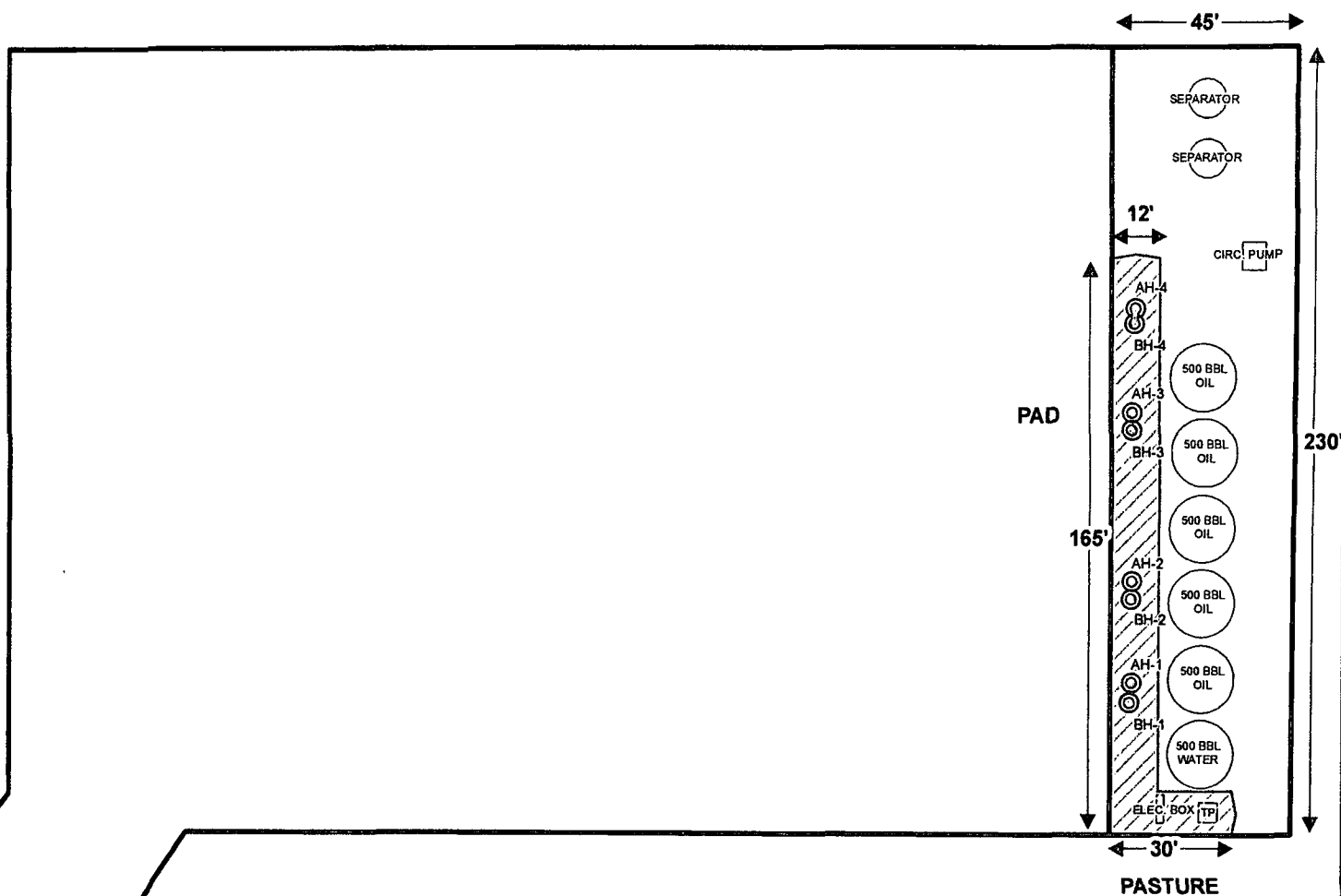
Mike Tavaraz  
Senior Geologist

cc: Pat Ellis – COG

## Figures







### EXPLANATION

- ⊙ AUGER HOLE SAMPLE LOCATIONS
- ⊙ BORE HOLE SAMPLE LOCATIONS
- ▨ SPILL AREA



SCALE: 1 IN = 50 FEET

Feet 0 25 50



Figure 3

Antelope 36 State TB  
Spill Assessment Map

COG Spill Assessment  
Eddy County, New Mexico

Project : 114-6401026

Date : 11/4/2011

File : H:\GIS\6401026



## Tables

**Table 1**  
**COG Operating LLC**  
**Antelope State Tank Battery**  
**Eddy County, New Mexico**

[illegible]

**Table 1**  
**COG Operating LLC**  
**Antelope State Tank Battery**  
**Eddy County, New Mexico**

[illegible]

**Table 1**  
**COG Operating LLC**  
**Antelope State Tank Battery**  
**Eddy County, New Mexico**

[illegible]

**Table 1**  
**COG Operating LLC**  
**Antelope State Tank Battery**  
**Eddy County, New Mexico**

| Sample ID   | Sample Date | Sample Depth (ft) | Depth (BEB) | Soil Status |         | TPH (mg/kg) |       |       | Benzene (mg/kg) | Toluene (mg/kg) | Ethlybenzene (mg/kg) | Xylene (mg/kg) | Total BTEX (mg/kg) | Chloride (mg/kg) |
|-------------|-------------|-------------------|-------------|-------------|---------|-------------|-------|-------|-----------------|-----------------|----------------------|----------------|--------------------|------------------|
|             |             |                   |             | In-Situ     | Removed | GRO         | DRO   | Total |                 |                 |                      |                |                    |                  |
| <b>AH-4</b> | 9/19/2011   | 0-1'              | -           |             | X       | <2.00       | <50.0 | <50.0 | <0.0200         | <0.0200         | <0.0200              | <0.0200        | <0.0200            | 7,630            |
|             | "           | 1-1.5'            | -           |             | X       | -           | -     | -     | -               | -               | -                    | -              | -                  | 1,380            |
|             | "           | 2-2.5'            | -           |             | X       | -           | -     | -     | -               | -               | -                    | -              | -                  | 1,890            |
|             | "           | 3-3.5'            | -           |             | X       | -           | -     | -     | -               | -               | -                    | -              | -                  | 1,230            |
|             | "           | 4-4.5'            | -           |             | X       | -           | -     | -     | -               | -               | -                    | -              | -                  | 5,170            |
|             | "           | 5-5.5'            | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | 6,410            |
|             | "           | 6-6.5'            | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | 6,970            |
|             | "           | 7-7.5'            | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | 15,300           |
|             |             |                   |             |             |         |             |       |       |                 |                 |                      |                |                    |                  |
| <b>BH-4</b> | 1/31/2012   | 0-1               | -           |             | X       | -           | -     | -     | -               | -               | -                    | -              | -                  | 7,610            |
|             | "           | 2-3               | -           |             | X       | -           | -     | -     | -               | -               | -                    | -              | -                  | 3,180            |
|             | "           | 4-5               | -           |             | X       | -           | -     | -     | -               | -               | -                    | -              | -                  | 1,580            |
|             | "           | 6-7               | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | 13,000           |
|             | "           | 9-10              | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | <200             |
|             | "           | 14-15             | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | 377              |
|             | "           | 19-20             | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | <200             |
|             | "           | 24-25             | -           | X           |         | -           | -     | -     | -               | -               | -                    | -              | -                  | <200             |

(-- ) Not Analyzed

 Excavation Depths

 Clay Liner

## Appendix A

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

State of New Mexico  
Energy Minerals and Natural Resources  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-141  
Revised October 10, 2003

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

## Release Notification and Corrective Action

### OPERATOR

☐ Initial Report ☒ Final Report

|                                                              |                                     |                  |
|--------------------------------------------------------------|-------------------------------------|------------------|
| Name of Company <b>COG Operating LLC</b>                     | Contact <b>Pat Ellis</b>            |                  |
| Address <b>550 W. Texas, Suite 1300 Midland, Texas 79701</b> | Telephone No. <b>(432) 230-0077</b> |                  |
| Facility Name <b>Antelope State Tank Battery</b>             | Facility Type <b>Tank Battery</b>   |                  |
| Surface Owner: State                                         | Mineral Owner                       | Lease No. B-3627 |

### LOCATION OF RELEASE

|                  |               |                 |              |               |                  |               |                |                |
|------------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|----------------|
| Unit Letter<br>K | Section<br>36 | Township<br>17S | Range<br>31E | Feet from the | North/South Line | Feet from the | East/West Line | County<br>Eddy |
|------------------|---------------|-----------------|--------------|---------------|------------------|---------------|----------------|----------------|

Latitude N 32.78810° Longitude W 103.82630°

### NATURE OF RELEASE

|                                                                                                                                                     |                                                  |                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|
| Type of Release: Produced Fluid                                                                                                                     | Volume of Release 15 bbls                        | Volume Recovered 13 bbls                            |
| Source of Release: Equalizer                                                                                                                        | Date and Hour of Occurrence<br>08/30/2011        | Date and Hour of Discovery<br>08/30/2011 11:00 a.m. |
| Was Immediate Notice Given?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?                                 |                                                     |
| By Whom?                                                                                                                                            | Date and Hour                                    |                                                     |
| Was a Watercourse Reached?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                   | If YES, Volume Impacting the Watercourse.<br>N/A |                                                     |

If a Watercourse was Impacted, Describe Fully.\*

N/A

Describe Cause of Problem and Remedial Action Taken.\*

Water hauling company did not keep up with the water in tank, causing the tank to overflow.

Describe Area Affected and Cleanup Action Taken.\*

Tetra Tech inspected the site and assessed the spill area for extents. Work plan was submitted for the remediation of the soils. The soils exceeding RRAL and elevated chlorides were removed and transported to proper disposal. Once excavated, clay material was placed in the excavation bottom to cap the remaining impact and backfilled to grade. Tetra Tech prepared a closure report and submitted to the NMOCD for review.

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

|                                                                                                |                                  |                  |                                   |
|------------------------------------------------------------------------------------------------|----------------------------------|------------------|-----------------------------------|
| Signature:  | <b>OIL CONSERVATION DIVISION</b> |                  |                                   |
| Printed Name: Ike Tavarez (agent for COG)                                                      | Approved by District Supervisor: |                  |                                   |
| Title: Project Manager                                                                         | Approval Date:                   | Expiration Date: |                                   |
| E-mail Address: Ike.Tavarez@TetraTech.com                                                      | Conditions of Approval:          |                  | Attached <input type="checkbox"/> |
| Date: 5-10-12                                                                                  | Phone: (432) 682-4559            |                  |                                   |

\* Attach Additional Sheets If Necessary

District I  
1625 N. French Dr., Hobbs, NM 88240  
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State of New Mexico  
Energy Minerals and Natural Resources

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1024  
Form C-141  
Revised October 10, 2003

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

|                 |                                            |               |              |
|-----------------|--------------------------------------------|---------------|--------------|
| Name of Company | COG OPERATING LLC                          | Contact       | Pat Ellis    |
| Address         | 550 W. Texas, Suite 100, Midland, TX 79701 | Telephone No. | 432-230-0077 |
| Facility Name   | Antelope State Tank Battery                | Facility Type | Tank Battery |

|               |       |               |           |        |
|---------------|-------|---------------|-----------|--------|
| Surface Owner | State | Mineral Owner | Lease No. | B-3627 |
|---------------|-------|---------------|-----------|--------|

LOCATION OF RELEASE

|             |         |          |       |               |                  |               |                |        |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
| K           | 36      | 17S      | 31E   |               |                  |               |                | Eddy   |

Latitude 32.7881 Longitude 103.8263

NATURE OF RELEASE

|                             |                                                                                                                      |                                           |            |                            |                       |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------|----------------------------|-----------------------|
| Type of Release             | Produced fluid                                                                                                       | Volume of Release                         | 15bbls     | Volume Recovered           | 13bbls                |
| Source of Release           | Water tank                                                                                                           | Date and Hour of Occurrence               | 08/30/2011 | Date and Hour of Discovery | 08/30/2011 11:00 a.m. |
| Was Immediate Notice Given? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom?                          |            |                            |                       |
| By Whom?                    |                                                                                                                      | Date and Hour                             |            |                            |                       |
| Was a Watercourse Reached?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                  | If YES, Volume Impacting the Watercourse. |            |                            |                       |

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Water hauling company did not keep up with water in tank causing the tank to overflow.

Describe Area Affected and Cleanup Action Taken.\*

Initially 15bbls were released from the water tank and we were able to recover 13bbls with a vacuum truck. The spill area measured 6' x 60' in front of the water and oil tanks inside the tank battery. All fluid was contained inside the tank battery walls. Tetra Tech will sample the spill site area to delineate any possible contamination from the release and we will present a remediation work plan to the NMOCD prior to any significant remediation work.

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

|                                                                                                |                         |                                  |                                   |
|------------------------------------------------------------------------------------------------|-------------------------|----------------------------------|-----------------------------------|
| Signature:  |                         | <b>OIL CONSERVATION DIVISION</b> |                                   |
| Printed Name: Josh Russo                                                                       |                         | Approved by District Supervisor: |                                   |
| Title: HSE Coordinator                                                                         | Approval Date:          | Expiration Date:                 |                                   |
| E-mail Address: jrusso@conchoresources.com                                                     | Conditions of Approval: |                                  | Attached <input type="checkbox"/> |
| Date: 09/13/2011 Phone: 432-212-2399                                                           |                         |                                  |                                   |

\* Attach Additional Sheets If Necessary

## Appendix B

**Water Well Data**  
**Average Depth to Groundwater (ft)**  
**COG - Antelope State Tank Battery**  
**Eddy County, New Mexico**

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

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

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

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

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

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

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

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

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

-  New Mexico State Engineers Well Reports
-  USGS Well Reports
-  Geology and Groundwater Conditions in Southern Eddy, County, NM
-  NMOCD - Groundwater Data

## Appendix C

## Summary Report

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

Report Date: February 9, 2012

Work Order: 12020118



Project Location: Eddy Co., NM  
Project Name: COG/Antelope State TB  
Project Number: 114-6401026

| Sample | Description        | Matrix | Date Taken | Time Taken | Date Received |
|--------|--------------------|--------|------------|------------|---------------|
| 287974 | BH-1 @ AH-1 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287975 | BH-1 @ AH-1 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287976 | BH-1 @ AH-1 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287977 | BH-1 @ AH-1 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287978 | BH-1 @ AH-1 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287979 | BH-1 @ AH-1 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287980 | BH-1 @ AH-1 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287981 | BH-1 @ AH-1 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287982 | BH-1 @ AH-1 29-30' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287983 | BH-1 @ AH-1 39-40' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287986 | BH-2 @ AH-2 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287987 | BH-2 @ AH-2 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287988 | BH-2 @ AH-2 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287989 | BH-2 @ AH-2 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287990 | BH-2 @ AH-2 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287991 | BH-2 @ AH-2 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287992 | BH-2 @ AH-2 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287993 | BH-2 @ AH-2 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287994 | BH-2 @ AH-2 29-30' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287995 | BH-2 @ AH-2 39-40' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287998 | BH-3 @ AH-3 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287999 | BH-3 @ AH-3 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288000 | BH-3 @ AH-3 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288001 | BH-3 @ AH-3 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288002 | BH-3 @ AH-3 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288003 | BH-3 @ AH-3 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288004 | BH-3 @ AH-3 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288005 | BH-3 @ AH-3 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288006 | BH-3 @ AH-3 29-30' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288007 | BH-3 @ AH-3 39-40' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |

| Sample | Description        | Matrix | Date Taken | Time Taken | Date Received |
|--------|--------------------|--------|------------|------------|---------------|
| 288008 | BH-4 @ AH-4 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288009 | BH-4 @ AH-4 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288010 | BH-4 @ AH-4 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288011 | BH-4 @ AH-4 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288012 | BH-4 @ AH-4 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288013 | BH-4 @ AH-4 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288014 | BH-4 @ AH-4 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288015 | BH-4 @ AH-4 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |

**Sample: 287974 - BH-1 @ AH-1 0-1'**

| Param    | Flag | Result      | Units | RL |
|----------|------|-------------|-------|----|
| Chloride |      | <b>3760</b> | mg/Kg | 4  |

**Sample: 287975 - BH-1 @ AH-1 2-3'**

| Param    | Flag | Result      | Units | RL |
|----------|------|-------------|-------|----|
| Chloride |      | <b>1910</b> | mg/Kg | 4  |

**Sample: 287976 - BH-1 @ AH-1 4-5'**

| Param    | Flag | Result      | Units | RL |
|----------|------|-------------|-------|----|
| Chloride |      | <b>3610</b> | mg/Kg | 4  |

**Sample: 287977 - BH-1 @ AH-1 6-7'**

| Param    | Flag | Result       | Units | RL |
|----------|------|--------------|-------|----|
| Chloride |      | <b>14100</b> | mg/Kg | 4  |

**Sample: 287978 - BH-1 @ AH-1 9-10'**

| Param    | Flag | Result      | Units | RL |
|----------|------|-------------|-------|----|
| Chloride |      | <b>9410</b> | mg/Kg | 4  |

**Sample: 287979 - BH-1 @ AH-1 14-15'**

| Param    | Flag | Result      | Units | RL |
|----------|------|-------------|-------|----|
| Chloride |      | <b>1510</b> | mg/Kg | 4  |

**Sample: 287980 - BH-1 @ AH-1 19-20'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 507    | mg/Kg | 4  |

**Sample: 287981 - BH-1 @ AH-1 24-25'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 2570   | mg/Kg | 4  |

**Sample: 287982 - BH-1 @ AH-1 29-30'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 474    | mg/Kg | 4  |

**Sample: 287983 - BH-1 @ AH-1 39-40'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 388    | mg/Kg | 4  |

**Sample: 287986 - BH-2 @ AH-2 0-1'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 5220   | mg/Kg | 4  |

**Sample: 287987 - BH-2 @ AH-2 2-3'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 4130   | mg/Kg | 4  |

**Sample: 287988 - BH-2 @ AH-2 4-5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1490   | mg/Kg | 4  |

**Sample: 287989 - BH-2 @ AH-2 6-7'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 11400  | mg/Kg | 4  |

**Sample: 287990 - BH-2 @ AH-2 9-10'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 778    | mg/Kg | 4  |

**Sample: 287991 - BH-2 @ AH-2 14-15'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 232    | mg/Kg | 4  |

**Sample: 287992 - BH-2 @ AH-2 19-20'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 232    | mg/Kg | 4  |

**Sample: 287993 - BH-2 @ AH-2 24-25'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 246    | mg/Kg | 4  |

**Sample: 287994 - BH-2 @ AH-2 29-30'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |

**Sample: 287995 - BH-2 @ AH-2 39-40'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |

**Sample: 287998 - BH-3 @ AH-3 0-1'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 4680   | mg/Kg | 4  |

**Sample: 287999 - BH-3 @ AH-3 2-3'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 5160   | mg/Kg | 4  |

**Sample: 288000 - BH-3 @ AH-3 4-5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 2280   | mg/Kg | 4  |

**Sample: 288001 - BH-3 @ AH-3 6-7'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 16700  | mg/Kg | 4  |

**Sample: 288002 - BH-3 @ AH-3 9-10'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1360   | mg/Kg | 4  |

**Sample: 288003 - BH-3 @ AH-3 14-15'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 397    | mg/Kg | 4  |

**Sample: 288004 - BH-3 @ AH-3 19-20'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |

**Sample: 288005 - BH-3 @ AH-3 24-25'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 628    | mg/Kg | 4  |

**Sample: 288006 - BH-3 @ AH-3 29-30'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 226    | mg/Kg | 4  |

**Sample: 288007 - BH-3 @ AH-3 39-40'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |

**Sample: 288008 - BH-4 @ AH-4 0-1'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 7610   | mg/Kg | 4  |

**Sample: 288009 - BH-4 @ AH-4 2-3'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 3180   | mg/Kg | 4  |

**Sample: 288010 - BH-4 @ AH-4 4-5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1580   | mg/Kg | 4  |

**Sample: 288011 - BH-4 @ AH-4 6-7'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 13000  | mg/Kg | 4  |

**Sample: 288012 - BH-4 @ AH-4 9-10'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |

**Sample: 288013 - BH-4 @ AH-4 14-15'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 377    | mg/Kg | 4  |

**Sample: 288014 - BH-4 @ AH-4 19-20'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |

**Sample: 288015 - BH-4 @ AH-4 24-25'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |



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5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6301 FAX 432•689•6313  
6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5200  
E-Mail: lab@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: February 9, 2012

Work Order: 12020118



Project Location: Eddy Co., NM  
Project Name: COG/Antelope State TB  
Project Number: 114-6401026

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

| Sample | Description        | Matrix | Date Taken | Time Taken | Date Received |
|--------|--------------------|--------|------------|------------|---------------|
| 287974 | BH-1 @ AH-1 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287975 | BH-1 @ AH-1 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287976 | BH-1 @ AH-1 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287977 | BH-1 @ AH-1 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287978 | BH-1 @ AH-1 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287979 | BH-1 @ AH-1 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287980 | BH-1 @ AH-1 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287981 | BH-1 @ AH-1 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287982 | BH-1 @ AH-1 29-30' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287983 | BH-1 @ AH-1 39-40' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287986 | BH-2 @ AH-2 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287987 | BH-2 @ AH-2 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287988 | BH-2 @ AH-2 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287989 | BH-2 @ AH-2 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287990 | BH-2 @ AH-2 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287991 | BH-2 @ AH-2 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287992 | BH-2 @ AH-2 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287993 | BH-2 @ AH-2 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |

| Sample | Description        | Matrix | Date Taken | Time Taken | Date Received |
|--------|--------------------|--------|------------|------------|---------------|
| 287994 | BH-2 @ AH-2 29-30' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287995 | BH-2 @ AH-2 39-40' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287998 | BH-3 @ AH-3 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 287999 | BH-3 @ AH-3 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288000 | BH-3 @ AH-3 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288001 | BH-3 @ AH-3 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288002 | BH-3 @ AH-3 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288003 | BH-3 @ AH-3 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288004 | BH-3 @ AH-3 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288005 | BH-3 @ AH-3 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288006 | BH-3 @ AH-3 29-30' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288007 | BH-3 @ AH-3 39-40' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288008 | BH-4 @ AH-4 0-1'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288009 | BH-4 @ AH-4 2-3'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288010 | BH-4 @ AH-4 4-5'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288011 | BH-4 @ AH-4 6-7'   | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288012 | BH-4 @ AH-4 9-10'  | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288013 | BH-4 @ AH-4 14-15' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288014 | BH-4 @ AH-4 19-20' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |
| 288015 | BH-4 @ AH-4 24-25' | soil   | 2012-01-31 | 00:00      | 2012-02-01    |

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 26 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.



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

# Report Contents

|                                   |    |
|-----------------------------------|----|
| Case Narrative                    | 5  |
| Analytical Report                 | 6  |
| Sample 287974 (BH-1 @AH-1 0-1')   | 6  |
| Sample 287975 (BH-1 @AH-1 2-3')   | 6  |
| Sample 287976 (BH-1 @AH-1 4-5')   | 6  |
| Sample 287977 (BH-1 @AH-1 6-7')   | 6  |
| Sample 287978 (BH-1 @AH-1 9-10')  | 7  |
| Sample 287979 (BH-1 @AH-1 14-15') | 7  |
| Sample 287980 (BH-1 @AH-1 19-20') | 7  |
| Sample 287981 (BH-1 @AH-1 24-25') | 8  |
| Sample 287982 (BH-1 @AH-1 29-30') | 8  |
| Sample 287983 (BH-1 @AH-1 39-40') | 8  |
| Sample 287986 (BH-2 @AH-2 0-1')   | 8  |
| Sample 287987 (BH-2 @AH-2 2-3')   | 9  |
| Sample 287988 (BH-2 @AH-2 4-5')   | 9  |
| Sample 287989 (BH-2 @AH-2 6-7')   | 9  |
| Sample 287990 (BH-2 @AH-2 9-10')  | 10 |
| Sample 287991 (BH-2 @AH-2 14-15') | 10 |
| Sample 287992 (BH-2 @AH-2 19-20') | 10 |
| Sample 287993 (BH-2 @AH-2 24-25') | 10 |
| Sample 287994 (BH-2 @AH-2 29-30') | 11 |
| Sample 287995 (BH-2 @AH-2 39-40') | 11 |
| Sample 287998 (BH-3 @AH-3 0-1')   | 11 |
| Sample 287999 (BH-3 @AH-3 2-3')   | 12 |
| Sample 288000 (BH-3 @AH-3 4-5')   | 12 |
| Sample 288001 (BH-3 @AH-3 6-7')   | 12 |
| Sample 288002 (BH-3 @AH-3 9-10')  | 12 |
| Sample 288003 (BH-3 @AH-3 14-15') | 13 |
| Sample 288004 (BH-3 @AH-3 19-20') | 13 |
| Sample 288005 (BH-3 @AH-3 24-25') | 13 |
| Sample 288006 (BH-3 @AH-3 29-30') | 14 |
| Sample 288007 (BH-3 @AH-3 39-40') | 14 |
| Sample 288008 (BH-4 @AH-4 0-1')   | 14 |
| Sample 288009 (BH-4 @AH-4 2-3')   | 14 |
| Sample 288010 (BH-4 @AH-4 4-5')   | 15 |
| Sample 288011 (BH-4 @AH-4 6-7')   | 15 |
| Sample 288012 (BH-4 @AH-4 9-10')  | 15 |
| Sample 288013 (BH-4 @AH-4 14-15') | 16 |
| Sample 288014 (BH-4 @AH-4 19-20') | 16 |
| Sample 288015 (BH-4 @AH-4 24-25') | 16 |
| Method Blanks                     | 17 |
| QC Batch 88377 - Method Blank (1) | 17 |
| QC Batch 88378 - Method Blank (1) | 17 |
| QC Batch 88379 - Method Blank (1) | 17 |

|                                             |           |
|---------------------------------------------|-----------|
| QC Batch 88380 - Method Blank (1) . . . . . | 17        |
| QC Batch 88381 - Method Blank (1) . . . . . | 18        |
| <b>Laboratory Control Spikes</b>            | <b>19</b> |
| QC Batch 88377 - LCS (1) . . . . .          | 19        |
| QC Batch 88378 - LCS (1) . . . . .          | 19        |
| QC Batch 88379 - LCS (1) . . . . .          | 19        |
| QC Batch 88380 - LCS (1) . . . . .          | 20        |
| QC Batch 88381 - LCS (1) . . . . .          | 20        |
| QC Batch 88377 - MS (1) . . . . .           | 20        |
| QC Batch 88378 - MS (1) . . . . .           | 21        |
| QC Batch 88379 - MS (1) . . . . .           | 21        |
| QC Batch 88380 - MS (1) . . . . .           | 22        |
| QC Batch 88381 - MS (1) . . . . .           | 22        |
| <b>Calibration Standards</b>                | <b>23</b> |
| QC Batch 88377 - ICV (1) . . . . .          | 23        |
| QC Batch 88377 - CCV (1) . . . . .          | 23        |
| QC Batch 88378 - ICV (1) . . . . .          | 23        |
| QC Batch 88378 - CCV (1) . . . . .          | 23        |
| QC Batch 88379 - ICV (1) . . . . .          | 23        |
| QC Batch 88379 - CCV (1) . . . . .          | 24        |
| QC Batch 88380 - ICV (1) . . . . .          | 24        |
| QC Batch 88380 - CCV (1) . . . . .          | 24        |
| QC Batch 88381 - ICV (1) . . . . .          | 24        |
| QC Batch 88381 - CCV (1) . . . . .          | 25        |
| <b>Appendix</b>                             | <b>26</b> |
| Report Definitions . . . . .                | 26        |
| Laboratory Certifications . . . . .         | 26        |
| Standard Flags . . . . .                    | 26        |
| Attachments . . . . .                       | 26        |

## Case Narrative

Samples for project COG/Antelope State TB were received by TraceAnalysis, Inc. on 2012-02-01 and assigned to work order 12020118. Samples for work order 12020118 were received intact at a temperature of 4.0 C.

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

| Test                 | Method       | Prep<br>Batch | Prep<br>Date        | QC<br>Batch | Analysis<br>Date    |
|----------------------|--------------|---------------|---------------------|-------------|---------------------|
| Chloride (Titration) | SM 4500-Cl B | 75016         | 2012-02-06 at 09:29 | 88377       | 2012-02-07 at 13:57 |
| Chloride (Titration) | SM 4500-Cl B | 75016         | 2012-02-06 at 09:29 | 88378       | 2012-02-07 at 13:57 |
| Chloride (Titration) | SM 4500-Cl B | 75016         | 2012-02-06 at 09:29 | 88379       | 2012-02-07 at 13:58 |
| Chloride (Titration) | SM 4500-Cl B | 75016         | 2012-02-06 at 09:29 | 88380       | 2012-02-07 at 13:59 |
| Chloride (Titration) | SM 4500-Cl B | 75016         | 2012-02-06 at 09:29 | 88381       | 2012-02-07 at 14:00 |

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 12020118 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: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 6 of 26  
Eddy Co., NM

## Analytical Report

**Sample: 287974 - BH-1 @ AH-1 0-1'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2012-02-07   | Analyzed By: | AR  |
| QC Batch:   | 88377                | Sample Preparation: | 2012-02-07   | Prepared By: | AR  |
| Prep Batch: | 75016                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 3760         | mg/Kg | 100      | 4.00 |

**Sample: 287975 - BH-1 @ AH-1 2-3'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2012-02-07   | Analyzed By: | AR  |
| QC Batch:   | 88378                | Sample Preparation: | 2012-02-07   | Prepared By: | AR  |
| Prep Batch: | 75016                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1910         | mg/Kg | 100      | 4.00 |

**Sample: 287976 - BH-1 @ AH-1 4-5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2012-02-07   | Analyzed By: | AR  |
| QC Batch:   | 88378                | Sample Preparation: | 2012-02-07   | Prepared By: | AR  |
| Prep Batch: | 75016                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 3610         | mg/Kg | 100      | 4.00 |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 7 of 26  
Eddy Co., NM

**Sample: 287977 - BH-1 @ AH-1 6-7'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2012-02-07   | Analyzed By: | AR  |
| QC Batch:   | 88378                | Sample Preparation: | 2012-02-07   | Prepared By: | AR  |
| Prep Batch: | 75016                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 14100        | mg/Kg | 100      | 4.00 |

**Sample: 287978 - BH-1 @ AH-1 9-10'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2012-02-07   | Analyzed By: | AR  |
| QC Batch:   | 88378                | Sample Preparation: | 2012-02-07   | Prepared By: | AR  |
| Prep Batch: | 75016                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 9410         | mg/Kg | 100      | 4.00 |

**Sample: 287979 - BH-1 @ AH-1 14-15'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2012-02-07   | Analyzed By: | AR  |
| QC Batch:   | 88378                | Sample Preparation: | 2012-02-07   | Prepared By: | AR  |
| Prep Batch: | 75016                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1510         | mg/Kg | 100      | 4.00 |

**Sample: 287980 - BH-1 @ AH-1 19-20'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2012-02-07   | Analyzed By: | AR  |
| QC Batch:   | 88378                | Sample Preparation: | 2012-02-07   | Prepared By: | AR  |
| Prep Batch: | 75016                |                     |              |              |     |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 8 of 26  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 507          | mg/Kg | 50       | 4.00 |

**Sample: 287981 - BH-1 @ AH-1 24-25'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88378      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 2570         | mg/Kg | 100      | 4.00 |

**Sample: 287982 - BH-1 @ AH-1 29-30'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88378      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 474          | mg/Kg | 50       | 4.00 |

**Sample: 287983 - BH-1 @ AH-1 39-40'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88378      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 388          | mg/Kg | 50       | 4.00 |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 9 of 26  
Eddy Co., NM

**Sample: 287986 - BH-2 @ AH-2 0-1'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88378                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 5220         | mg/Kg | 100      | 4.00 |

**Sample: 287987 - BH-2 @ AH-2 2-3'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88379                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 4130         | mg/Kg | 100      | 4.00 |

**Sample: 287988 - BH-2 @ AH-2 4-5'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88379                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1490         | mg/Kg | 100      | 4.00 |

**Sample: 287989 - BH-2 @ AH-2 6-7'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88379                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 10 of 26  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 11400        | mg/Kg | 100      | 4.00 |

**Sample: 287990 - BH-2 @ AH-2 9-10'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88379      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 778          | mg/Kg | 50       | 4.00 |

**Sample: 287991 - BH-2 @ AH-2 14-15'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88379      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 232          | mg/Kg | 50       | 4.00 |

**Sample: 287992 - BH-2 @ AH-2 19-20'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88379      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 232          | mg/Kg | 50       | 4.00 |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 11 of 26  
Eddy Co., NM

**Sample: 287993 - BH-2 @ AH-2 24-25'**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88379

Prep Batch: 75016

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-02-07

Sample Preparation: 2012-02-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 246          | mg/Kg | 50       | 4.00 |

**Sample: 287994 - BH-2 @ AH-2 29-30'**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88379

Prep Batch: 75016

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-02-07

Sample Preparation: 2012-02-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | u    |      | <200         | mg/Kg | 50       | 4.00 |

**Sample: 287995 - BH-2 @ AH-2 39-40'**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88379

Prep Batch: 75016

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-02-07

Sample Preparation: 2012-02-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

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

**Sample: 287998 - BH-3 @ AH-3 0-1'**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 88379

Prep Batch: 75016

Analytical Method: SM 4500-Cl B

Date Analyzed: 2012-02-07

Sample Preparation: 2012-02-07

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 12 of 26  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 4680         | mg/Kg | 100      | 4.00 |

**Sample: 287999 - BH-3 @ AH-3 2-3'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 5160         | mg/Kg | 100      | 4.00 |

**Sample: 288000 - BH-3 @ AH-3 4-5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 2280         | mg/Kg | 100      | 4.00 |

**Sample: 288001 - BH-3 @ AH-3 6-7'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 16700        | mg/Kg | 100      | 4.00 |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 13 of 26  
Eddy Co., NM

**Sample: 288002 - BH-3 @ AH-3 9-10'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1360         | mg/Kg | 100      | 4.00 |

**Sample: 288003 - BH-3 @ AH-3 14-15'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 397          | mg/Kg | 50       | 4.00 |

**Sample: 288004 - BH-3 @ AH-3 19-20'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | u    |      | <200         | mg/Kg | 50       | 4.00 |

**Sample: 288005 - BH-3 @ AH-3 24-25'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 14 of 26  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 628          | mg/Kg | 50       | 4.00 |

**Sample: 288006 - BH-3 @ AH-3 29-30'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 226          | mg/Kg | 50       | 4.00 |

**Sample: 288007 - BH-3 @ AH-3 39-40'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | u    |      | <200         | mg/Kg | 50       | 4.00 |

**Sample: 288008 - BH-4 @ AH-4 0-1'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 7610         | mg/Kg | 100      | 4.00 |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 15 of 26  
Eddy Co., NM

**Sample: 288009 - BH-4 @ AH-4 2-3'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88381                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 3180         | mg/Kg | 100      | 4.00 |

**Sample: 288010 - BH-4 @ AH-4 4-5'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88381                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1580         | mg/Kg | 100      | 4.00 |

**Sample: 288011 - BH-4 @ AH-4 6-7'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88381                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 13000        | mg/Kg | 100      | 4.00 |

**Sample: 288012 - BH-4 @ AH-4 9-10'**

|             |                      |                     |              |
|-------------|----------------------|---------------------|--------------|
| Laboratory: | Midland              |                     |              |
| Analysis:   | Chloride (Titration) | Analytical Method:  | SM 4500-Cl B |
| QC Batch:   | 88381                | Date Analyzed:      | 2012-02-07   |
| Prep Batch: | 75016                | Sample Preparation: | 2012-02-07   |
|             |                      | Prep Method:        | N/A          |
|             |                      | Analyzed By:        | AR           |
|             |                      | Prepared By:        | AR           |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 16 of 26  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | u    |      | <200         | mg/Kg | 50       | 4.00 |

**Sample: 288013 - BH-4 @ AH-4 14-15'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88381      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 377          | mg/Kg | 50       | 4.00 |

**Sample: 288014 - BH-4 @ AH-4 19-20'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88381      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | u    |      | <200         | mg/Kg | 50       | 4.00 |

**Sample: 288015 - BH-4 @ AH-4 24-25'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 88381      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      Sample Preparation: 2012-02-07      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | u    |      | <200         | mg/Kg | 50       | 4.00 |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 17 of 26  
Eddy Co., NM

## Method Blanks

Method Blank (1)      QC Batch: 88377

QC Batch: 88377      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      QC Preparation: 2012-02-06      Prepared By: AR

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

Method Blank (1)      QC Batch: 88378

QC Batch: 88378      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      QC Preparation: 2012-02-06      Prepared By: AR

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

Method Blank (1)      QC Batch: 88379

QC Batch: 88379      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      QC Preparation: 2012-02-06      Prepared By: AR

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

Method Blank (1)      QC Batch: 88380

QC Batch: 88380      Date Analyzed: 2012-02-07      Analyzed By: AR  
Prep Batch: 75016      QC Preparation: 2012-02-06      Prepared By: AR

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 18 of 26  
Eddy Co., NM

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| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

---

Method Blank (1)      QC Batch: 88381

QC Batch: 88381  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

---

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

---

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 19 of 26  
Eddy Co., NM

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 88377  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 93.5          | mg/Kg | 1    | 100             | <3.85            | 94   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 102            | mg/Kg | 1    | 100             | <3.85            | 102  | 85 - 115      | 9   | 20           |

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

### Laboratory Control Spike (LCS-1)

QC Batch: 88378  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 96.1          | mg/Kg | 1    | 100             | <3.85            | 96   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 104            | mg/Kg | 1    | 100             | <3.85            | 104  | 85 - 115      | 8   | 20           |

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

### Laboratory Control Spike (LCS-1)

QC Batch: 88379  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 20 of 26  
Eddy Co., NM

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 97.0          | mg/Kg | 1    | 100             | <3.85            | 97   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 106            | mg/Kg | 1    | 100             | <3.85            | 106  | 85 - 115      | 9   | 20           |

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

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

QC Batch: 88380  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 95.5          | mg/Kg | 1    | 100             | <3.85            | 96   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 104            | mg/Kg | 1    | 100             | <3.85            | 104  | 85 - 115      | 8   | 20           |

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

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

QC Batch: 88381  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 94.4          | mg/Kg | 1    | 100             | <3.85            | 94   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 102            | mg/Kg | 1    | 100             | <3.85            | 102  | 85 - 115      | 8   | 20           |

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

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 21 of 26  
Eddy Co., NM

**Matrix Spike (MS-1)** Spiked Sample: 287974

QC Batch: 88377  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 14600        | mg/Kg | 100  | 10000           | 3760             | 108  | 79.4 - 120.6  |

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

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 15100         | mg/Kg | 100  | 10000           | 3760             | 113  | 79.4 - 120.6  | 3   | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 287986

QC Batch: 88378  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 15000        | mg/Kg | 100  | 10000           | 5220             | 98   | 79.4 - 120.6  |

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

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 15700         | mg/Kg | 100  | 10000           | 5220             | 105  | 79.4 - 120.6  | 5   | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 287998

QC Batch: 88379  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 15000        | mg/Kg | 100  | 10000           | 4680             | 103  | 79.4 - 120.6  |

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

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 22 of 26  
Eddy Co., NM

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 15600         | mg/Kg | 100  | 10000           | 4680             | 109  | 79.4 - 120.6  | 4   | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 288008

QC Batch: 88380  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 17300        | mg/Kg | 100  | 10000           | 7610             | 97   | 79.4 - 120.6  |

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

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 18000         | mg/Kg | 100  | 10000           | 7610             | 104  | 79.4 - 120.6  | 4   | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 288019

QC Batch: 88381  
Prep Batch: 75016

Date Analyzed: 2012-02-07  
QC Preparation: 2012-02-06

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 10200        | mg/Kg | 100  | 10000           | <385             | 102  | 79.4 - 120.6  |

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

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 10800         | mg/Kg | 100  | 10000           | <385             | 108  | 79.4 - 120.6  | 6   | 20           |

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

## Calibration Standards

### Standard (ICV-1)

QC Batch: 88377

Date Analyzed: 2012-02-07

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 96.4                   | 96                          | 85 - 115                      | 2012-02-07       |

### Standard (CCV-1)

QC Batch: 88377

Date Analyzed: 2012-02-07

Analyzed By: AR

| 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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 104                    | 104                         | 85 - 115                      | 2012-02-07       |

### Standard (ICV-1)

QC Batch: 88378

Date Analyzed: 2012-02-07

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 99.5                   | 100                         | 85 - 115                      | 2012-02-07       |

### Standard (CCV-1)

QC Batch: 88378

Date Analyzed: 2012-02-07

Analyzed By: AR

| 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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 101                    | 101                         | 85 - 115                      | 2012-02-07       |

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 24 of 26  
Eddy Co., NM

**Standard (ICV-1)**

QC Batch: 88379

Date Analyzed: 2012-02-07

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 101                    | 101                         | 85 - 115                      | 2012-02-07       |

**Standard (CCV-1)**

QC Batch: 88379

Date Analyzed: 2012-02-07

Analyzed By: AR

| 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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 98.6                   | 99                          | 85 - 115                      | 2012-02-07       |

**Standard (ICV-1)**

QC Batch: 88380

Date Analyzed: 2012-02-07

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 100                    | 100                         | 85 - 115                      | 2012-02-07       |

**Standard (CCV-1)**

QC Batch: 88380

Date Analyzed: 2012-02-07

Analyzed By: AR

| 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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 100                    | 100                         | 85 - 115                      | 2012-02-07       |

**Standard (ICV-1)**

QC Batch: 88381

Date Analyzed: 2012-02-07

Analyzed By: AR

Report Date: February 9, 2012  
114-6401026

Work Order: 12020118  
COG/Antelope State TB

Page Number: 25 of 26  
Eddy Co., NM

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 99.8                   | 100                         | 85 - 115                      | 2012-02-07       |

**Standard (CCV-1)**

QC Batch: 88381

Date Analyzed: 2012-02-07

Analyzed By: AR

| 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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 100                    | 100                         | 85 - 115                      | 2012-02-07       |

## Appendix

### Report Definitions

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

### Laboratory Certifications

| C | Certifying Authority | Certification Number | Laboratory Location |
|---|----------------------|----------------------|---------------------|
| - | NCTRCA               | WFWB384444Y0909      | TraceAnalysis       |
| - | DBE                  | VN 20657             | TraceAnalysis       |
| - | HUB                  | 1752439743100-86536  | TraceAnalysis       |
| - | WBE                  | 237019               | TraceAnalysis       |

### 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 than 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.                                                                                                                                                                                |
| 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                                                                                                                                                                                           |

### Attachments

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

#12020118

## Analysis Request of Chain of Custody Record

PAGE: 1 OF: 5

**TETRA TECH**

1910 N. Big Spring St.

Midland, Texas 79705

(432) 682-4559 • Fax (432) 682-3946

ANALYSIS REQUEST  
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavares

PROJECT NO.:

114-6401026

PROJECT NAME:

Antelope 36 Tank Battery

Edley Co., NM

SAMPLE IDENTIFICATION

LAB I.D.  
NUMBER

DATE

TIME

MATRIX

COMP.

GRAB

NUMBER OF CONTAINERS

FILTERED (Y/N)

HCL

HNO3

ICE

NONE

PRESERVATIVE  
METHOD

BTX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

28774

1/31

S

X

BH-1 @ AH-1 0-1'

1

X

X

975

2-3'

1

X

X

976

4-5'

1

X

X

977

6-7'

1

X

X

978

9-10'

1

X

X

979

14-15'

1

X

X

980

19-20'

1

X

X

981

24-25'

1

X

X

982

29-30'

1

X

X

983

39-40'

1

X

X

RELINQUISHED BY: (Signature)

Date: 1-1-12

Time: 1326

RECEIVED BY: (Signature)

Date: 1-1-12

Time: 1326

Date: 1-1-12

Time: 1326

SAMPLED BY: (Print &amp; Initial)

Kim

Date: 2/1/12

Time: 1326

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

FEDEX BUS

AIRBILL #:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

Date:

Time:

HAND DELIVERED UPS

OTHER:

TETRA TECH CONTACT PERSON:

Ike Tavares

Results by:

RUSH Charges

Authorized:

Yes No

RECEIVING LABORATORY:

TRACE

ADDRESS:

CITY: MIDLAND

STATE: TX

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

4°C

REMARKS:

all test Substances Midland

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

DA

# 12020118

## Analysis Request of Chain of Custody Record

PAGE: 2 OF: 5

**TETRA TECH**
 1910 N. Big Spring St.  
 Midland, Texas 79705  
 (432) 682-4559 • Fax (432) 682-3946

 ANALYSIS REQUEST  
 (Circle or Specify Method No.)

 CLIENT NAME:  
 COG

 SITE MANAGER:  
 Ike Tavaraz

 PROJECT NO.:  
 114-6401026

 PROJECT NAME:  
 Antelope 36 Tank Battery  
 Eddy Co., NM  
 SAMPLE IDENTIFICATION

| LAB I.D. NUMBER | DATE | TIME | MATRIX | COMP. | GRAB | Edley Co., NM<br>SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | HCL | HNO3 | ICE | NONE | BTEX 8021B | TPH 8015 | PAH 8270 | RCRA Metals | TCLP Metals | TCLP Volatiles | TCLP Semi Volatiles | RCI | GC/MS Vol. | GC/MS Semi Vol. | PCB's 8080 | Pest. 808/6/6/6/6 | Chloride | Gamma Sp. | Alpha Beta | PLM (Asbestos) | Major Anions |
|-----------------|------|------|--------|-------|------|----------------------------------------|----------------------|----------------|-----|------|-----|------|------------|----------|----------|-------------|-------------|----------------|---------------------|-----|------------|-----------------|------------|-------------------|----------|-----------|------------|----------------|--------------|
| 984             | 1/31 |      | S      | X     |      | BH-1 @ AH-1 49-50'                     | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 985             |      |      |        |       |      | 59-60'                                 | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 986             |      |      |        |       |      | BH-2 @ AH-2 0-1'                       | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 987             |      |      |        |       |      | 2-3'                                   | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 988             |      |      |        |       |      | 4-5'                                   | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 989             |      |      |        |       |      | 6-7'                                   | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 990             |      |      |        |       |      | 9-10'                                  | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 991             |      |      |        |       |      | 14-15'                                 | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 992             |      |      |        |       |      | 19-20'                                 | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |
| 993             |      |      |        |       |      | 24-25'                                 | 1                    |                |     |      | X   |      |            |          |          |             |             |                |                     |     |            |                 |            |                   |          |           |            |                |              |

RELINQUISHED BY: (Signature)

Date: 2-7-12

Time: 1326

RECEIVED BY: (Signature)

Date: 2-7-12

Time: 1326

SAMPLED BY: (Print &amp; Initial)

Kim

Date: 2/1/12

Time:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

HAND DELIVERED

UPS

AIRBILL #:

OTHER:

RELINQUISHED BY: (Signature)

Date:

Time:

RECEIVED BY: (Signature)

Date:

Time:

TETRA TECH CONTACT PERSON:

Ike Tavaraz

Results by:

RUSH Charges Authorized:

Yes No

RECEIVING LABORATORY:

TRACE

RECEIVED BY: (Signature)

ADDRESS:

CITY: MIDLAND

STATE: TX

ZIP:

CONTACT:

PHONE:

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

4°C

REMARKS:

All tests Submittal Midland

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

DA



# 12020118

## Analysis Request of Chain of Custody Record

PAGE: 4 OF: 5

**TETRA TECH**
 1910 N. Big Spring St.  
 Midland, Texas 79705  
 (432) 682-4559 • Fax (432) 682-3946

 ANALYSIS REQUEST  
 (Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6401026

PROJECT NAME:

Antelope 36 Tank Battery

LAB I.D.  
NUMBERDATE  
2012

TIME

MATRIX

COMP

GRAB

 Eddy Co., NM  
 SAMPLE IDENTIFICATION

NUMBER OF CONTAINERS

FILTERED (Y/N)

PRESERVATIVE  
METHOD

HCL

HNO3

ICE

NONE

BTEX 8021B

TPH 8015 MOD. TX1005 (Ext. to C35)

PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/624

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

 Date: 2-1-12  
 Time: 1326

RECEIVED BY: (Signature)

 Date: 2-1-12  
 Time: 1326

SAMPLED BY: (Print &amp; Initial)

Kim

Date: 2/1/12

RELINQUISHED BY: (Signature)

 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

RECEIVED BY: (Signature)

 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

SAMPLE SHIPPED BY: (Circle)

FEDEX

BUS

AIRBILL #:

HAND DELIVERED

UPS

OTHER:

RELINQUISHED BY: (Signature)

 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

RECEIVED BY: (Signature)

 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

TETRA TECH CONTACT PERSON:

Ike Tavaraz

Results by:

RECEIVING LABORATORY:

ADDRESS:

CITY: MIDLAND

STATE: TX

ZIP:

CONTACT:

PHONE:

RECEIVED BY: (Signature)

DATE:

TIME:

SAMPLE CONDITION WHEN RECEIVED:

APC

REMARKS:

all tests Subbed Midland

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

DX



## Summary Report

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

Report Date: September 30, 2011

Work Order: 11092015



Project Location: Eddy Co., NM  
Project Name: COG/Antelope State TB  
Project Number: 114-6401026

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 277856 | AH-1 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277857 | AH-1 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277858 | AH-1 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277859 | AH-1 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277860 | AH-1 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277861 | AH-1 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277862 | AH-1 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277863 | AH-2 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277864 | AH-2 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277865 | AH-2 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277866 | AH-2 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277867 | AH-2 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277868 | AH-2 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277869 | AH-2 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277870 | AH-3 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277871 | AH-3 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277872 | AH-3 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277873 | AH-3 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277874 | AH-3 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277875 | AH-3 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277876 | AH-3 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277877 | AH-3 7-7.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277878 | AH-4 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277879 | AH-4 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277880 | AH-4 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277881 | AH-4 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277882 | AH-4 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277883 | AH-4 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277884 | AH-4 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277885 | AH-4 7-7.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |

| Sample - Field Code | BTEX               |                    |                         |                   | TPH DRO - NEW  | TPH GRO        |
|---------------------|--------------------|--------------------|-------------------------|-------------------|----------------|----------------|
|                     | Benzene<br>(mg/Kg) | Toluene<br>(mg/Kg) | Ethylbenzene<br>(mg/Kg) | Xylene<br>(mg/Kg) | DRO<br>(mg/Kg) | GRO<br>(mg/Kg) |
| 277856 - AH-1 0-1'  | <0.0200            | <0.0200            | <0.0200                 | <0.0200           | <50.0          | <2.00          |
| 277863 - AH-2 0-1'  | <0.0200            | <0.0200            | <0.0200                 | <0.0200           | 278            | <2.00          |
| 277870 - AH-3 0-1'  | <0.0200            | <0.0200            | <0.0200                 | <0.0200           | <50.0          | <2.00          |
| 277878 - AH-4 0-1'  | <0.0200            | <0.0200            | <0.0200                 | <0.0200           | <50.0          | <2.00          |

## Sample: 277856 - AH-1 0-1'

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 4800   | mg/Kg | 4  |

## Sample: 277857 - AH-1 1-1.5'

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | <200   | mg/Kg | 4  |

## Sample: 277858 - AH-1 2-2.5'

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 482    | mg/Kg | 4  |

## Sample: 277859 - AH-1 3-3.5'

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1550   | mg/Kg | 4  |

## Sample: 277860 - AH-1 4-4.5'

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 4400   | mg/Kg | 4  |

## Sample: 277861 - AH-1 5-5.5'

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 10400  | mg/Kg | 4  |

## Sample: 277862 - AH-1 6-6.5'

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 24200  | mg/Kg | 4  |

---

**Sample: 277863 - AH-2 0-1'**

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 6000   | mg/Kg | 4  |

---

**Sample: 277864 - AH-2 1-1.5'**

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 9160   | mg/Kg | 4  |

---

**Sample: 277865 - AH-2 2-2.5'**

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 5920   | mg/Kg | 4  |

---

**Sample: 277866 - AH-2 3-3.5'**

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 4380   | mg/Kg | 4  |

---

**Sample: 277867 - AH-2 4-4.5'**

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 3480   | mg/Kg | 4  |

---

**Sample: 277868 - AH-2 5-5.5'**

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 633    | mg/Kg | 4  |

---

**Sample: 277869 - AH-2 6-6.5'**

---

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 3870   | mg/Kg | 4  |

---

**Sample: 277870 - AH-3 0-1'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 6190   | mg/Kg | 4  |

**Sample: 277871 - AH-3 1-1.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 5140   | mg/Kg | 4  |

**Sample: 277872 - AH-3 2-2.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 7110   | mg/Kg | 4  |

**Sample: 277873 - AH-3 3-3.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 2450   | mg/Kg | 4  |

**Sample: 277874 - AH-3 4-4.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 632    | mg/Kg | 4  |

**Sample: 277875 - AH-3 5-5.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1550   | mg/Kg | 4  |

**Sample: 277876 - AH-3 6-6.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1870   | mg/Kg | 4  |

**Sample: 277877 - AH-3 7-7.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 5760   | mg/Kg | 4  |

**Sample: 277878 - AH-4 0-1'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 7630   | mg/Kg | 4  |

**Sample: 277879 - AH-4 1-1.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1380   | mg/Kg | 4  |

**Sample: 277880 - AH-4 2-2.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1890   | mg/Kg | 4  |

**Sample: 277881 - AH-4 3-3.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 1230   | mg/Kg | 4  |

**Sample: 277882 - AH-4 4-4.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 5170   | mg/Kg | 4  |

**Sample: 277883 - AH-4 5-5.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 6410   | mg/Kg | 4  |

**Sample: 277884 - AH-4 6-6.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 6970   | mg/Kg | 4  |

**Sample: 277885 - AH-4 7-7.5'**

| Param    | Flag | Result | Units | RL |
|----------|------|--------|-------|----|
| Chloride |      | 15300  | mg/Kg | 4  |



6701 Abner Avenue, Suite G Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1296  
 200 East Sunset Road, Suite E El Paso, Texas 79922 988•588•3443 915•585•3443 FAX 915•585•4944  
 5002 Basin Street, Suite A1 Midland, Texas 79703 432•689•6307 FAX 432•689•6313  
 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•207•5260  
 E-Mail: [tatr@traceanalysis.com](mailto:tatr@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: September 30, 2011

Work Order: 11092015



Project Location: Eddy Co., NM  
 Project Name: COG/Antelope State TB  
 Project Number: 114-6401026

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

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 277856 | AH-1 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277857 | AH-1 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277858 | AH-1 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277859 | AH-1 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277860 | AH-1 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277861 | AH-1 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277862 | AH-1 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277863 | AH-2 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277864 | AH-2 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277865 | AH-2 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277866 | AH-2 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277867 | AH-2 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277868 | AH-2 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277869 | AH-2 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277870 | AH-3 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277871 | AH-3 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277872 | AH-3 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277873 | AH-3 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 277874 | AH-3 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277875 | AH-3 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277876 | AH-3 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277877 | AH-3 7-7.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277878 | AH-4 0-1'   | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277879 | AH-4 1-1.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277880 | AH-4 2-2.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277881 | AH-4 3-3.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277882 | AH-4 4-4.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277883 | AH-4 5-5.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277884 | AH-4 6-6.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |
| 277885 | AH-4 7-7.5' | soil   | 2011-09-19 | 00:00      | 2011-09-20    |

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 34 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.




---

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

# Report Contents

|                                   |           |
|-----------------------------------|-----------|
| <b>Case Narrative</b>             | <b>5</b>  |
| <b>Analytical Report</b>          | <b>6</b>  |
| Sample 277856 (AH-1 0-1')         | 6         |
| Sample 277857 (AH-1 1-1.5')       | 7         |
| Sample 277858 (AH-1 2-2.5')       | 7         |
| Sample 277859 (AH-1 3-3.5')       | 8         |
| Sample 277860 (AH-1 4-4.5')       | 8         |
| Sample 277861 (AH-1 5-5.5')       | 8         |
| Sample 277862 (AH-1 6-6.5')       | 9         |
| Sample 277863 (AH-2 0-1')         | 9         |
| Sample 277864 (AH-2 1-1.5')       | 10        |
| Sample 277865 (AH-2 2-2.5')       | 11        |
| Sample 277866 (AH-2 3-3.5')       | 11        |
| Sample 277867 (AH-2 4-4.5')       | 11        |
| Sample 277868 (AH-2 5-5.5')       | 11        |
| Sample 277869 (AH-2 6-6.5')       | 12        |
| Sample 277870 (AH-3 0-1')         | 12        |
| Sample 277871 (AH-3 1-1.5')       | 13        |
| Sample 277872 (AH-3 2-2.5')       | 14        |
| Sample 277873 (AH-3 3-3.5')       | 14        |
| Sample 277874 (AH-3 4-4.5')       | 14        |
| Sample 277875 (AH-3 5-5.5')       | 15        |
| Sample 277876 (AH-3 6-6.5')       | 15        |
| Sample 277877 (AH-3 7-7.5')       | 15        |
| Sample 277878 (AH-4 0-1')         | 15        |
| Sample 277879 (AH-4 1-1.5')       | 17        |
| Sample 277880 (AH-4 2-2.5')       | 17        |
| Sample 277881 (AH-4 3-3.5')       | 17        |
| Sample 277882 (AH-4 4-4.5')       | 18        |
| Sample 277883 (AH-4 5-5.5')       | 18        |
| Sample 277884 (AH-4 6-6.5')       | 18        |
| Sample 277885 (AH-4 7-7.5')       | 19        |
| <b>Method Blanks</b>              | <b>20</b> |
| QC Batch 84963 - Method Blank (1) | 20        |
| QC Batch 84974 - Method Blank (1) | 20        |
| QC Batch 84975 - Method Blank (1) | 20        |
| QC Batch 85096 - Method Blank (1) | 21        |
| QC Batch 85098 - Method Blank (1) | 21        |
| QC Batch 85100 - Method Blank (1) | 21        |
| QC Batch 85101 - Method Blank (1) | 21        |
| <b>Laboratory Control Spikes</b>  | <b>23</b> |
| QC Batch 84963 - LCS (1)          | 23        |
| QC Batch 84974 - LCS (1)          | 23        |

|                                     |           |
|-------------------------------------|-----------|
| QC Batch 84975 - LCS (1) . . . . .  | 24        |
| QC Batch 85096 - LCS (1) . . . . .  | 24        |
| QC Batch 85098 - LCS (1) . . . . .  | 24        |
| QC Batch 85100 - LCS (1) . . . . .  | 25        |
| QC Batch 85101 - LCS (1) . . . . .  | 25        |
| QC Batch 84963 - MS (1) . . . . .   | 26        |
| QC Batch 84974 - MS (1) . . . . .   | 26        |
| QC Batch 84975 - MS (1) . . . . .   | 27        |
| QC Batch 85096 - MS (1) . . . . .   | 27        |
| QC Batch 85098 - MS (1) . . . . .   | 28        |
| QC Batch 85100 - MS (1) . . . . .   | 28        |
| QC Batch 85101 - MS (1) . . . . .   | 28        |
| <b>Calibration Standards</b>        | <b>30</b> |
| QC Batch 84963 - CCV (2) . . . . .  | 30        |
| QC Batch 84963 - CCV (3) . . . . .  | 30        |
| QC Batch 84974 - CCV (2) . . . . .  | 30        |
| QC Batch 84974 - CCV (3) . . . . .  | 30        |
| QC Batch 84975 - CCV (2) . . . . .  | 31        |
| QC Batch 84975 - CCV (3) . . . . .  | 31        |
| QC Batch 85096 - ICV (1) . . . . .  | 31        |
| QC Batch 85096 - CCV (1) . . . . .  | 31        |
| QC Batch 85098 - ICV (1) . . . . .  | 32        |
| QC Batch 85098 - CCV (1) . . . . .  | 32        |
| QC Batch 85100 - ICV (1) . . . . .  | 32        |
| QC Batch 85100 - CCV (1) . . . . .  | 32        |
| QC Batch 85101 - ICV (1) . . . . .  | 33        |
| QC Batch 85101 - CCV (1) . . . . .  | 33        |
| <b>Appendix</b>                     | <b>34</b> |
| Laboratory Certifications . . . . . | 34        |
| Standard Flags . . . . .            | 34        |
| Attachments . . . . .               | 34        |

## Case Narrative

Samples for project COG/Antelope State TB were received by TraceAnalysis, Inc. on 2011-09-20 and assigned to work order 11092015. Samples for work order 11092015 were received intact at a temperature of 9.9 C.

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

| Test                 | Method       | Prep<br>Batch | Prep<br>Date        | QC<br>Batch | Analysis<br>Date    |
|----------------------|--------------|---------------|---------------------|-------------|---------------------|
| BTEX                 | S 8021B      | 72160         | 2011-09-22 at 10:00 | 84974       | 2011-09-23 at 17:40 |
| Chloride (Titration) | SM 4500-Cl B | 72245         | 2011-09-27 at 10:20 | 85096       | 2011-09-28 at 15:07 |
| Chloride (Titration) | SM 4500-Cl B | 72245         | 2011-09-27 at 10:20 | 85098       | 2011-09-28 at 15:22 |
| Chloride (Titration) | SM 4500-Cl B | 72245         | 2011-09-27 at 10:20 | 85100       | 2011-09-28 at 15:27 |
| Chloride (Titration) | SM 4500-Cl B | 72245         | 2011-09-27 at 10:20 | 85101       | 2011-09-28 at 15:34 |
| TPH DRO - NEW        | S 8015 D     | 72153         | 2011-09-22 at 15:12 | 84963       | 2011-09-22 at 15:12 |
| TPH GRO              | S 8015 D     | 72160         | 2011-09-22 at 10:00 | 84975       | 2011-09-22 at 18:06 |

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 11092015 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.

Samples on ice.

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: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 6 of 34  
Eddy Co., NM

## Analytical Report

Sample: 277856 - AH-1 0-1'

Laboratory: Midland

Analysis: BTEX

QC Batch: 84974

Prep Batch: 72160

Analytical Method: S 8021B

Date Analyzed: 2011-09-23

Sample Preparation: 2011-09-22

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Toluene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Ethylbenzene | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Xylene       | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.78   | mg/Kg | 1        | 2.00            | 139                 | 82.8 - 143.1       |
| 4-Bromofluorobenzene (4-BFB) |      |      | 2.79   | mg/Kg | 1        | 2.00            | 140                 | 70.6 - 179         |

Sample: 277856 - AH-1 0-1'

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85096

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 4800         | mg/Kg | 100      | 4.00 |

Sample: 277856 - AH-1 0-1'

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 84963

Prep Batch: 72153

Analytical Method: S 8015 D

Date Analyzed: 2011-09-22

Sample Preparation: 2011-09-22

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | u    | 1    | <50.0        | mg/Kg | 1        | 50.0 |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 7 of 34  
Eddy Co., NM

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|-------------|------|------|--------|-------|----------|--------------|------------------|-----------------|
| n-Tricosane |      |      | 84.9   | mg/Kg | 1        | 100          | 85               | 67.5 - 147.1    |

**Sample: 277856 - AH-1 0-1'**

Laboratory: Midland  
Analysis: TPH GRO  
QC Batch: 84975  
Prep Batch: 72160

Analytical Method: S 8015 D  
Date Analyzed: 2011-09-22  
Sample Preparation: 2011-09-22

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

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 1    | <2.00        | mg/Kg | 1        | 2.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|--------------|------------------|-----------------|
| Trifluorotoluene (TFT)       |      |      | 2.29   | mg/Kg | 1        | 2.00         | 114              | 30 - 134.6      |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.63   | mg/Kg | 1        | 2.00         | 82               | 22.4 - 149      |

**Sample: 277857 - AH-1 1-1.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)  
QC Batch: 85096  
Prep Batch: 72245

Analytical Method: SM 4500-Cl B  
Date Analyzed: 2011-09-28  
Sample Preparation: 2011-09-28

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

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | u    |      | <200         | mg/Kg | 50       | 4.00 |

**Sample: 277858 - AH-1 2-2.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)  
QC Batch: 85096  
Prep Batch: 72245

Analytical Method: SM 4500-Cl B  
Date Analyzed: 2011-09-28  
Sample Preparation: 2011-09-28

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

*continued ...*

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 8 of 34  
Eddy Co., NM

*sample 277858 continued ...*

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
| Chloride  |      |      | 482          | mg/Kg | 50       | 4.00 |

**Sample: 277859 - AH-1 3-3.5'**

|                                |                                 |                  |
|--------------------------------|---------------------------------|------------------|
| Laboratory: Midland            | Analytical Method: SM 4500-Cl B | Prep Method: N/A |
| Analysis: Chloride (Titration) | Date Analyzed: 2011-09-28       | Analyzed By: AR  |
| QC Batch: 85096                | Sample Preparation: 2011-09-28  | Prepared By: AR  |
| Prep Batch: 72245              |                                 |                  |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1550         | mg/Kg | 100      | 4.00 |

**Sample: 277860 - AH-1 4-4.5'**

|                                |                                 |                  |
|--------------------------------|---------------------------------|------------------|
| Laboratory: Midland            | Analytical Method: SM 4500-Cl B | Prep Method: N/A |
| Analysis: Chloride (Titration) | Date Analyzed: 2011-09-28       | Analyzed By: AR  |
| QC Batch: 85096                | Sample Preparation: 2011-09-28  | Prepared By: AR  |
| Prep Batch: 72245              |                                 |                  |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 4400         | mg/Kg | 100      | 4.00 |

**Sample: 277861 - AH-1 5-5.5'**

|                                |                                 |                  |
|--------------------------------|---------------------------------|------------------|
| Laboratory: Midland            | Analytical Method: SM 4500-Cl B | Prep Method: N/A |
| Analysis: Chloride (Titration) | Date Analyzed: 2011-09-28       | Analyzed By: AR  |
| QC Batch: 85098                | Sample Preparation: 2011-09-28  | Prepared By: AR  |
| Prep Batch: 72245              |                                 |                  |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 9 of 34  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 10400        | mg/Kg | 100      | 4.00 |

**Sample: 277862 - AH-1 6-6.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85098      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 24200        | mg/Kg | 100      | 4.00 |

**Sample: 277863 - AH-2 0-1'**

Laboratory: Midland  
Analysis: BTEX      Analytical Method: S 8021B      Prep Method: S 5035  
QC Batch: 84974      Date Analyzed: 2011-09-23      Analyzed By: AG  
Prep Batch: 72160      Sample Preparation: 2011-09-22      Prepared By: AG

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Toluene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Ethylbenzene | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Xylene       | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.35   | mg/Kg | 1        | 2.00            | 118                 | 82.8 - 143.1       |
| 4-Bromofluorobenzene (4-BFB) |      |      | 2.45   | mg/Kg | 1        | 2.00            | 122                 | 70.6 - 179         |

**Sample: 277863 - AH-2 0-1'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85098      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 10 of 34  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 6000         | mg/Kg | 100      | 4.00 |

**Sample: 277863 - AH-2 0-1'**

Laboratory: Midland  
Analysis: TPH DRO - NEW      Analytical Method: S 8015 D      Prep Method: N/A  
QC Batch: 84963      Date Analyzed: 2011-09-22      Analyzed By: kg  
Prep Batch: 72153      Sample Preparation: 2011-09-22      Prepared By: kg

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       |      | 1    | 278          | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 93.2   | mg/Kg | 1        | 100             | 93                  | 67.5 - 147.1       |

**Sample: 277863 - AH-2 0-1'**

Laboratory: Midland  
Analysis: TPH GRO      Analytical Method: S 8015 D      Prep Method: S 5035  
QC Batch: 84975      Date Analyzed: 2011-09-22      Analyzed By: AG  
Prep Batch: 72160      Sample Preparation: 2011-09-22      Prepared By: AG

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 1    | <2.00        | mg/Kg | 1        | 2.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 1.93   | mg/Kg | 1        | 2.00            | 96                  | 30 - 134.6         |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.40   | mg/Kg | 1        | 2.00            | 70                  | 22.4 - 149         |

**Sample: 277864 - AH-2 1-1.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85098      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 11 of 34  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 9160         | mg/Kg | 100      | 4.00 |

**Sample: 277865 - AH-2 2-2.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85098      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 5920         | mg/Kg | 100      | 4.00 |

**Sample: 277866 - AH-2 3-3.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85098      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 4380         | mg/Kg | 100      | 4.00 |

**Sample: 277867 - AH-2 4-4.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85098      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 3480         | mg/Kg | 100      | 4.00 |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 12 of 34  
Eddy Co., NM

**Sample: 277868 - AH-2 5-5.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85098                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 633          | mg/Kg | 50       | 4.00 |

**Sample: 277869 - AH-2 6-6.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85098                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 3870         | mg/Kg | 100      | 4.00 |

**Sample: 277870 - AH-3 0-1'**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland | Analytical Method:  | S 8021B    | Prep Method: | S 5035 |
| Analysis:   | BTEX    | Date Analyzed:      | 2011-09-23 | Analyzed By: | AG     |
| QC Batch:   | 84974   | Sample Preparation: | 2011-09-22 | Prepared By: | AG     |
| Prep Batch: | 72160   |                     |            |              |        |

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Toluene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Ethylbenzene | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Xylene       | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.55   | mg/Kg | 1        | 2.00            | 128                 | 82.8 - 143.1       |
| 4-Bromofluorobenzene (4-BFB) |      |      | 2.68   | mg/Kg | 1        | 2.00            | 134                 | 70.6 - 179         |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 13 of 34  
Eddy Co., NM

**Sample: 277870 - AH-3 0-1'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85098                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 6190         | mg/Kg | 100      | 4.00 |

**Sample: 277870 - AH-3 0-1'**

|             |               |                     |            |              |     |
|-------------|---------------|---------------------|------------|--------------|-----|
| Laboratory: | Midland       | Analytical Method:  | S 8015 D   | Prep Method: | N/A |
| Analysis:   | TPH DRO - NEW | Date Analyzed:      | 2011-09-22 | Analyzed By: | kg  |
| QC Batch:   | 84963         | Sample Preparation: | 2011-09-22 | Prepared By: | kg  |
| Prep Batch: | 72153         |                     |            |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | u    | 1    | <50.0        | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 81.6   | mg/Kg | 1        | 100             | 82                  | 67.5 - 147.1       |

**Sample: 277870 - AH-3 0-1'**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland | Analytical Method:  | S 8015 D   | Prep Method: | S 5035 |
| Analysis:   | TPH GRO | Date Analyzed:      | 2011-09-22 | Analyzed By: | AG     |
| QC Batch:   | 84975   | Sample Preparation: | 2011-09-22 | Prepared By: | AG     |
| Prep Batch: | 72160   |                     |            |              |        |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 1    | <2.00        | mg/Kg | 1        | 2.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.09   | mg/Kg | 1        | 2.00            | 104                 | 30 - 134.6         |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.54   | mg/Kg | 1        | 2.00            | 77                  | 22.4 - 149         |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 14 of 34  
Eddy Co., NM

**Sample: 277871 - AH-3 1-1.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85100                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 5140         | mg/Kg | 100      | 4.00 |

**Sample: 277872 - AH-3 2-2.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85100                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 7110         | mg/Kg | 100      | 4.00 |

**Sample: 277873 - AH-3 3-3.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85100                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 2450         | mg/Kg | 100      | 4.00 |

**Sample: 277874 - AH-3 4-4.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85100                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 15 of 34  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 632          | mg/Kg | 50       | 4.00 |

**Sample: 277875 - AH-3 5-5.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85100      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1550         | mg/Kg | 100      | 4.00 |

**Sample: 277876 - AH-3 6-6.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85100      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1870         | mg/Kg | 100      | 4.00 |

**Sample: 277877 - AH-3 7-7.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)      Analytical Method: SM 4500-Cl B      Prep Method: N/A  
QC Batch: 85100      Date Analyzed: 2011-09-28      Analyzed By: AR  
Prep Batch: 72245      Sample Preparation: 2011-09-28      Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 5760         | mg/Kg | 100      | 4.00 |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 16 of 34  
Eddy Co., NM

**Sample: 277878 - AH-4 0-1'**

Laboratory: Midland

Analysis: BTEX

QC Batch: 84974

Prep Batch: 72160

Analytical Method: S 8021B

Date Analyzed: 2011-09-23

Sample Preparation: 2011-09-22

Prep Method: S 5035

Analyzed By: AG

Prepared By: AG

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Toluene      | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Ethylbenzene | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |
| Xylene       | u    | 1    | <0.0200      | mg/Kg | 1        | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.68   | mg/Kg | 1        | 2.00            | 134                 | 82.8 - 143.1       |
| 4-Bromofluorobenzene (4-BFB) |      |      | 2.84   | mg/Kg | 1        | 2.00            | 142                 | 70.6 - 179         |

**Sample: 277878 - AH-4 0-1'**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85100

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 7630         | mg/Kg | 100      | 4.00 |

**Sample: 277878 - AH-4 0-1'**

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 84963

Prep Batch: 72153

Analytical Method: S 8015 D

Date Analyzed: 2011-09-22

Sample Preparation: 2011-09-22

Prep Method: N/A

Analyzed By: kg

Prepared By: kg

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | u    | 1    | <50.0        | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 83.9   | mg/Kg | 1        | 100             | 84                  | 67.5 - 147.1       |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 17 of 34  
Eddy Co., NM

**Sample: 277878 - AH-4 0-1'**

Laboratory: Midland  
Analysis: TPH GRO  
QC Batch: 84975  
Prep Batch: 72160

Analytical Method: S 8015 D  
Date Analyzed: 2011-09-22  
Sample Preparation: 2011-09-22

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

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 1    | <2.00        | mg/Kg | 1        | 2.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.20   | mg/Kg | 1        | 2.00            | 110                 | 30 - 134.6         |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.62   | mg/Kg | 1        | 2.00            | 81                  | 22.4 - 149         |

**Sample: 277879 - AH-4 1-1.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)  
QC Batch: 85100  
Prep Batch: 72245

Analytical Method: SM 4500-Cl B  
Date Analyzed: 2011-09-28  
Sample Preparation: 2011-09-28

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

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1380         | mg/Kg | 100      | 4.00 |

**Sample: 277880 - AH-4 2-2.5'**

Laboratory: Midland  
Analysis: Chloride (Titration)  
QC Batch: 85100  
Prep Batch: 72245

Analytical Method: SM 4500-Cl B  
Date Analyzed: 2011-09-28  
Sample Preparation: 2011-09-28

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

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1890         | mg/Kg | 100      | 4.00 |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 18 of 34  
Eddy Co., NM

**Sample: 277881 - AH-4 3-3.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85101                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 1230         | mg/Kg | 100      | 4.00 |

**Sample: 277882 - AH-4 4-4.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85101                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 5170         | mg/Kg | 100      | 4.00 |

**Sample: 277883 - AH-4 5-5.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85101                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 6410         | mg/Kg | 100      | 4.00 |

**Sample: 277884 - AH-4 6-6.5'**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2011-09-28   | Analyzed By: | AR  |
| QC Batch:   | 85101                | Sample Preparation: | 2011-09-28   | Prepared By: | AR  |
| Prep Batch: | 72245                |                     |              |              |     |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 19 of 34  
Eddy Co., NM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 6970         | mg/Kg | 100      | 4.00 |

**Sample: 277885 - AH-4 7-7.5'**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 85101

Prep Batch: 72245

Analytical Method: SM 4500-Cl B

Date Analyzed: 2011-09-28

Sample Preparation: 2011-09-28

Prep Method: N/A

Analyzed By: AR

Prepared By: AR

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 15300        | mg/Kg | 100      | 4.00 |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 20 of 34  
Eddy Co., NM

## Method Blanks

### Method Blank (1) QC Batch: 84963

QC Batch: 84963  
Prep Batch: 72153

Date Analyzed: 2011-09-22  
QC Preparation: 2011-09-22

Analyzed By: kg  
Prepared By: kg

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| DRO       |      | 1    | <14.5         | mg/Kg | 50 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 78.6   | mg/Kg | 1        | 100             | 79                  | 52.7 - 133.8       |

### Method Blank (1) QC Batch: 84974

QC Batch: 84974  
Prep Batch: 72160

Date Analyzed: 2011-09-23  
QC Preparation: 2011-09-22

Analyzed By: AG  
Prepared By: ME

| Parameter    | Flag | Cert | MDL<br>Result | Units | RL   |
|--------------|------|------|---------------|-------|------|
| Benzene      |      | 1    | <0.0118       | mg/Kg | 0.02 |
| Toluene      |      | 1    | <0.00600      | mg/Kg | 0.02 |
| Ethylbenzene |      | 1    | <0.00850      | mg/Kg | 0.02 |
| Xylene       |      | 1    | <0.00613      | mg/Kg | 0.02 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.01   | mg/Kg | 1        | 2.00            | 100                 | 65.9 - 111.8       |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.73   | mg/Kg | 1        | 2.00            | 86                  | 48.4 - 123.1       |

### Method Blank (1) QC Batch: 84975

QC Batch: 84975  
Prep Batch: 72160

Date Analyzed: 2011-09-22  
QC Preparation: 2011-09-22

Analyzed By: AG  
Prepared By: ME

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 21 of 34  
Eddy Co., NM

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| GRO       |      | 1    | 0.811         | mg/Kg | 2  |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 1.66   | mg/Kg | 1        | 2.00            | 83                  | 67.6 - 150         |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.07   | mg/Kg | 1        | 2.00            | 54                  | 52.4 - 130         |

Method Blank (1) QC Batch: 85096

QC Batch: 85096 Date Analyzed: 2011-09-28 Analyzed By: AR  
Prep Batch: 72245 QC Preparation: 2011-09-27 Prepared By: AR

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

Method Blank (1) QC Batch: 85098

QC Batch: 85098 Date Analyzed: 2011-09-28 Analyzed By: AR  
Prep Batch: 72245 QC Preparation: 2011-09-27 Prepared By: AR

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

Method Blank (1) QC Batch: 85100

QC Batch: 85100 Date Analyzed: 2011-09-28 Analyzed By: AR  
Prep Batch: 72245 QC Preparation: 2011-09-27 Prepared By: AR

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 22 of 34  
Eddy Co., NM

Method Blank (1)      QC Batch: 85101

QC Batch: 85101  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| Chloride  |      |      | <3.85         | mg/Kg | 4  |

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 23 of 34  
Eddy Co., NM

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 84963  
Prep Batch: 72153

Date Analyzed: 2011-09-22  
QC Preparation: 2011-09-22

Analyzed By: kg  
Prepared By: kg

| Param | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| DRO   |   | 1 | 205           | mg/Kg | 1    | 250             | <14.5            | 82   | 64.5 - 146.9  |

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

| Param | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|-------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| DRO   |   | 1 | 214            | mg/Kg | 1    | 250             | <14.5            | 86   | 64.5 - 146.9  | 4   | 20           |

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

| Surrogate   | LCS<br>Result | LCSD<br>Result | Units | Dil. | Spike<br>Amount | LCS<br>Rec. | LCSD<br>Rec. | Rec.<br>Limit |
|-------------|---------------|----------------|-------|------|-----------------|-------------|--------------|---------------|
| n-Tricosane | 79.9          | 81.4           | mg/Kg | 1    | 100             | 80          | 81           | 65.3 - 135.8  |

### Laboratory Control Spike (LCS-1)

QC Batch: 84974  
Prep Batch: 72160

Date Analyzed: 2011-09-23  
QC Preparation: 2011-09-22

Analyzed By: AG  
Prepared By: ME

| Param        | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|--------------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Benzene      |   | 1 | 1.97          | mg/Kg | 1    | 2.00            | <0.0118          | 98   | 77.4 - 121.7  |
| Toluene      |   | 1 | 1.94          | mg/Kg | 1    | 2.00            | <0.00600         | 97   | 88.6 - 121.6  |
| Ethylbenzene |   | 1 | 1.98          | mg/Kg | 1    | 2.00            | <0.00850         | 99   | 74.3 - 117.9  |
| Xylene       |   | 1 | 5.89          | mg/Kg | 1    | 6.00            | <0.00613         | 98   | 73.4 - 118.8  |

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

| Param        | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|--------------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Benzene      |   | 1 | 2.10           | mg/Kg | 1    | 2.00            | <0.0118          | 105  | 77.4 - 121.7  | 6   | 20           |
| Toluene      |   | 1 | 2.08           | mg/Kg | 1    | 2.00            | <0.00600         | 104  | 88.6 - 121.6  | 7   | 20           |
| Ethylbenzene |   | 1 | 2.14           | mg/Kg | 1    | 2.00            | <0.00850         | 107  | 74.3 - 117.9  | 8   | 20           |
| Xylene       |   | 1 | 6.44           | mg/Kg | 1    | 6.00            | <0.00613         | 107  | 73.4 - 118.8  | 9   | 20           |

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

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 24 of 34  
Eddy Co., NM

| Surrogate                    | LCS<br>Result | LCSD<br>Result | Units | Dil. | Spike<br>Amount | LCS<br>Rec. | LCSD<br>Rec. | Rec.<br>Limit |
|------------------------------|---------------|----------------|-------|------|-----------------|-------------|--------------|---------------|
| Trifluorotoluene (TFT)       | 2.06          | 2.14           | mg/Kg | 1    | 2.00            | 103         | 107          | 65.5 - 116.7  |
| 4-Bromofluorobenzene (4-BFB) | 2.15          | 2.26           | mg/Kg | 1    | 2.00            | 108         | 113          | 56.2 - 132.1  |

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

QC Batch: 84975  
Prep Batch: 72160

Date Analyzed: 2011-09-22  
QC Preparation: 2011-09-22

Analyzed By: AG  
Prepared By: ME

| Param | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| GRO   |   | 1 | 17.2          | mg/Kg | 1    | 20.0            | <0.753           | 86   | 60.9 - 95.4   |

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

| Param | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|-------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| GRO   |   | 1 | 17.6           | mg/Kg | 1    | 20.0            | <0.753           | 88   | 60.9 - 95.4   | 2   | 20           |

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

| Surrogate                    | LCS<br>Result | LCSD<br>Result | Units | Dil. | Spike<br>Amount | LCS<br>Rec. | LCSD<br>Rec. | Rec.<br>Limit |
|------------------------------|---------------|----------------|-------|------|-----------------|-------------|--------------|---------------|
| Trifluorotoluene (TFT)       | 1.83          | 1.57           | mg/Kg | 1    | 2.00            | 92          | 78           | 61.9 - 142    |
| 4-Bromofluorobenzene (4-BFB) | 1.34          | 1.13           | mg/Kg | 1    | 2.00            | 67          | 56           | 56.2 - 132    |

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

QC Batch: 85096  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 95.3          | mg/Kg | 1    | 100             | <3.85            | 95   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 106            | mg/Kg | 1    | 100             | <3.85            | 106  | 85 - 115      | 11  | 20           |

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

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 25 of 34  
Eddy Co., NM

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

QC Batch: 85098  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 95.8          | mg/Kg | 1    | 100             | <3.85            | 96   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 104            | mg/Kg | 1    | 100             | <3.85            | 104  | 85 - 115      | 8   | 20           |

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

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

QC Batch: 85100  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 94.2          | mg/Kg | 1    | 100             | <3.85            | 94   | 85 - 115      |

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

| Param    | F | C | LCSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|----------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 101            | mg/Kg | 1    | 100             | <3.85            | 101  | 85 - 115      | 7   | 20           |

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

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

QC Batch: 85101  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 95.4          | mg/Kg | 1    | 100             | <3.85            | 95   | 85 - 115      |

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

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 26 of 34  
Eddy Co., NM

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 106           | mg/Kg | 1    | 100             | <3.85            | 106  | 85 - 115      | 10  | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 277878

QC Batch: 84963  
Prep Batch: 72153

Date Analyzed: 2011-09-22  
QC Preparation: 2011-09-22

Analyzed By: kg  
Prepared By: kg

| Param | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| DRO   |   | 1 | 201          | mg/Kg | 1    | 250             | <14.5            | 80   | 38.8 - 153.3  |

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

| Param | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|-------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| DRO   |   | 1 | 194           | mg/Kg | 1    | 250             | <14.5            | 78   | 38.8 - 153.3  | 4   | 20           |

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

| Surrogate   | MS<br>Result | MSD<br>Result | Units | Dil. | Spike<br>Amount | MS<br>Rec. | MSD<br>Rec. | Rec.<br>Limit |
|-------------|--------------|---------------|-------|------|-----------------|------------|-------------|---------------|
| n-Tricosane | 81.0         | 80.9          | mg/Kg | 1    | 100             | 81         | 81          | 54.6 - 149.8  |

**Matrix Spike (MS-1)** Spiked Sample: 277878

QC Batch: 84974  
Prep Batch: 72160

Date Analyzed: 2011-09-23  
QC Preparation: 2011-09-22

Analyzed By: AG  
Prepared By: ME

| Param        | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|--------------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Benzene      |   | 1 | 1.69         | mg/Kg | 1    | 2.00            | <0.0118          | 84   | 69.4 - 123.6  |
| Toluene      |   | 1 | 1.77         | mg/Kg | 1    | 2.00            | <0.00600         | 88   | 75.4 - 134.3  |
| Ethylbenzene |   | 1 | 1.96         | mg/Kg | 1    | 2.00            | <0.00850         | 98   | 58.8 - 133.7  |
| Xylene       |   | 1 | 5.82         | mg/Kg | 1    | 6.00            | <0.00613         | 97   | 57 - 134.2    |

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

| Param   | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|---------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Benzene |   | 1 | 1.95          | mg/Kg | 1    | 2.00            | <0.0118          | 98   | 69.4 - 123.6  | 14  | 20           |
| Toluene |   | 1 | 2.04          | mg/Kg | 1    | 2.00            | <0.00600         | 102  | 75.4 - 134.3  | 14  | 20           |

*continued ...*

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 27 of 34  
Eddy Co., NM

*matrix spikes continued . . .*

| Param        | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|--------------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Ethylbenzene |   | 1 | 2.28          | mg/Kg | 1    | 2.00            | <0.00850         | 114  | 58.8 - 133.7  | 15  | 20           |
| Xylene       |   | 1 | 6.75          | mg/Kg | 1    | 6.00            | <0.00613         | 112  | 57 - 134.2    | 15  | 20           |

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

| Surrogate                    | MS<br>Result | MSD<br>Result | Units | Dil. | Spike<br>Amount | MS<br>Rec. | MSD<br>Rec. | Rec.<br>Limit |
|------------------------------|--------------|---------------|-------|------|-----------------|------------|-------------|---------------|
| Trifluorotoluene (TFT)       | 2.42         | 2.63          | mg/Kg | 1    | 2               | 121        | 132         | 79.4 - 141.1  |
| 4-Bromofluorobenzene (4-BFB) | 2.70         | 2.86          | mg/Kg | 1    | 2               | 135        | 143         | 71 - 167      |

**Matrix Spike (MS-1)** Spiked Sample: 277870

QC Batch: 84975  
Prep Batch: 72160

Date Analyzed: 2011-09-22  
QC Preparation: 2011-09-22

Analyzed By: AG  
Prepared By: ME

| Param | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| GRO   |   | 1 | 19.8         | mg/Kg | 1    | 20.0            | 1.1724           | 93   | 61.8 - 114    |

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

| Param | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|-------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| GRO   |   | 1 | 20.0          | mg/Kg | 1    | 20.0            | 1.1724           | 94   | 61.8 - 114    | 1   | 20           |

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

| Surrogate                    | MS<br>Result | MSD<br>Result | Units | Dil. | Spike<br>Amount | MS<br>Rec. | MSD<br>Rec. | Rec.<br>Limit |
|------------------------------|--------------|---------------|-------|------|-----------------|------------|-------------|---------------|
| Trifluorotoluene (TFT)       | 2.14         | 1.99          | mg/Kg | 1    | 2               | 107        | 100         | 29.4 - 161.7  |
| 4-Bromofluorobenzene (4-BFB) | 1.77         | 1.69          | mg/Kg | 1    | 2               | 88         | 84          | 37.3 - 162    |

**Matrix Spike (MS-1)** Spiked Sample: 277860

QC Batch: 85096  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 13900        | mg/Kg | 100  | 10000           | 4400             | 95   | 79.4 - 120.6  |

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

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 28 of 34  
Eddy Co., NM

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 14600         | mg/Kg | 100  | 10000           | 4400             | 102  | 79.4 - 120.6  | 5   | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 277870

QC Batch: 85098  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 16600        | mg/Kg | 100  | 10000           | 6190             | 104  | 79.4 - 120.6  |

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

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 17000         | mg/Kg | 100  | 10000           | 6190             | 108  | 79.4 - 120.6  | 2   | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 277880

QC Batch: 85100  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 11900        | mg/Kg | 100  | 10000           | 1890             | 100  | 79.4 - 120.6  |

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

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 12400         | mg/Kg | 100  | 10000           | 1890             | 105  | 79.4 - 120.6  | 4   | 20           |

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

**Matrix Spike (MS-1)** Spiked Sample: 278038

QC Batch: 85101  
Prep Batch: 72245

Date Analyzed: 2011-09-28  
QC Preparation: 2011-09-27

Analyzed By: AR  
Prepared By: AR

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 29 of 34  
Eddy Co., NM

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 10100        | mg/Kg | 100  | 10000           | <385             | 101  | 79.4 - 120.6  |

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

| Param    | F | C | MSD<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Chloride |   |   | 10800         | mg/Kg | 100  | 10000           | <385             | 108  | 79.4 - 120.6  | 7   | 20           |

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

## Calibration Standards

### Standard (CCV-2)

QC Batch: 84963

Date Analyzed: 2011-09-22

Analyzed By: kg

| 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                   | 238                    | 95                          | 80 - 120                      | 2011-09-22       |

### Standard (CCV-3)

QC Batch: 84963

Date Analyzed: 2011-09-22

Analyzed By: kg

| 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                      | 2011-09-22       |

### Standard (CCV-2)

QC Batch: 84974

Date Analyzed: 2011-09-23

Analyzed By: AG

| 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 |
|--------------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene      |      | 1    | mg/Kg | 0.100                 | 0.102                  | 102                         | 80 - 120                      | 2011-09-23       |
| Toluene      |      | 1    | mg/Kg | 0.100                 | 0.100                  | 100                         | 80 - 120                      | 2011-09-23       |
| Ethylbenzene |      | 1    | mg/Kg | 0.100                 | 0.104                  | 104                         | 80 - 120                      | 2011-09-23       |
| Xylene       |      | 1    | mg/Kg | 0.300                 | 0.307                  | 102                         | 80 - 120                      | 2011-09-23       |

### Standard (CCV-3)

QC Batch: 84974

Date Analyzed: 2011-09-23

Analyzed By: AG

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 31 of 34  
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 |
|--------------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene      |      | 1    | mg/Kg | 0.100                 | 0.104                  | 104                         | 80 - 120                      | 2011-09-23       |
| Toluene      |      | 1    | mg/Kg | 0.100                 | 0.102                  | 102                         | 80 - 120                      | 2011-09-23       |
| Ethylbenzene |      | 1    | mg/Kg | 0.100                 | 0.106                  | 106                         | 80 - 120                      | 2011-09-23       |
| Xylene       |      | 1    | mg/Kg | 0.300                 | 0.315                  | 105                         | 80 - 120                      | 2011-09-23       |

**Standard (CCV-2)**

QC Batch: 84975

Date Analyzed: 2011-09-22

Analyzed By: AG

| 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   |      | 1    | mg/Kg | 1.00                  | 1.04                   | 104                         | 80 - 120                      | 2011-09-22       |

**Standard (CCV-3)**

QC Batch: 84975

Date Analyzed: 2011-09-22

Analyzed By: AG

| 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   |      | 1    | mg/Kg | 1.00                  | 1.07                   | 107                         | 80 - 120                      | 2011-09-22       |

**Standard (ICV-1)**

QC Batch: 85096

Date Analyzed: 2011-09-28

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 102                    | 102                         | 85 - 115                      | 2011-09-28       |

**Standard (CCV-1)**

QC Batch: 85096

Date Analyzed: 2011-09-28

Analyzed By: AR

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 32 of 34  
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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 98.3                   | 98                          | 85 - 115                      | 2011-09-28       |

**Standard (ICV-1)**

QC Batch: 85098

Date Analyzed: 2011-09-28

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 101                    | 101                         | 85 - 115                      | 2011-09-28       |

**Standard (CCV-1)**

QC Batch: 85098

Date Analyzed: 2011-09-28

Analyzed By: AR

| 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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 100                    | 100                         | 85 - 115                      | 2011-09-28       |

**Standard (ICV-1)**

QC Batch: 85100

Date Analyzed: 2011-09-28

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 98.7                   | 99                          | 85 - 115                      | 2011-09-28       |

**Standard (CCV-1)**

QC Batch: 85100

Date Analyzed: 2011-09-28

Analyzed By: AR

Report Date: September 30, 2011  
114-6401026

Work Order: 11092015  
COG/Antelope State TB

Page Number: 33 of 34  
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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 101                    | 101                         | 85 - 115                      | 2011-09-28       |

**Standard (ICV-1)**

QC Batch: 85101

Date Analyzed: 2011-09-28

Analyzed By: AR

| Param    | Flag | Cert | Units | ICVs<br>True<br>Conc. | ICVs<br>Found<br>Conc. | ICVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 101                    | 101                         | 85 - 115                      | 2011-09-28       |

**Standard (CCV-1)**

QC Batch: 85101

Date Analyzed: 2011-09-28

Analyzed By: AR

| 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 |
|----------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Chloride |      |      | mg/Kg | 100                   | 99.3                   | 99                          | 85 - 115                      | 2011-09-28       |

## Appendix

### Laboratory Certifications

| C | Certifying Authority | Certification Number | Laboratory Location |
|---|----------------------|----------------------|---------------------|
| - | NCTRCA               | WFWB384444Y0909      | TraceAnalysis       |
| - | DBE                  | VN 20657             | TraceAnalysis       |
| - | HUB                  | 1752439743100-86536  | TraceAnalysis       |
| - | WBE                  | 237019               | TraceAnalysis       |
| 1 | NELAP                | T104704392-10-TX     | 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 than 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.                                                                                                                                                                                |
| 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                                                                                                                                                                                           |

### Attachments

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

X WO #: 11092015

# Analysis Request of Chain of Custody Record

PAGE: 1 OF: 3



**TETRA TECH**

1910 N. Big Spring St.  
Midland, Texas 79705  
(432) 682-4559 • Fax (432) 682-3946

ANALYSIS REQUEST  
(Circle or Specify Method No.)

CLIENT NAME:

COG

SITE MANAGER:

Ike Tavaraz

PROJECT NO.:

114-6401026

PROJECT NAME:

COG / Antelope State TB

Eddy Co, NM

SAMPLE IDENTIFICATION

LAB I.D.  
NUMBER

DATE  
2011

TIME

MATRIX  
COMP.  
GRAB

AH-1 0-1'

AH-1 1'-1.5'

AH-1 2'-2.5'

AH-1 3'-3.5'

AH-1 4'-4.5'

AH-1 5'-5.5'

AH-1 6'-6.5'

AH-2 0-1'

AH-2 1'-1.5'

AH-2 2'-2.5'

NUMBER OF CONTAINERS  
FILTERED (Y/N)

PRESERVATIVE  
METHOD

HCL

HNO3

ICE

NONE

BTEX 8021B  
TPH 8015 MOD TX1005 (Ext. to C35)  
PAH 8270

RCRA Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Metals Ag As Ba Cd Cr Pb Hg Se

TCLP Volatiles

TCLP Semi Volatiles

RCI

GC/MS Vol. 8240/8260/824

GC/MS Semi. Vol. 8270/625

PCB's 8080/608

Pest. 808/608

Chloride

Gamma Spec.

Alpha Beta (Air)

PLM (Asbestos)

Major Anions/Cations, pH, TDS

RELINQUISHED BY: (Signature)

Signature

Date: 9/20/11

Time: 1:40

RECEIVED BY: (Signature)

Signature

Date: 9-20-11

Time: 11:40

SAMPLED BY: (Print & Initial)

Signature

Date: 9/19/11

Time: 11:40

RELINQUISHED BY: (Signature)

Signature

Date: 9-20-11

Time: 11:40

RECEIVED BY: (Signature)

Signature

Date: 9-20-11

Time: 11:40

SAMPLE SHIPPED BY: (Circle)

FEDEX  
BUS  
HAND DELIVERED  
UPS

AIRBILL #:

OTHER:

RECEIVING LABORATORY:

Tetra

RECEIVED BY: (Signature)

Signature

ADDRESS:

Midland

STATE: TX

ZIP: 79705

CONTACT:

PHONE: (432) 682-4559

DATE: 9-20-11

TIME: 11:40

TETRA TECH CONTACT PERSON:

Ike Tavaraz

Results by:

RUSH Charges

Authorized:

Yes No

SAMPLE CONDITION WHEN RECEIVED:

9.9°C on ice

REMARKS:

If total TPH exceeds 5000 mg/kg run deeper samples

If total BTEX exceeds 50 mg/kg or Benzene exceeds 10 mg/kg run deeper samples

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

X All tests - Midland

WO#: 11092015

## Analysis Request of Chain of Custody Record

PAGE: 2 OF: 3

**TETRA TECH**1910 N. Big Spring St.  
Midland, Texas 79705  
(432) 682-4559 • Fax (432) 682-3946ANALYSIS REQUEST  
(Circle or Specify Method No.)CLIENT NAME:  
COGSITE MANAGER:  
Ike TovarPROJECT NO.:  
114-44102LPROJECT NAME:  
COG / Antelope State TB

| LAB I.D. NUMBER | DATE | TIME | MATRIX | COMP. | GRAB | SAMPLE IDENTIFICATION | NUMBER OF CONTAINERS | FILTERED (Y/N) | HCL | HNO3 | ICE | NONE | PRESERVATIVE METHOD |
|-----------------|------|------|--------|-------|------|-----------------------|----------------------|----------------|-----|------|-----|------|---------------------|
| 877806          | 9/19 |      | S      | X     |      | AH-2 3'-3.5'          | 1                    |                |     |      | X   |      |                     |
| 867             |      |      |        |       |      | AH-2 4'-4.5'          |                      |                |     |      |     |      |                     |
| 868             |      |      |        |       |      | AH-2 5'-5.5'          |                      |                |     |      |     |      |                     |
| 869             |      |      |        |       |      | AH-2 6'-6.5'          |                      |                |     |      |     |      |                     |
| 870             |      |      |        |       |      | AH-3 0-1'             |                      |                |     |      |     |      | XX                  |
| 871             |      |      |        |       |      | AH-3 1'-1.5'          |                      |                |     |      |     |      |                     |
| 872             |      |      |        |       |      | AH-3 2'-2.5'          |                      |                |     |      |     |      |                     |
| 873             |      |      |        |       |      | AH-3 3'-3.5'          |                      |                |     |      |     |      |                     |
| 874             |      |      |        |       |      | AH-3 4'-4.5'          |                      |                |     |      |     |      |                     |
| 875             |      |      |        |       |      | AH-3 5'-5.5'          |                      |                |     |      |     |      |                     |

RELINQUISHED BY: (Signature) *[Signature]* Date: 9/20/11 Time: 1146RECEIVED BY: (Signature) *[Signature]* Date: Time:SAMPLED BY: (Print & Initial) *JT* Date: 9/19/11 Time:RELINQUISHED BY: (Signature) *[Signature]* Date: Time:RECEIVED BY: (Signature) *[Signature]* Date: Time:SAMPLE SHIPPED BY: (Circle) FEDEX BUS AIRBILL #: *[Signature]*  
HAND DELIVERED UPS OTHER:RELINQUISHED BY: (Signature) *[Signature]* Date: Time:RECEIVED BY: (Signature) *[Signature]* Date: Time:TETRA TECH CONTACT PERSON: *Ike Tovar* Results by:RECEIVING LABORATORY: *Tetra*  
ADDRESS: *Midland* STATE: *TX* ZIP:   
CITY:  PHONE: RECEIVED BY: (Signature) *[Signature]* DATE: 9.20.11 TIME: 11:40

RUSH Charges Authorized: Yes No

SAMPLE CONDITION WHEN RECEIVED:  
9.9°C on iceREMARKS:  
If total TPH exceeds 5,000 mg/kg run deeper samples / If total BTEX exceeds 50mg/kg run deeper samples / If Benzene exceeds 10mg/kg run deeper samples

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

