



## **CORRECTIVE ACTION REPORT**

Property:

**1009 Line Leak**  
**32.370740, -103.857236**  
**SW ¼ SW ¼, S23 T22S R30E**  
**Eddy County, New Mexico**  
ECIRTS: 25476  
2RP-2937

January 2016  
Apex Project No. 7250715033

Prepared for:

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Prepared by:

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Liz Scaggs, P.G.  
Division Manager

## TABLE OF CONTENTS

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|            |  |          |
|------------|--|----------|
| <b>1.0</b> | <b>INTRODUCTION .....</b>                | <b>1</b> |
| 1.1        | Site Description & Background.....       | 1        |
| 1.2        | Project Objective .....                  | 1        |
| <b>2.0</b> | <b>SITE RANKING .....</b>                | <b>2</b> |
| <b>3.0</b> | <b>SITE CHRONOLOGY .....</b>             | <b>2</b> |
| <b>4.0</b> | <b>RESPONSE ACTIONS.....</b>             | <b>3</b> |
| 4.1        | Soil Excavation Activities.....          | 3        |
| 4.2        | Soil Boring Installation.....            | 4        |
| 4.3        | Soil Sampling Program .....              | 4        |
| <b>5.0</b> | <b>DATA EVALUATION .....</b>             | <b>5</b> |
| 5.1        | Excavation Confirmation Samples.....     | 5        |
| 5.2        | Soil Boring Samples.....                 | 6        |
| <b>6.0</b> | <b>FINDINGS AND RECOMMENDATIONS.....</b> | <b>6</b> |

## LIST OF APPENDICES

|                    |   |
|--------------------|---|
| <b>Appendix A:</b> | Figure 1 – Topographic Map<br>Figure 2 – Site Vicinity Map<br>Figure 3 – Site Map |
| <b>Appendix B:</b> | Photographic Documentation  |
| <b>Appendix C:</b> | Analytical Tables   |
| <b>Appendix D:</b> | Soil Boring Log   |
| <b>Appendix E:</b> | Laboratory Analytical Reports &<br>Chain-of-Custody Documentation                 |
| <b>Appendix F:</b> | NMOCD C-141 Documentation   |
| <b>Appendix G:</b> | NMOCD and BLM Approved Workplan   |
| <b>Appendix H:</b> | NMOCD and BLM Correspondence  |
| <b>Appendix I:</b> | Waste Disposal Tickets  |



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**Apex Project No. 7250715033-001**

## **1.0 INTRODUCTION**

### **1.1 Site Description & Background**

The 1009 Line Leak is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of the southwest (SW) ¼ of Section 23 in Township 22 South and Range 30 East in rural Eddy County, New Mexico (32.370745N, 103.857276W), referred to hereinafter as the "Site". The Site is located north of an unpaved road on Bureau of Land Management (BLM) managed lands. The Site is surrounded by native rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise 1009 natural gas gathering pipeline (1009 line). The pipeline traverses the site from southwest to northeast.

On March 29, 2015, Enterprise was notified of a leak detected on the 1009 line by a third party. Immediate response action was taken based on the Enterprise General Release Notification, Response and Remediation Plan (March 2015). Enterprise isolated the leaking portion, and proceeded with pipeline repairs. An initial C-141 form was submitted to the New Mexico Oil Conservation Division (NMOCD) due to the gas volume associated with the release. Enterprise originally noted that there were approximately two (2) barrels (bbls) of pipeline liquid released from the leaking portion of the pipeline. The release was determined to have occurred due to internal corrosion. The initial remediation activities were conducted on April 8 and April 23, 2015. On May 19, 2015, Enterprise submitted an updated C-141 to the NMOCD stating that the volume of pipeline liquids released was estimated at approximately 29 bbls. Subsequent to approval from the NMOCD and BLM, the excavation was backfilled on August 11 through August 12, 2015, and a soil boring was installed in the vicinity of the release point on September 2, 2015, to determine the vertical extent of impact from the release of pipeline liquids.

A topographic map depicting the location of the Site is included as Figure 1, and a Site Vicinity Map is included as Figure 2 in Appendix A.

### **1.2 Project Objective**

The primary objective of the corrective actions was to reduce the concentration of constituents of concern (COCs) in the on-Site soils to below the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) *Remediation Action Levels* using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.



## 2.0 SITE RANKING

In accordance with the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:

| Ranking Criteria   |                   |    | Ranking Score |
|--|-------------------|----|---------------|
| Depth to Groundwater   | <50 feet          | 20 | 0             |
|  | 50 to 99 feet     | 10 |               |
|  | >100 feet         | 0  |               |
| Wellhead Protection Area<br><1,000 feet from a water source, or; <200 feet from private domestic water source. | Yes               | 20 | 0             |
|  | No                | 0  |               |
| Distance to Surface Water Body   | <200 feet         | 20 | 0             |
|  | 200 to 1,000 feet | 10 |               |
|  | >1,000 feet       | 0  |               |
| Total Ranking Score  |                   |    | 0             |

Based on Apex's evaluation of the scoring criteria, the Site would have a maximum Total Ranking Score of "0". This ranking is based on the following:

- The approximate depth to the initial groundwater-bearing zone is greater than 100 feet at the Site.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site.
- The distance to the nearest surface water body is greater than 1,000 feet.

Based on a Total Ranking Score of "0", cleanup goals for soils remaining in place include:

- 10 milligrams per kilogram (mg/Kg) for benzene
- 50 mg/Kg for total benzene, toluene, ethylbenzene and xylene (BTEX)
- 5,000 mg/Kg for Total Petroleum Hydrocarbons (TPH)
- 1,000 mg/Kg for chloride.

## 3.0 SITE CHRONOLOGY

Apex has reviewed the available documentation from previously conducted subsurface investigation and corrective action activities completed at the Site.

The following is a chronology of Site assessment, investigation and corrective action activities previously conducted at the Site.

|                |  |
|----------------|--|
| March 29, 2015 | A release was discovered along the Enterprise 1009 line within pipeline ROW. Enterprise initially estimated the release as approximately two (2) bbls of natural gas pipeline liquids. |
| April 7, 2015  | An initial C-141 was submitted to the NMOCD due to the gas volume associated with the release.   |

|                   |   |
|-------------------|---|
| April 8, 2015     | Enterprise initiated excavation activities at the Site. Willbros Construction (Willbros) removed impacted soil from below and surrounding the release point on the pipeline. Apex collected five (5) confirmation soil samples (N-Wall, S-Wall, E-Wall, W-Wall and RP) from each wall of the excavation and the excavation floor directly under the point of release on the 1009 line.    |
| April 22, 2015    | Subsequent to over-excavation at the site, Apex collected an additional confirmation soil sample (RP RE) from the floor of the excavation in the vicinity of the release point on the 1009 line.  |
| May 19, 2015      | Enterprise submitted an updated C-141 to the NMOCD stating that the volume of pipeline liquids released was estimated at approximately 29 bbls.   |
| July 2015         | Enterprise submitted a remediation plan for approval to the BLM and NMOCD. The scope of work detailed in the remediation plan was to backfill the pre-existing excavation with clean fill material and install one (1) soil boring in the vicinity of the release point to define the extent of vertical impact in the soil. The remediation plan was approved by both the BLM and NMOCD. |
| August 18, 2015   | Talon LPE (Talon) transported the stockpiled material from the excavation for off-Site disposal. The excavation was backfilled with clean fill material.  |
| September 2, 2015 | Apex returned to the Site and advanced one (1) soil boring in the vicinity of the release point on the 1009 line. Soil samples were collected continuously to the extent practical and scanned with a photoionization detector (PID) for the presence of volatile organic compounds (VOCs).   |

## 4.0 RESPONSE ACTIONS

### 4.1 Soil Excavation Activities

On March 29, 2015, Enterprise was informed of a pipeline leak detected by a third party on the 1009 line. Enterprise isolated the leaking portion and proceeded with pipeline repairs. It was at this time that Enterprise initially estimated the volume of pipeline liquids released as approximately two (2) bbls.

The initial excavation was carried out on April 8, 2015, by Willbros. Impacted soil was removed from below and surrounding the release point on the pipeline. Based on the laboratory analytical results for the initial confirmation soil samples, additional impacted soil was removed from the floor of the excavation on April 22, 2015. An additional confirmation soil sample was collected subsequent to over-excavating the impacted soils. On May 19, 2015, Enterprise submitted an updated C-141 form noting that the volume of pipeline liquids released was estimated at approximately 29 bbls. The submitted initial and updated C-141 forms are provided in Appendix F.

Final excavation dimensions were approximately 55 feet long by 15 feet wide, with an approximate depth of 15 feet at the release point. Impacted soil was collected and removed into one (1) stockpile on Site. The stockpile on-Site was transported to a state approved disposal facility, Lea Landfill Disposal Facility (Lea Land), in Eunice, New Mexico. Approximately 667,180 pounds of stockpiled soil was transported and disposed of. The excavation was backfilled with non-impacted clean fill material, purchased from Lea

Land, and was contoured to approximate surface grade. Waste disposal tickets are provided in Appendix H.

## **4.2 Soil Boring Installation**

A remediation plan was submitted by Enterprise for approval to BLM and NMOCD on July 13, 2015. The scope of work detailed in the remediation plan was to backfill the existing excavation with clean fill material and install one (1) soil boring in the vicinity of the release point to define the extent of vertical impact to soil. The proposed scope of work was based on Apex's review of the previous correspondence between Enterprise and NMOCD, and laboratory analytical results indicating impacted soil remaining in the excavation. The remediation plan was approved by the NMOCD on July 14, 2015, and by the BLM on July 24, 2015, with the understanding that Enterprise would remove the clean fill material from the excavation if laboratory analysis on samples collected from the boring indicated elevated benzene and BTEX concentrations.

On August 18 through August 19, 2015, Talon LPE (Talon) transported the stockpiled material from the excavation to Lea Land Disposal Facility (Lea Land) in Carlsbad, NM. The excavation was backfilled with clean fill material purchased from Lea Land. The area was returned to original surface grade. Copies of the waste disposal manifests are provided in Appendix F.

On September 2, 2015, Apex and Talon mobilized to the Site to install one (1) soil boring (SB-1) in the vicinity of the release point on the 1009 line. Talon utilized shovels to locate the line prior to the soil boring advancement. The soil boring was advanced on-Site utilizing an air rotary drilling rig under the supervision of a State of New Mexico licensed monitoring well driller. The soil boring was placed as near to the release point as possible, taking into account safety and mandated set-backs from the pipeline.

The soil boring was advanced to a total depth of 55 feet below ground surface (bgs). Soil samples were collected continuously to the extent practical and scanned with a PID for the presence of volatile organic compounds (VOCs). Groundwater was not encountered during the soil boring advancement. The sampling equipment was decontaminated by high pressure cleaning prior to soil boring installation. Apex documented lithology, color, relative moisture content and visual or olfactory evidence of impairment. A soil boring log for soil boring SB-1 is provided in Appendix D.

## **4.3 Soil Sampling Program**

On April 8, 2015, Apex collected five (5) confirmation soil samples (N-Wall, S-Wall, E-Wall, W-Wall and RP) from each wall of the excavation and directly under the point of release. The excavation sidewall confirmation soil samples (N-Wall, S-Wall, E-Wall and W-Wall) were taken from an approximate depth of four (4) feet below ground surface (bgs). The confirmation soil sample collected from the floor of the excavation was taken from a depth of six and a half (6.5) feet bgs. In addition, one (1) composite soil sample was collected from the stockpiled material (STP) for disposal purposes.

Laboratory analytical results for the initial confirmation soil samples indicated additional soil removal was required from the floor of the excavation. On April 22, 2015, an additional confirmation soil sample (RP RE) was collected subsequent to over-excavating impacted soils.

On September 2, 2015, Apex collected four (4) soil samples (CS-1 through CS-4) from the soil boring installation. Soil samples CS-1 through CS-4 were collected from zones exhibiting the highest (CS-1 and CS-3) and lowest (CS-2 and CS-4) concentrations of VOC's based on visual, olfactory and photoionization detector (PID) evidence. Soil sample CS-4 was collected from the bottom of the boring. Soil samples CS-1 and CS-2, which were taken from 22 to 23 feet bgs and 28 to 29 feet bgs, respectively, were submitted to the laboratory for analysis. Samples CS-3 and CS-4 were placed on hold

at the laboratory and were to be run if necessary based on the initial analytical results from samples CS-1 and CS-2.

Soil samples were collected in laboratory supplied glass containers, cooled to approximately 4°C, and transported under proper chain-of-custody procedures and documentation. Soil samples were submitted for analysis under chain-of-custody control to Trace Analysis laboratory in Midland, Texas and Xenco Laboratories in Midland, Texas. Soil samples were analyzed for total petroleum hydrocarbons, gasoline range organics and diesel range organics, (TPH GRO/DRO) by EPA Method 8015B, benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method 8021B, and chloride utilizing method 4500-Cl B.

Executed chain-of-custody forms and laboratory data sheets are provided in Appendix E. All samples were analyzed within specified holding times.

Figure 3 (Appendix A) is a Site Map that indicates the approximate location of the excavated area, the soil boring, and the stockpile in relation to pertinent land features.

## 5.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically NMAC 19.15.29 *Remediation Plan*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

### 5.1 Excavation Confirmation Samples

Apex compared the benzene, BTEX, TPH and chloride concentrations associated with the soil samples collected from the Site to OCD *Recommended Remediation Action Levels* (RRALs) for sites having a total ranking score of "0".

Laboratory analyses of the initial confirmation soil samples (N-Wall, S-Wall, E-Wall and W-Wall) collected from the sidewalls of the initial excavation on April 8, 2015, indicated benzene concentrations ranging from less than the reporting limits of 0.0200 milligrams per Kilogram (mg/Kg) to 1.76 mg/Kg, which are below the OCD RRAL of 10 mg/Kg for a Site ranking of 0. Laboratory analyses of initial confirmation soil samples (N-Wall, S-Wall, E-Wall and W-Wall) indicated total BTEX concentrations ranging from 0.0642 mg/Kg to 32.3 mg/Kg, which are below the OCD RRAL of 50 mg/Kg for a Site ranking of 0.

The initial confirmation soil sample (RP) collected from the floor of the excavation on April 8, 2015, indicated a benzene concentration of 12.5 mg/Kg, which is above the OCD RRAL of 10 mg/Kg. The initial confirmation soil sample RP indicated a total BTEX concentration of 91.8 mg/Kg, which is above the OCD RRAL of 50 mg/Kg for a Site ranking of 0.

Initial confirmation soil samples (N-Wall, S-Wall, E-Wall, W-Wall and RP) indicated TPH concentrations ranging from below the laboratory reporting limits to 2,300 mg/Kg, which are below the OCD RRAL of 5,000 mg/Kg for a Site ranking of 0.

Initial confirmation soil samples (N-Wall, S-Wall, E-Wall, W-Wall and RP) indicated chloride concentrations ranging from below the laboratory reporting limits of 20.0 mg/Kg to 588 mg/Kg, which are below the OCD RRAL of 1,000 mg/Kg for a Site ranking of 0.

Subsequent to over-excavation activities at the Site, laboratory analysis of the additional confirmation soil sample RP RE, taken on April 22, 2015, indicate a benzene concentration of 10.7 mg/Kg, which is above

the OCD RRAL of 10 mg/Kg for a Site ranking of 0. Laboratory analysis of the additional confirmation soil sample RP RE indicate a total BTEX concentration of 94.04 mg/Kg, which is above the OCD RRAL of 50 mg/Kg for a Site ranking of 0. Additional confirmation soil sample RP RE was not analyzed for TPH or chloride due to previous samples from the same location indicating TPH and chloride levels below the OCD RRAL of 5,000 mg/Kg and 1,000 mg/Kg, respectively.

## 5.2 Soil Boring Samples

Laboratory analyses of the samples taken from the soil boring (CS-1 and CS-2) installed on September 2, 2015, indicate benzene concentrations of less than 0.000998 mg/Kg and less than 0.000992 mg/Kg, respectively, which are below the OCD RRAL of 10 mg/Kg for a Site ranking of 0. Soil boring samples CS-1 and CS-2 indicate BTEX concentrations of less than 0.000998 mg/Kg and less than 0.000992 mg/Kg, respectively, which are below the OCD RRAL of 50 mg/Kg for a Site ranking of 0. All soil samples collected from the soil boring that were run for laboratory analysis on September 2, 2015, were not analyzed for TPH or chloride.

Confirmation soil sample results and soil boring sample results are provided in Table 1 in Appendix C.

## 6.0 FINDINGS AND RECOMMENDATIONS

The 1009 Line Leak Site is located within the Enterprise pipeline ROW in rural Eddy County, New Mexico (32.370745N, 103.857276W). The Site is located north of an unpaved road on BLM managed lands. The Site is surrounded by native vegetation rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise 1009 line.

On March 29, 2015, Enterprise was notified of a leak detected on the 1009 line by a third party. Immediate response action was taken based on the Enterprise General Release Notification, Response and Remediation Plan. Enterprise isolated the leaking portion, and proceeded with pipeline repairs. An initial C-141 form was submitted to the New Mexico Oil Conservation Division (NMOCD) due to the gas volume associated with the release. Enterprise originally noted that there were approximately two (2) barrels (bbls) of pipeline liquid released from the leaking portion of the pipeline. The release was determined to have occurred due to internal corrosion. The initial remediation activities were conducted on April 8 and April 23, 2015. On May 19, 2015, Enterprise submitted an updated C-141 to the NMOCD stating that the volume of pipeline liquids released was estimated at approximately 29 bbls. Subsequent to approval from the NMOCD and BLM, the excavation was backfilled on August 11 through August 12, 2015, and a soil boring was installed in the vicinity of the release point on September 2, 2015, to determine the vertical extent of impact from the release of pipeline liquids.

- The primary objective of the corrective actions was to assess and reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.
- On-Site remediation included excavation of the affected area impacted by the release of natural gas pipeline liquids starting from the release point. The excavated area measures approximately 55 feet long by 15 feet wide, with an approximate depth of 15 feet at the release point. Impacted soil was removed and collected into one (1) stockpile on Site.
- The stockpile on-Site was transported to a state approved disposal facility, Lea Landfill, in Eunice, New Mexico. The excavation was backfilled with non-impacted clean fill material and returned to approximate grade.
- A total of five (5) initial confirmation soil samples were collected from the initial excavation for laboratory analyses. Based on analytical results, additional excavation was necessary. An



additional confirmation soil sample was collected from the excavation floor after the additional excavation activities. Subsequent to NMOCD and BLM approval, a soil boring was installed in the vicinity of the release point and four (4) additional samples were collected at various depths. Two samples, taken from shallower depths, were analyzed at the laboratory.

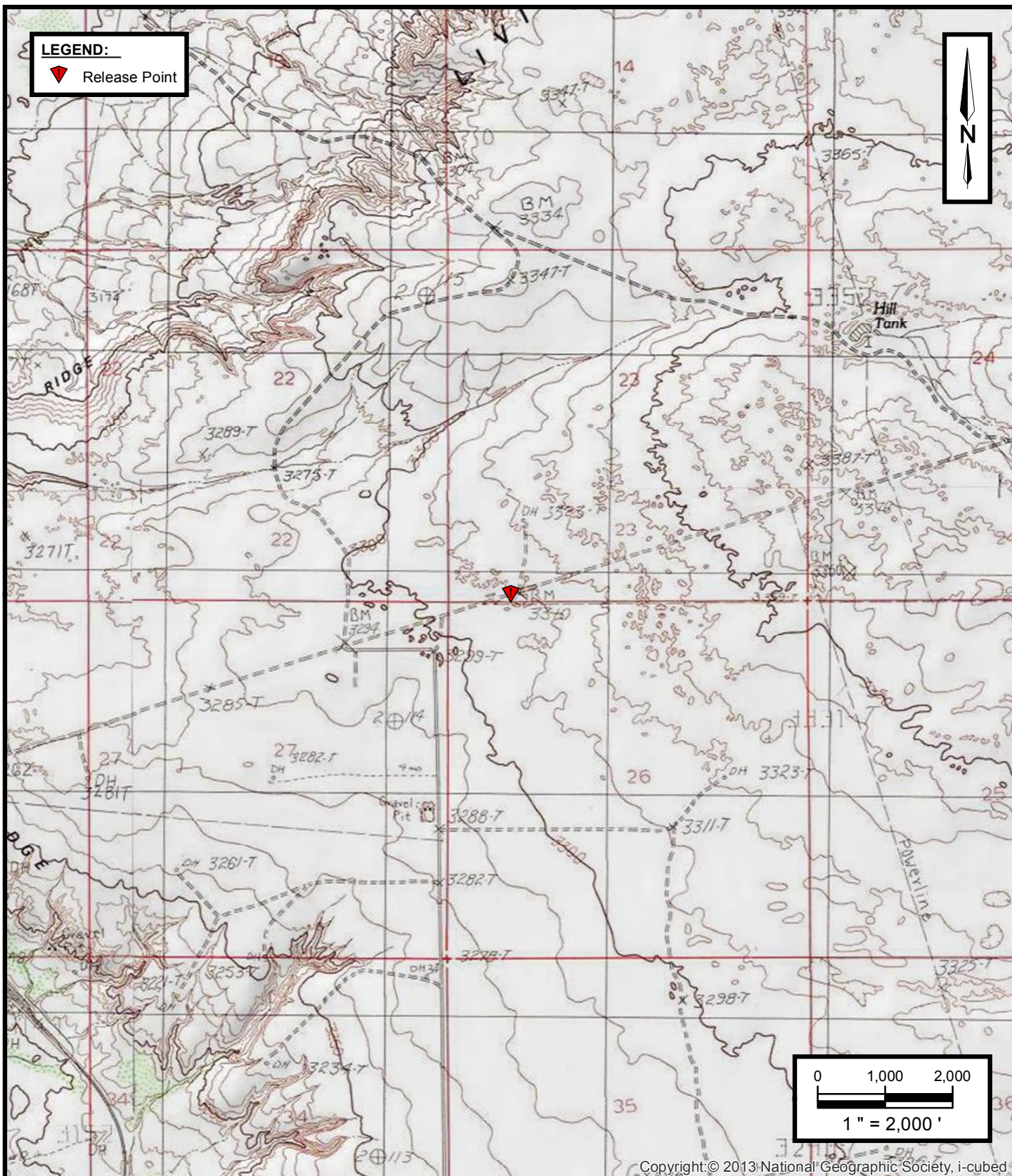
- The soils remaining in place in the vicinity of the release point exhibit benzene concentrations above the *OCD Remediation Action Levels* for a Site ranking of "0". However, based on the results of the soil samples collected from the boring (SB-1), the maximum depth of the exceeding benzene concentrations in the area of the release point is above 22 feet bgs. Based on water well research from the area, the approximate depth to the initial groundwater-bearing zone is greater than 100 feet at the Site. Therefore, based on the soil sample results from soil boring and the approximate depth to groundwater, it can be assumed that the benzene concentrations in the soils left in place from 15 feet to 22 feet bgs will not impact groundwater at the Site.

**Based on field observations, site activities and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.**



## APPENDIX A

### Figures



**Enterprise Field Services, LLC**  
**1009 Line Leak**  
 Eddy County, New Mexico  
 32.370740 N, 103.857236 W

Project No. 7250715033



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**FIGURE 1**

**Topographic Map**

Los Medanos and Livingston Ridge  
 New Mexico Quadrangles  
 1985



**LEGEND:**

▼ Release Point



Google

Imagery ©2015, DigitalGlobe, NMRGIS, Texas Orthoimagery Program, USDA Farm Service Agency

**Enterprise Field Services, LLC**  
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32.370740 N, 103.857236 W

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**FIGURE 2**

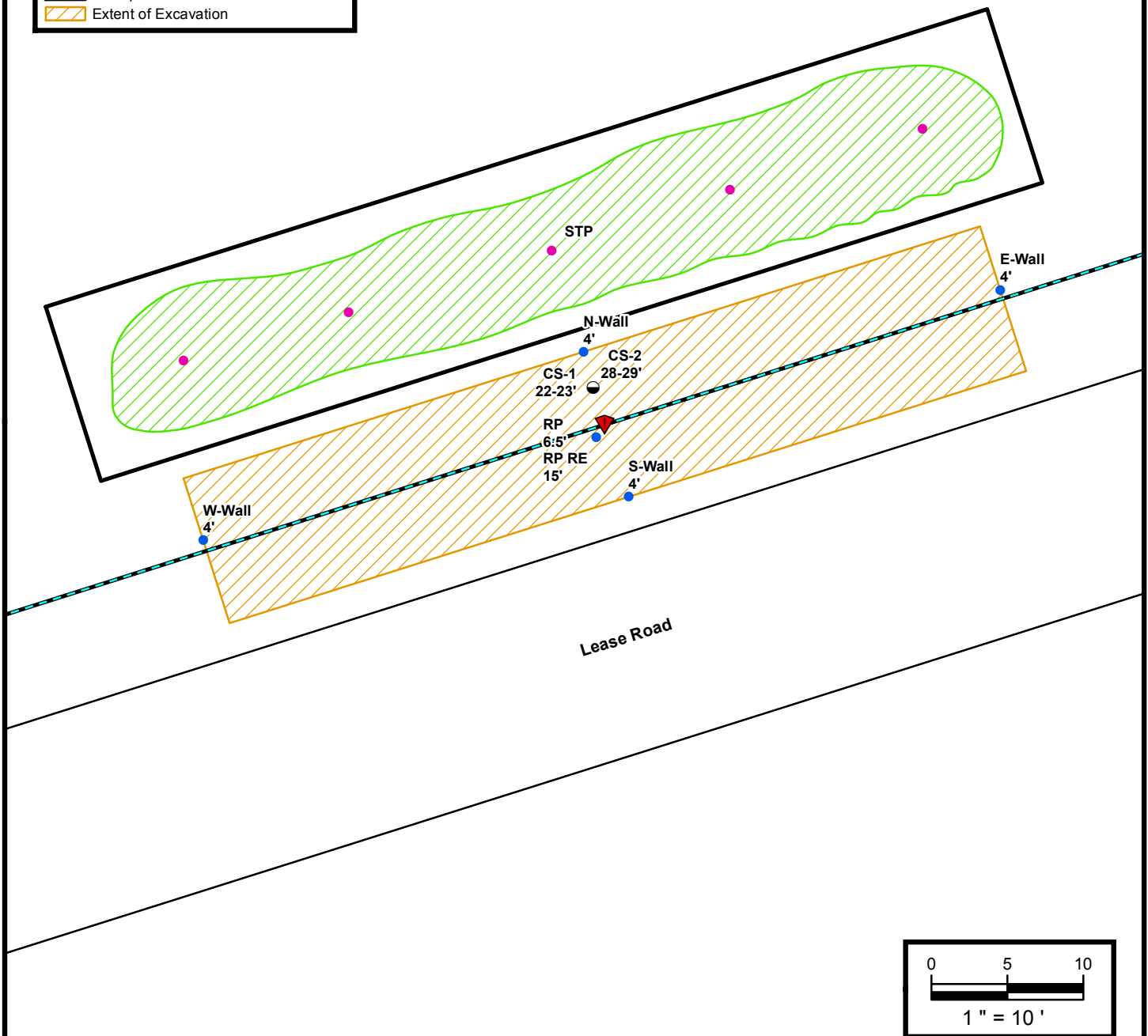
**Site Vicinity Map**

Aerial Photograph February 2014



**LEGEND:**

- Confirmation Sample Location
- Soil Boring Location (SB-1)
- Stockpile Composite Sample Location
- ▼ Release Point
- Lease Road
- 1009 Natural Gas Gathering Pipeline
- ▨ Soil Stockpile Location
- ▭ Stockpile Liner
- ▨ Extent of Excavation



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**FIGURE 3****Site Map**



## APPENDIX B

### Photographic Documentation



View of pipeline clamp during initial excavation activities.



View facing west of initial excavation activities.



View of excavation in the vicinity of the release point.



View looking northeast of stockpiled soils.



View of line located by hand digging prior to soil boring installation.



View facing west of soil boring installation in the vicinity of the release point.



## APPENDIX C

### Analytical Tables



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**1009 Line Leak**

| Sample I.D.   | Sample Date | Sample Depth<br>(feet bgs) | Benzene<br>(mg/Kg) | Toluene<br>(mg/Kg) | Ethylbenzene<br>(mg/Kg) | Xylenes<br>(mg/Kg) | BTEX<br>(mg/Kg) | TPH<br>GRO<br>(mg/Kg) | TPH<br>DRO<br>(mg/Kg) | TPH<br>GRO/DRO<br>(mg/Kg) | Chloride<br>(mg/Kg) |
|---|-------------|----------------------------|--------------------|--------------------|-------------------------|--------------------|-----------------|-----------------------|-----------------------|---------------------------|---------------------|
| New Mexico Oil Conservation Division (NMOCD) Recommended Remediation Action Levels (RRALs) (Total Ranking Score: 0) |             |                            |                    |                    |                         |                    |                 |                       |                       |                           |                     |
| New Mexico Oil Conservation Division (NMOCD)<br>Recommended Remediation Action Level                                |             |                            | 10                 | NE                 | NE                      | NE                 | 50              | NE                    | NE                    | 5,000                     | 1,000               |
| EXCAVATION CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS  |             |                            |                    |                    |                         |                    |                 |                       |                       |                           |                     |
| E-Wall  | 4/8/2015    | 4                          | <0.0200            | <b>0.0214</b>      | <0.0200                 | <b>0.0428</b>      | <b>0.0642</b>   | <4.00                 | <50.0                 | <54.0                     | <20.0               |
| W-Wall  | 4/8/2015    | 4                          | <0.0200            | <b>0.0249</b>      | <0.0200                 | <b>0.0418</b>      | <b>0.0667</b>   | <4.00                 | <50.0                 | <54.0                     | <b>96.0</b>         |
| N-Wall  | 4/8/2015    | 4                          | <b>1.32</b>        | <b>4.30</b>        | <b>2.26</b>             | <b>8.99</b>        | <b>16.87</b>    | <b>910</b>            | <b>137</b>            | <b>1,047</b>              | <b>96.0</b>         |
| S-Wall  | 4/8/2015    | 4                          | <b>1.76</b>        | <b>11.1</b>        | <b>3.59</b>             | <b>15.8</b>        | <b>32.3</b>     | <b>871</b>            | <50.0                 | <b>871</b>                | <b>769</b>          |
| RP  | 4/8/2015    | 6.5                        | <b>12.5</b>        | <b>41.7</b>        | <b>6.10</b>             | <b>31.5</b>        | <b>91.8</b>     | <b>2,300</b>          | <50.0                 | <b>2,300</b>              | <b>588</b>          |
| RP RE   | 4/22/2015   | 15                         | <b>10.7</b>        | <b>44.1</b>        | <b>6.34</b>             | <b>32.9</b>        | <b>94.04</b>    | NS                    | NS                    | NS                        | NS                  |
| SOIL BORING SOIL SAMPLE ANALYTICAL RESULTS  |             |                            |                    |                    |                         |                    |                 |                       |                       |                           |                     |
| CS-1  | 9/2/2015    | 22-23                      | <0.000998          | <0.00200           | <0.000998               | <0.000998          | <0.000998       | NS                    | NS                    | NS                        | NS                  |
| CS-2  | 9/2/2015    | 28-29                      | <0.000992          | <0.00198           | <0.000992               | <0.000992          | <0.000992       | NS                    | NS                    | NS                        | NS                  |
| STOCKPILE SOIL SAMPLE ANALYTICAL RESULTS  |             |                            |                    |                    |                         |                    |                 |                       |                       |                           |                     |
| STP   | 4/8/2015    | NA                         | <b>44.0</b>        | <b>105</b>         | <b>11.1</b>             | <b>68.9</b>        | <b>229</b>      | <b>4,730</b>          | <50.0                 | <b>4,730</b>              | <b>588</b>          |

Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level

mg/Kg- milligrams per Kilogram

NE - Not Established

NS - Not Sampled

NA- Not Applicable



## APPENDIX D

### Soil Boring Log



## Project No. 7250715033

# SB-1

Project Manager: Karolanne Toby

GW Eley:  At Completion  At Well Stabilization

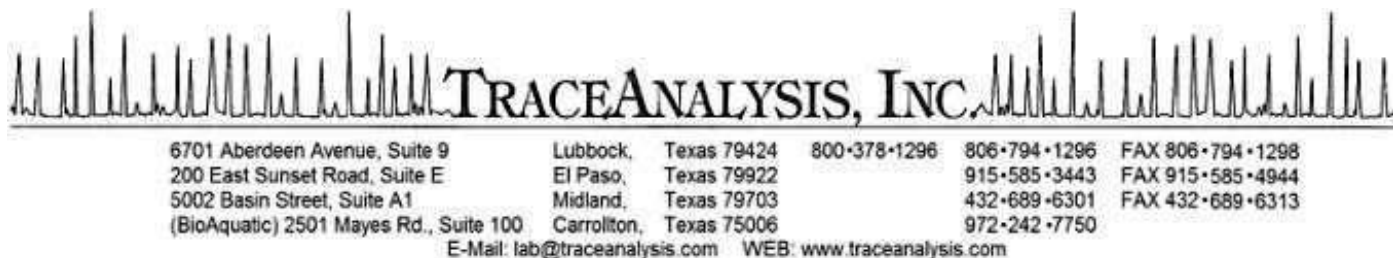
|                |            |
|----------------|------------|
| Boring Method: | Air Rotary |
|----------------|------------|

P:\Drafting\Midland\2015\7250715033\Boring Logs.dwg 10/26/15



## APPENDIX E

### Laboratory Analytical Reports & Chain-of-Custody Documentation



## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

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Dallas, Tx, 75220

Report Date: April 13, 2015

Work Order: 15040913



Project Location: Midland, TX  
Project Name: 1009 Line Leak  
Project Number: 7250715033.001

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 |
|--------|-------------|--------|------------|------------|---------------|
| 390696 | E-Wall      | soil   | 2015-04-08 | 12:13      | 2015-04-09    |
| 390697 | W-Wall      | soil   | 2015-04-08 | 12:15      | 2015-04-09    |
| 390698 | N-Wall      | soil   | 2015-04-08 | 13:20      | 2015-04-09    |
| 390699 | S-Wall      | soil   | 2015-04-08 | 13:21      | 2015-04-09    |
| 390700 | RP          | soil   | 2015-04-08 | 13:45      | 2015-04-09    |
| 390701 | STP         | soil   | 2015-04-08 | 13:50      | 2015-04-09    |

## Notes

### • Work Order 15040913: 24 Hour Rush

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

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

A handwritten signature in black ink, appearing to read "Brian Pellam". The signature is fluid and cursive, with a long horizontal stroke at the end.

---

Dr. Blair Leftwich, Director  
James Taylor, Assistant Director  
Brian Pellam, Operations Manager

# Report Contents

|  |           |
|--|-----------|
| <b>Case Narrative</b>                        | <b>5</b>  |
| <b>Analytical Report</b>                     | <b>6</b>  |
| Sample 390696 (E-Wall) . . . . .             | 6         |
| Sample 390697 (W-Wall) . . . . .             | 7         |
| Sample 390698 (N-Wall) . . . . .             | 8         |
| Sample 390699 (S-Wall) . . . . .             | 10        |
| Sample 390700 (RP) . . . . .                 | 11        |
| Sample 390701 (STP) . . . . .                | 13        |
| <b>Method Blanks</b>                         | <b>15</b> |
| QC Batch 120655 - Method Blank (1) . . . . . | 15        |
| QC Batch 120667 - Method Blank (1) . . . . . | 15        |
| QC Batch 120668 - Method Blank (1) . . . . . | 15        |
| QC Batch 120672 - Method Blank (1) . . . . . | 15        |
| QC Batch 120673 - Method Blank (1) . . . . . | 16        |
| <b>Laboratory Control Spikes</b>             | <b>17</b> |
| QC Batch 120655 - LCS (1) . . . . .          | 17        |
| QC Batch 120667 - LCS (1) . . . . .          | 17        |
| QC Batch 120668 - LCS (1) . . . . .          | 17        |
| QC Batch 120672 - LCS (1) . . . . .          | 18        |
| QC Batch 120673 - LCS (1) . . . . .          | 18        |
| <b>Matrix Spikes</b>                         | <b>20</b> |
| QC Batch 120655 - MS (1) . . . . .           | 20        |
| QC Batch 120667 - MS (1) . . . . .           | 20        |
| QC Batch 120668 - MS (1) . . . . .           | 20        |
| QC Batch 120672 - MS (1) . . . . .           | 21        |
| QC Batch 120673 - MS (1) . . . . .           | 21        |
| <b>Calibration Standards</b>                 | <b>23</b> |
| QC Batch 120655 - CCV (1) . . . . .          | 23        |
| QC Batch 120655 - CCV (2) . . . . .          | 23        |
| QC Batch 120667 - ICV (1) . . . . .          | 23        |
| QC Batch 120667 - CCV (1) . . . . .          | 23        |
| QC Batch 120668 - ICV (1) . . . . .          | 23        |
| QC Batch 120668 - CCV (1) . . . . .          | 24        |
| QC Batch 120672 - CCV (1) . . . . .          | 24        |
| QC Batch 120672 - CCV (2) . . . . .          | 24        |
| QC Batch 120673 - CCV (1) . . . . .          | 25        |
| QC Batch 120673 - CCV (2) . . . . .          | 25        |
| <b>Appendix</b>                              | <b>26</b> |
| Report Definitions . . . . .                 | 26        |
| Laboratory Certifications . . . . .          | 26        |
| Standard Flags . . . . .                     | 26        |

Attachments . . . . . 27



## Case Narrative

Samples for project 1009 Line Leak were received by TraceAnalysis, Inc. on 2015-04-09 and assigned to work order 15040913. Samples for work order 15040913 were received intact at a temperature of 2.8 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      | 102125        | 2015-04-09 at 16:00 | 120672      | 2015-04-13 at 07:48 |
| Chloride (Titration) | SM 4500-Cl B | 102117        | 2015-04-10 at 15:27 | 120667      | 2015-04-10 at 15:28 |
| Chloride (Titration) | SM 4500-Cl B | 102118        | 2015-04-10 at 15:34 | 120668      | 2015-04-10 at 15:35 |
| TPH DRO - NEW        | S 8015 D     | 102104        | 2015-04-09 at 16:30 | 120655      | 2015-04-10 at 13:23 |
| TPH GRO              | S 8015 D     | 102125        | 2015-04-09 at 16:00 | 120673      | 2015-04-13 at 07:50 |

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 15040913 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: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 6 of 27  
Midland, TX

# Analytical Report

## Sample: 390696 - E-Wall

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 120672  
Prep Batch: 102125

Analytical Method: S 8021B  
Date Analyzed: 2015-04-13  
Sample Preparation: 2015-04-09

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

| Parameter    | Flag | Cert | RL<br>Result  | Units | Dilution | RL     |
|--------------|------|------|---------------|-------|----------|--------|
| Benzene      | U    | 5    | <0.0200       | mg/Kg | 1        | 0.0200 |
| Toluene      |      | 5    | <b>0.0214</b> | mg/Kg | 1        | 0.0200 |
| Ethylbenzene | U    | 5    | <0.0200       | mg/Kg | 1        | 0.0200 |
| Xylene       |      | 5    | <b>0.0428</b> | mg/Kg | 1        | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 1.69   | mg/Kg | 1        | 2.00            | 84                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.96   | mg/Kg | 1        | 2.00            | 98                  | 70 - 130           |

## Sample: 390696 - E-Wall

Laboratory: Midland  
Analysis: Chloride (Titration)  
QC Batch: 120667  
Prep Batch: 102117

Analytical Method: SM 4500-Cl B  
Date Analyzed: 2015-04-10  
Sample Preparation: 2015-04-10

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

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  | U    |      | <20.0        | mg/Kg | 5        | 4.00 |

## Sample: 390696 - E-Wall

Laboratory: Midland  
Analysis: TPH DRO - NEW  
QC Batch: 120655  
Prep Batch: 102104

Analytical Method: S 8015 D  
Date Analyzed: 2015-04-10  
Sample Preparation: 2015-04-09

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

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | Jb   | 5    | <50.0        | mg/Kg | 1        | 50.0 |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 7 of 27  
Midland, TX

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|-------------|------|------|--------|-------|----------|--------------|------------------|-----------------|
| n-Tricosane |      |      | 81.4   | mg/Kg | 1        | 100          | 81               | 70 - 130        |

**Sample: 390696 - E-Wall**

Laboratory: Midland  
Analysis: TPH GRO  
QC Batch: 120673  
Prep Batch: 102125

Analytical Method: S 8015 D  
Date Analyzed: 2015-04-13  
Sample Preparation: 2015-04-09

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

| Parameter | Flag | Cert | RL Result | Units | Dilution | RL   |
|-----------|------|------|-----------|-------|----------|------|
| GRO       | U    | 5    | <4.00     | mg/Kg | 1        | 4.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|--------------|------------------|-----------------|
| Trifluorotoluene (TFT)       |      |      | 1.66   | mg/Kg | 1        | 2.00         | 83               | 70 - 130        |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.99   | mg/Kg | 1        | 2.00         | 100              | 70 - 130        |

**Sample: 390697 - W-Wall**

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 120672  
Prep Batch: 102125

Analytical Method: S 8021B  
Date Analyzed: 2015-04-13  
Sample Preparation: 2015-04-09

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

| Parameter    | Flag | Cert | RL Result     | Units | Dilution | RL     |
|--------------|------|------|---------------|-------|----------|--------|
| Benzene      | U    | 5    | <0.0200       | mg/Kg | 1        | 0.0200 |
| Toluene      |      | 5    | <b>0.0249</b> | mg/Kg | 1        | 0.0200 |
| Ethylbenzene | U    | 5    | <0.0200       | mg/Kg | 1        | 0.0200 |
| Xylene       |      | 5    | <b>0.0418</b> | mg/Kg | 1        | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------------------|------|------|--------|-------|----------|--------------|------------------|-----------------|
| Trifluorotoluene (TFT)       |      |      | 1.69   | mg/Kg | 1        | 2.00         | 84               | 70 - 130        |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.92   | mg/Kg | 1        | 2.00         | 96               | 70 - 130        |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 8 of 27  
Midland, TX

**Sample: 390697 - W-Wall**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2015-04-10   | Analyzed By: | EM  |
| QC Batch:   | 120667               | Sample Preparation: | 2015-04-10   | Prepared By: | EM  |
| Prep Batch: | 102117               |                     |              |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | 96.0         | mg/Kg | 5        | 4.00 |

**Sample: 390697 - W-Wall**

|             |               |                     |            |              |     |
|-------------|---------------|---------------------|------------|--------------|-----|
| Laboratory: | Midland       | Analytical Method:  | S 8015 D   | Prep Method: | N/A |
| Analysis:   | TPH DRO - NEW | Date Analyzed:      | 2015-04-10 | Analyzed By: | SC  |
| QC Batch:   | 120655        | Sample Preparation: | 2015-04-09 | Prepared By: | SC  |
| Prep Batch: | 102104        |                     |            |              |     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | U    | 5    | <50.0        | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 74.5   | mg/Kg | 1        | 100             | 74                  | 70 - 130           |

**Sample: 390697 - W-Wall**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland | Analytical Method:  | S 8015 D   | Prep Method: | S 5035 |
| Analysis:   | TPH GRO | Date Analyzed:      | 2015-04-13 | Analyzed By: | AK     |
| QC Batch:   | 120673  | Sample Preparation: | 2015-04-09 | Prepared By: | AK     |
| Prep Batch: | 102125  |                     |            |              |        |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       | U    | 5    | <4.00        | mg/Kg | 1        | 4.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 1.67   | mg/Kg | 1        | 2.00            | 84                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.98   | mg/Kg | 1        | 2.00            | 99                  | 70 - 130           |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 9 of 27  
Midland, TX

**Sample: 390698 - N-Wall**

Laboratory: Midland

Analysis: BTEX

QC Batch: 120672

Prep Batch: 102125

Analytical Method: S 8021B

Date Analyzed: 2015-04-13

Sample Preparation: 2015-04-09

Prep Method: S 5035

Analyzed By: AK

Prepared By: AK

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      |      | 5    | <b>1.32</b>  | mg/Kg | 50       | 0.0200 |
| Toluene      |      | 5    | <b>4.30</b>  | mg/Kg | 50       | 0.0200 |
| Ethylbenzene |      | 5    | <b>2.26</b>  | mg/Kg | 50       | 0.0200 |
| Xylene       |      | 5    | <b>8.99</b>  | mg/Kg | 50       | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 104    | mg/Kg | 50       | 100             | 104                 | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 91.7   | mg/Kg | 50       | 100             | 92                  | 70 - 130           |

**Sample: 390698 - N-Wall**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 120667

Prep Batch: 102117

Analytical Method: SM 4500-Cl B

Date Analyzed: 2015-04-10

Sample Preparation: 2015-04-10

Prep Method: N/A

Analyzed By: EM

Prepared By: EM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | <b>96.0</b>  | mg/Kg | 5        | 4.00 |

**Sample: 390698 - N-Wall**

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 120655

Prep Batch: 102104

Analytical Method: S 8015 D

Date Analyzed: 2015-04-10

Sample Preparation: 2015-04-09

Prep Method: N/A

Analyzed By: SC

Prepared By: SC

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       |      | 5    | <b>137</b>   | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 88.1   | mg/Kg | 1        | 100             | 88                  | 70 - 130           |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 10 of 27  
Midland, TX

**Sample: 390698 - N-Wall**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland | Analytical Method:  | S 8015 D   | Prep Method: | S 5035 |
| Analysis:   | TPH GRO | Date Analyzed:      | 2015-04-13 | Analyzed By: | AK     |
| QC Batch:   | 120673  | Sample Preparation: | 2015-04-09 | Prepared By: | AK     |
| Prep Batch: | 102125  |                     |            |              |        |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 5    | <b>910</b>   | mg/Kg | 50       | 4.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 80.8   | mg/Kg | 50       | 100             | 81                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 112    | mg/Kg | 50       | 100             | 112                 | 70 - 130           |

**Sample: 390699 - S-Wall**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland | Analytical Method:  | S 8021B    | Prep Method: | S 5035 |
| Analysis:   | BTEX    | Date Analyzed:      | 2015-04-13 | Analyzed By: | AK     |
| QC Batch:   | 120672  | Sample Preparation: | 2015-04-09 | Prepared By: | AK     |
| Prep Batch: | 102125  |                     |            |              |        |

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      |      | 5    | <b>1.76</b>  | mg/Kg | 50       | 0.0200 |
| Toluene      |      | 5    | <b>11.1</b>  | mg/Kg | 50       | 0.0200 |
| Ethylbenzene |      | 5    | <b>3.59</b>  | mg/Kg | 50       | 0.0200 |
| Xylene       |      | 5    | <b>15.8</b>  | mg/Kg | 50       | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 83.2   | mg/Kg | 50       | 100             | 83                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 87.8   | mg/Kg | 50       | 100             | 88                  | 70 - 130           |

**Sample: 390699 - S-Wall**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2015-04-10   | Analyzed By: | EM  |
| QC Batch:   | 120667               | Sample Preparation: | 2015-04-10   | Prepared By: | EM  |
| Prep Batch: | 102117               |                     |              |              |     |

*continued ...*

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 11 of 27  
Midland, TX

*sample 390699 continued ...*

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
| Chloride  |      |      | <b>769</b>   | mg/Kg | 5        | 4.00 |

**Sample: 390699 - S-Wall**

|             |               |                     |            |              |     |
|-------------|---------------|---------------------|------------|--------------|-----|
| Laboratory: | Midland       |                     |            |              |     |
| Analysis:   | TPH DRO - NEW | Analytical Method:  | S 8015 D   | Prep Method: | N/A |
| QC Batch:   | 120655        | Date Analyzed:      | 2015-04-10 | Analyzed By: | SC  |
| Prep Batch: | 102104        | Sample Preparation: | 2015-04-09 | Prepared By: | SC  |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | Jb   | 5    | <50.0        | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 89.5   | mg/Kg | 1        | 100             | 90                  | 70 - 130           |

**Sample: 390699 - S-Wall**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland |                     |            |              |        |
| Analysis:   | TPH GRO | Analytical Method:  | S 8015 D   | Prep Method: | S 5035 |
| QC Batch:   | 120673  | Date Analyzed:      | 2015-04-13 | Analyzed By: | AK     |
| Prep Batch: | 102125  | Sample Preparation: | 2015-04-09 | Prepared By: | AK     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 5    | <b>871</b>   | mg/Kg | 50       | 4.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 79.6   | mg/Kg | 50       | 100             | 80                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 111    | mg/Kg | 50       | 100             | 111                 | 70 - 130           |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 12 of 27  
Midland, TX

**Sample: 390700 - RP**

Laboratory: Midland

Analysis: BTEX

QC Batch: 120672

Prep Batch: 102125

Analytical Method: S 8021B

Date Analyzed: 2015-04-13

Sample Preparation: 2015-04-09

Prep Method: S 5035

Analyzed By: AK

Prepared By: AK

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      |      | 5    | <b>12.5</b>  | mg/Kg | 50       | 0.0200 |
| Toluene      |      | 5    | <b>41.7</b>  | mg/Kg | 50       | 0.0200 |
| Ethylbenzene |      | 5    | <b>6.10</b>  | mg/Kg | 50       | 0.0200 |
| Xylene       |      | 5    | <b>31.5</b>  | mg/Kg | 50       | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 79.5   | mg/Kg | 50       | 100             | 80                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 91.3   | mg/Kg | 50       | 100             | 91                  | 70 - 130           |

**Sample: 390700 - RP**

Laboratory: Midland

Analysis: Chloride (Titration)

QC Batch: 120668

Prep Batch: 102118

Analytical Method: SM 4500-Cl B

Date Analyzed: 2015-04-10

Sample Preparation: 2015-04-10

Prep Method: N/A

Analyzed By: EM

Prepared By: EM

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Chloride  |      |      | <b>588</b>   | mg/Kg | 5        | 4.00 |

**Sample: 390700 - RP**

Laboratory: Midland

Analysis: TPH DRO - NEW

QC Batch: 120655

Prep Batch: 102104

Analytical Method: S 8015 D

Date Analyzed: 2015-04-10

Sample Preparation: 2015-04-09

Prep Method: N/A

Analyzed By: SC

Prepared By: SC

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | Jb   | 5    | <50.0        | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 83.7   | mg/Kg | 1        | 100             | 84                  | 70 - 130           |



Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 13 of 27  
Midland, TX

**Sample: 390700 - RP**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland | Analytical Method:  | S 8015 D   | Prep Method: | S 5035 |
| Analysis:   | TPH GRO | Date Analyzed:      | 2015-04-13 | Analyzed By: | AK     |
| QC Batch:   | 120673  | Sample Preparation: | 2015-04-09 | Prepared By: | AK     |
| Prep Batch: | 102125  |                     |            |              |        |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 5    | <b>2300</b>  | mg/Kg | 50       | 4.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 80.1   | mg/Kg | 50       | 100             | 80                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 102    | mg/Kg | 50       | 100             | 102                 | 70 - 130           |

**Sample: 390701 - STP**

|             |         |                     |            |              |        |
|-------------|---------|---------------------|------------|--------------|--------|
| Laboratory: | Midland | Analytical Method:  | S 8021B    | Prep Method: | S 5035 |
| Analysis:   | BTEX    | Date Analyzed:      | 2015-04-13 | Analyzed By: | AK     |
| QC Batch:   | 120672  | Sample Preparation: | 2015-04-09 | Prepared By: | AK     |
| Prep Batch: | 102125  |                     |            |              |        |

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      |      | 5    | <b>44.0</b>  | mg/Kg | 50       | 0.0200 |
| Toluene      |      | 5    | <b>105</b>   | mg/Kg | 50       | 0.0200 |
| Ethylbenzene |      | 5    | <b>11.1</b>  | mg/Kg | 50       | 0.0200 |
| Xylene       |      | 5    | <b>68.9</b>  | mg/Kg | 50       | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 87.6   | mg/Kg | 50       | 100             | 88                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 94.1   | mg/Kg | 50       | 100             | 94                  | 70 - 130           |

**Sample: 390701 - STP**

|             |                      |                     |              |              |     |
|-------------|----------------------|---------------------|--------------|--------------|-----|
| Laboratory: | Midland              | Analytical Method:  | SM 4500-Cl B | Prep Method: | N/A |
| Analysis:   | Chloride (Titration) | Date Analyzed:      | 2015-04-10   | Analyzed By: | EM  |
| QC Batch:   | 120668               | Sample Preparation: | 2015-04-10   | Prepared By: | EM  |
| Prep Batch: | 102118               |                     |              |              |     |

*continued ...*

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 14 of 27  
Midland, TX

*sample 390701 continued ...*

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
| Chloride  |      |      | <b>588</b>   | mg/Kg | 5        | 4.00 |

**Sample: 390701 - STP**

|             |               |                     |            |                  |
|-------------|---------------|---------------------|------------|------------------|
| Laboratory: | Midland       |                     |            |                  |
| Analysis:   | TPH DRO - NEW | Analytical Method:  | S 8015 D   | Prep Method: N/A |
| QC Batch:   | 120655        | Date Analyzed:      | 2015-04-10 | Analyzed By: SC  |
| Prep Batch: | 102104        | Sample Preparation: | 2015-04-09 | Prepared By: SC  |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| DRO       | Jb   | 5    | <50.0        | mg/Kg | 1        | 50.0 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 85.5   | mg/Kg | 1        | 100             | 86                  | 70 - 130           |

**Sample: 390701 - STP**

|             |         |                     |            |                     |
|-------------|---------|---------------------|------------|---------------------|
| Laboratory: | Midland |                     |            |                     |
| Analysis:   | TPH GRO | Analytical Method:  | S 8015 D   | Prep Method: S 5035 |
| QC Batch:   | 120673  | Date Analyzed:      | 2015-04-13 | Analyzed By: AK     |
| Prep Batch: | 102125  | Sample Preparation: | 2015-04-09 | Prepared By: AK     |

| Parameter | Flag | Cert | RL<br>Result | Units | Dilution | RL   |
|-----------|------|------|--------------|-------|----------|------|
| GRO       |      | 5    | <b>4730</b>  | mg/Kg | 50       | 4.00 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 82.0   | mg/Kg | 50       | 100             | 82                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 112    | mg/Kg | 50       | 100             | 112                 | 70 - 130           |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 15 of 27  
Midland, TX

## Method Blanks

### Method Blank (1)      QC Batch: 120655

QC Batch: 120655      Date Analyzed: 2015-04-10      Analyzed By: SC  
Prep Batch: 102104      QC Preparation: 2015-04-09      Prepared By: SC

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| DRO       |      | 5    | 9.91          | mg/Kg | 50 |

| Surrogate   | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|-------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Tricosane |      |      | 100    | mg/Kg | 1        | 100             | 100                 | 70 - 130           |

### Method Blank (1)      QC Batch: 120667

QC Batch: 120667      Date Analyzed: 2015-04-10      Analyzed By: EM  
Prep Batch: 102117      QC Preparation: 2015-04-10      Prepared By: EM

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

### Method Blank (1)      QC Batch: 120668

QC Batch: 120668      Date Analyzed: 2015-04-10      Analyzed By: EM  
Prep Batch: 102118      QC Preparation: 2015-04-10      Prepared By: EM

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

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 16 of 27  
Midland, TX

**Method Blank (1)**      QC Batch: 120672

QC Batch: 120672  
Prep Batch: 102125

Date Analyzed: 2015-04-13  
QC Preparation: 2015-04-09

Analyzed By: AK  
Prepared By: AK

| Parameter    | Flag | Cert | MDL<br>Result | Units | RL   |
|--------------|------|------|---------------|-------|------|
| Benzene      |      | 5    | <0.00533      | mg/Kg | 0.02 |
| Toluene      |      | 5    | <0.00645      | mg/Kg | 0.02 |
| Ethylbenzene |      | 5    | <0.0116       | mg/Kg | 0.02 |
| Xylene       |      | 5    | <0.00874      | mg/Kg | 0.02 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 1.72   | mg/Kg | 1        | 2.00            | 86                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.83   | mg/Kg | 1        | 2.00            | 92                  | 70 - 130           |

**Method Blank (1)**      QC Batch: 120673

QC Batch: 120673  
Prep Batch: 102125

Date Analyzed: 2015-04-13  
QC Preparation: 2015-04-09

Analyzed By: AK  
Prepared By: AK

| Parameter | Flag | Cert | MDL<br>Result | Units | RL |
|-----------|------|------|---------------|-------|----|
| GRO       |      | 5    | <2.32         | mg/Kg | 4  |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 1.70   | mg/Kg | 1        | 2.00            | 85                  | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.91   | mg/Kg | 1        | 2.00            | 96                  | 70 - 130           |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 17 of 27  
Midland, TX

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 120655  
Prep Batch: 102104

Date Analyzed: 2015-04-10  
QC Preparation: 2015-04-09

Analyzed By: SC  
Prepared By: SC

| Param | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| DRO   |   | 5 | 239           | mg/Kg | 1    | 250             | 9.91             | 92   | 70 - 130      |

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   |   | 5 | 231            | mg/Kg | 1    | 250             | 9.91             | 88   | 70 - 130      | 3   | 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 | 104           | 105            | mg/Kg | 1    | 100             | 104         | 105          | 70 - 130      |

### Laboratory Control Spike (LCS-1)

QC Batch: 120667  
Prep Batch: 102117

Date Analyzed: 2015-04-10  
QC Preparation: 2015-04-10

Analyzed By: EM  
Prepared By: EM

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 2500          | mg/Kg | 5    | 2500            | <19.2            | 100  | 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 |   |   | 2500           | mg/Kg | 5    | 2500            | <19.2            | 100  | 85 - 115      | 0   | 20           |

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

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 18 of 27  
Midland, TX

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

QC Batch: 120668  
Prep Batch: 102118

Date Analyzed: 2015-04-10  
QC Preparation: 2015-04-10

Analyzed By: EM  
Prepared By: EM

| Param    | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 2550          | mg/Kg | 5    | 2500            | <19.2            | 102  | 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 |   |   | 2350           | mg/Kg | 5    | 2500            | <19.2            | 94   | 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: 120672  
Prep Batch: 102125

Date Analyzed: 2015-04-13  
QC Preparation: 2015-04-09

Analyzed By: AK  
Prepared By: AK

| Param        | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|--------------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Benzene      |   | 5 | 1.74          | mg/Kg | 1    | 2.00            | <0.00533         | 87   | 70 - 130      |
| Toluene      |   | 5 | 1.74          | mg/Kg | 1    | 2.00            | <0.00645         | 87   | 70 - 130      |
| Ethylbenzene |   | 5 | 1.74          | mg/Kg | 1    | 2.00            | <0.0116          | 87   | 70 - 130      |
| Xylene       |   | 5 | 5.15          | mg/Kg | 1    | 6.00            | <0.00874         | 86   | 70 - 130      |

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      |   | 5 | 1.72           | mg/Kg | 1    | 2.00            | <0.00533         | 86   | 70 - 130      | 1   | 20           |
| Toluene      |   | 5 | 1.71           | mg/Kg | 1    | 2.00            | <0.00645         | 86   | 70 - 130      | 2   | 20           |
| Ethylbenzene |   | 5 | 1.70           | mg/Kg | 1    | 2.00            | <0.0116          | 85   | 70 - 130      | 2   | 20           |
| Xylene       |   | 5 | 5.07           | mg/Kg | 1    | 6.00            | <0.00874         | 84   | 70 - 130      | 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)       | 1.68          | 1.60           | mg/Kg | 1    | 2.00            | 84          | 80           | 70 - 130      |
| 4-Bromofluorobenzene (4-BFB) | 1.81          | 1.79           | mg/Kg | 1    | 2.00            | 90          | 90           | 70 - 130      |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 19 of 27  
Midland, TX

### Laboratory Control Spike (LCS-1)

QC Batch: 120673  
Prep Batch: 102125

Date Analyzed: 2015-04-13  
QC Preparation: 2015-04-09

Analyzed By: AK  
Prepared By: AK

| Param | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| GRO   |   | 5 | 15.1          | mg/Kg | 1    | 20.0            | <2.32            | 76   | 70 - 130      |

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   |   | 5 | 15.8           | mg/Kg | 1    | 20.0            | <2.32            | 79   | 70 - 130      | 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 |
|------------------------------|---------------|----------------|-------|------|-----------------|-------------|--------------|---------------|
| Trifluorotoluene (TFT)       | 1.65          | 1.71           | mg/Kg | 1    | 2.00            | 82          | 86           | 70 - 130      |
| 4-Bromofluorobenzene (4-BFB) | 2.03          | 2.08           | mg/Kg | 1    | 2.00            | 102         | 104          | 70 - 130      |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 20 of 27  
Midland, TX

## Matrix Spikes

**Matrix Spike (MS-1)**      Spiked Sample: 390696

QC Batch: 120655  
Prep Batch: 102104

Date Analyzed: 2015-04-10  
QC Preparation: 2015-04-09

Analyzed By: SC  
Prepared By: SC

| Param | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| DRO   |   | 5 | 209          | mg/Kg | 1    | 250             | 7.97             | 80   | 70 - 130      |

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   |   | 5 | 212           | mg/Kg | 1    | 250             | 7.97             | 82   | 70 - 130      | 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 |
|-------------|--------------|---------------|-------|------|-----------------|------------|-------------|---------------|
| n-Tricosane | 84.6         | 76.7          | mg/Kg | 1    | 100             | 85         | 77          | 70 - 130      |

**Matrix Spike (MS-1)**      Spiked Sample: 390699

QC Batch: 120667  
Prep Batch: 102117

Date Analyzed: 2015-04-10  
QC Preparation: 2015-04-10

Analyzed By: EM  
Prepared By: EM

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 3360         | mg/Kg | 5    | 2500            | 769              | 104  | 78.9 - 121    |

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 |   |   | 3170          | mg/Kg | 5    | 2500            | 769              | 96   | 78.9 - 121    | 6   | 20           |

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



Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 21 of 27  
Midland, TX

**Matrix Spike (MS-1)** Spiked Sample: 390734

QC Batch: 120668  
Prep Batch: 102118

Date Analyzed: 2015-04-10  
QC Preparation: 2015-04-10

Analyzed By: EM  
Prepared By: EM

| Param    | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|----------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Chloride |   |   | 2550         | mg/Kg | 5    | 2500            | <19.2            | 102  | 78.9 - 121    |

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 |   |   | 2450          | mg/Kg | 5    | 2500            | <19.2            | 98   | 78.9 - 121    | 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: 390696

QC Batch: 120672  
Prep Batch: 102125

Date Analyzed: 2015-04-13  
QC Preparation: 2015-04-09

Analyzed By: AK  
Prepared By: AK

| Param        | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|--------------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Benzene      |   | 5 | 1.45         | mg/Kg | 1    | 2.00            | <0.00533         | 72   | 70 - 130      |
| Toluene      |   | 5 | 1.56         | mg/Kg | 1    | 2.00            | 0.0214           | 77   | 70 - 130      |
| Ethylbenzene |   | 5 | 1.58         | mg/Kg | 1    | 2.00            | <0.0116          | 79   | 70 - 130      |
| Xylene       |   | 5 | 4.72         | mg/Kg | 1    | 6.00            | 0.0428           | 78   | 70 - 130      |

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      |   | 5 | 1.59          | mg/Kg | 1    | 2.00            | <0.00533         | 80   | 70 - 130      | 9   | 20           |
| Toluene      |   | 5 | 1.71          | mg/Kg | 1    | 2.00            | 0.0214           | 84   | 70 - 130      | 9   | 20           |
| Ethylbenzene |   | 5 | 1.77          | mg/Kg | 1    | 2.00            | <0.0116          | 88   | 70 - 130      | 11  | 20           |
| Xylene       |   | 5 | 5.33          | mg/Kg | 1    | 6.00            | 0.0428           | 88   | 70 - 130      | 12  | 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)       | 1.61         | 1.63          | mg/Kg | 1    | 2               | 80         | 82          | 70 - 130      |
| 4-Bromofluorobenzene (4-BFB) | 1.86         | 1.88          | mg/Kg | 1    | 2               | 93         | 94          | 70 - 130      |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 22 of 27  
Midland, TX

**Matrix Spike (MS-1)**      Spiked Sample: 390696

QC Batch: 120673  
Prep Batch: 102125

Date Analyzed: 2015-04-13  
QC Preparation: 2015-04-09

Analyzed By: AK  
Prepared By: AK

| Param | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|-------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| GRO   |   | 5 | 16.8         | mg/Kg | 1    | 20.0            | <2.32            | 84   | 70 - 130      |

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   |   | 5 | 16.9          | mg/Kg | 1    | 20.0            | <2.32            | 84   | 70 - 130      | 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)       | 1.60         | 1.56          | mg/Kg | 1    | 2               | 80         | 78          | 70 - 130      |
| 4-Bromofluorobenzene (4-BFB) | 2.06         | 2.03          | mg/Kg | 1    | 2               | 103        | 102         | 70 - 130      |

# Calibration Standards

## Standard (CCV-1)

| QC Batch: 120655 |      |      | Date Analyzed: 2015-04-10 |                       |                        | Analyzed By: SC             |                               |                  |
|------------------|------|------|---------------------------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| 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              |      | 5    | mg/Kg                     | 250                   | 238                    | 95                          | 80 - 120                      | 2015-04-10       |

## Standard (CCV-2)

| QC Batch: 120655 |      |      | Date Analyzed: 2015-04-10 |                       |                        | Analyzed By: SC             |                               |                  |
|------------------|------|------|---------------------------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| 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              |      | 5    | mg/Kg                     | 250                   | 257                    | 103                         | 80 - 120                      | 2015-04-10       |

## Standard (ICV-1)

| QC Batch: 120667 |      |      | Date Analyzed: 2015-04-10 |                       |                        | Analyzed By: EM             |                               |                  |
|------------------|------|------|---------------------------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| 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                      | 2015-04-10       |

## Standard (CCV-1)

| QC Batch: 120667 |      |      | Date Analyzed: 2015-04-10 |                       |                        | Analyzed By: EM             |                               |                  |
|------------------|------|------|---------------------------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| 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                      | 2015-04-10       |

Report Date: April 13, 2015  
7250715033.001

Work Order: 15040913  
1009 Line Leak

Page Number: 24 of 27  
Midland, TX

#### Standard (ICV-1)

QC Batch: 120668

Date Analyzed: 2015-04-10

Analyzed By: EM

| 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                   | 99.0                   | 99                          | 85 - 115                      | 2015-04-10       |

#### Standard (CCV-1)

QC Batch: 120668

Date Analyzed: 2015-04-10

Analyzed By: EM

| 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                      | 2015-04-10       |

#### Standard (CCV-1)

QC Batch: 120672

Date Analyzed: 2015-04-13

Analyzed By: AK

| Param        | Flag | Cert | Units | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|--------------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene      |      | 5    | mg/kg | 0.100                 | 0.0871                 | 87                          | 80 - 120                      | 2015-04-13       |
| Toluene      |      | 5    | mg/kg | 0.100                 | 0.0873                 | 87                          | 80 - 120                      | 2015-04-13       |
| Ethylbenzene |      | 5    | mg/kg | 0.100                 | 0.0854                 | 85                          | 80 - 120                      | 2015-04-13       |
| Xylene       |      | 5    | mg/kg | 0.300                 | 0.256                  | 85                          | 80 - 120                      | 2015-04-13       |

#### Standard (CCV-2)

QC Batch: 120672

Date Analyzed: 2015-04-13

Analyzed By: AK

| Param        | Flag | Cert | Units | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|--------------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene      |      | 5    | mg/kg | 0.100                 | 0.0879                 | 88                          | 80 - 120                      | 2015-04-13       |
| Toluene      |      | 5    | mg/kg | 0.100                 | 0.0870                 | 87                          | 80 - 120                      | 2015-04-13       |
| Ethylbenzene |      | 5    | mg/kg | 0.100                 | 0.0868                 | 87                          | 80 - 120                      | 2015-04-13       |
| Xylene       |      | 5    | mg/kg | 0.300                 | 0.258                  | 86                          | 80 - 120                      | 2015-04-13       |

Standard (CCV-1)

|                  |      |      |       |                           |                        |                             |                               |                  |
|------------------|------|------|-------|---------------------------|------------------------|-----------------------------|-------------------------------|------------------|
| QC Batch: 120673 |      |      |       | Date Analyzed: 2015-04-13 |                        |                             | Analyzed By: AK               |                  |
| Param            | Flag | Cert | Units | CCVs<br>True<br>Conc.     | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
| GRO              |      | 5    | mg/Kg | 1.00                      | 1.05                   | 105                         | 80 - 120                      | 2015-04-13       |

Standard (CCV-2)

|                  |      |      |       |                           |                        |                             |                               |                  |
|------------------|------|------|-------|---------------------------|------------------------|-----------------------------|-------------------------------|------------------|
| QC Batch: 120673 |      |      |       | Date Analyzed: 2015-04-13 |                        |                             | Analyzed By: AK               |                  |
| Param            | Flag | Cert | Units | CCVs<br>True<br>Conc.     | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
| GRO              |      | 5    | mg/Kg | 1.00                      | 1.03                   | 103                         | 80 - 120                      | 2015-04-13       |

# 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       |
| 1 | PJLA                 | L14-93               | Lubbock             |
| 2 | Kansas               | Kansas E-10317       | Lubbock             |
| 3 | LELAP                | LELAP-02003          | Lubbock             |
| 4 | NELAP                | T104704219-15-11     | Lubbock             |
| 5 | NELAP                | T104704392-14-8      | Midland             |
| 6 |                      | 2014-018             | Lubbock             |

## Standard Flags

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

---

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

---

**Attachments**

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

UO# 15040913



**APEX**

Office Location Midland, TX

Laboratory: Trace Analysis

Address: 5002 Basin St.

Midland, TX 79703

Contact: \_\_\_\_\_

Phone: \_\_\_\_\_

Project Manager Karolanne Tobey PO/ISO #: \_\_\_\_\_

Sampler's Name

Sampler's Signature

Karolanne Tobey

Proj. No. 7250715033.001

Project Name 1009 Line Leak

No/Type of Containers

Identifying Marks of Sample(s)

VOA

Depth

Start

End

G r a b

C o m p

P/O

250

1 L

A/G

G l a s s

J a r

P/O

Lab Sample ID (Lab Use Only)

4'

4'

4'

4'

6.5'

—

—

E-wall

W-wall

N-wall

S-wall

R P

S TP

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CHAIN OF CUSTODY RECORD

Lab use only  
Due Date:

Temp. of coolers  
when received (C°): 2.8

1 2 3 4 5

Page \_\_\_\_\_ of \_\_\_\_\_

ANALYSIS REQUESTED

TPH GPD/DPO

Chlorides

BTEX 802.8

390696

390697

390698

390699

390700

390701

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NOTES:

Time:

Date:

Received by: (Signature)

Time:

Date:

Received by: (Signature)

Time:

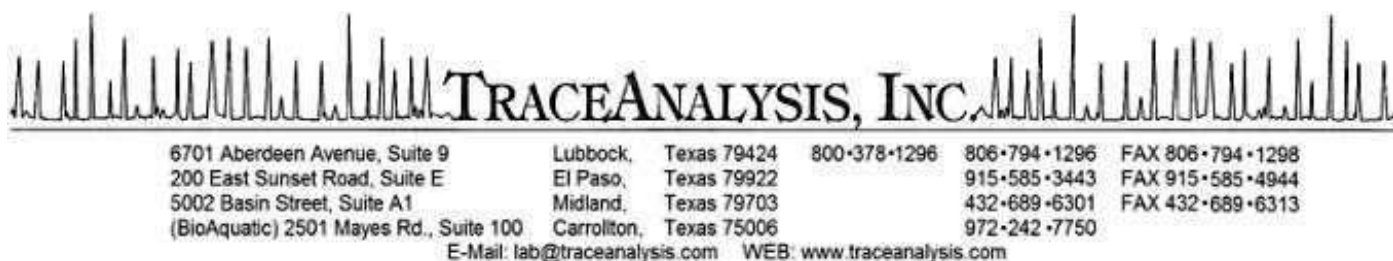
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Time:





## Certifications

WBE HUB NCTRCA DBE NELAP DoD LELAP Kansas Oklahoma ISO 17025

# Analytical and Quality Control Report

(Corrected Report)

Karolanne Toby  
APEX/Titan  
2351 W. Northwest Hwy.  
Suite 3321  
Dallas, Tx, 75220

Report Date: April 29, 2015

Work Order: 15042303



Project Location: Midland, TX  
Project Name: 1009 Line Leak  
Project Number: 7250715033.001

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

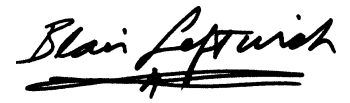
| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|--------|-------------|--------|------------|------------|---------------|
| 391510 | RP RE       | soil   | 2015-04-22 | 11:45      | 2015-04-23    |

### Report Corrections (Work Order 15042303)

- 4/29/15: Re-analyzed BTEX for 391510 at clients request.

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

A handwritten signature in black ink, reading "Blair Leftwich". The signature is written in a cursive style with a prominent horizontal stroke at the end.

---

Dr. Blair Leftwich, Director  
James Taylor, Assistant Director  
Brian Pellam, Operations Manager

# Report Contents

|  |           |
|--|-----------|
| <b>Case Narrative</b>                        | <b>4</b>  |
| <b>Analytical Report</b>                     | <b>5</b>  |
| Sample 391510 (RP RE) . . . . .              | 5         |
| <b>Method Blanks</b>                         | <b>6</b>  |
| QC Batch 121128 - Method Blank (1) . . . . . | 6         |
| <b>Laboratory Control Spikes</b>             | <b>7</b>  |
| QC Batch 121128 - LCS (1) . . . . .          | 7         |
| <b>Matrix Spikes</b>                         | <b>8</b>  |
| QC Batch 121128 - MS (1) . . . . .           | 8         |
| <b>Calibration Standards</b>                 | <b>9</b>  |
| QC Batch 121128 - CCV (2) . . . . .          | 9         |
| QC Batch 121128 - CCV (3) . . . . .          | 9         |
| <b>Appendix</b>                              | <b>10</b> |
| Report Definitions . . . . .                 | 10        |
| Laboratory Certifications . . . . .          | 10        |
| Standard Flags . . . . .                     | 10        |
| Attachments . . . . .                        | 10        |

## Case Narrative

Samples for project 1009 Line Leak were received by TraceAnalysis, Inc. on 2015-04-23 and assigned to work order 15042303. Samples for work order 15042303 were received intact at a temperature of 5.7 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 | 102466        | 2015-04-27 at 15:00 | 121128      | 2015-04-29 at 07:11 |

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 15042303 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: April 29, 2015  
7250715033.001

Work Order: 15042303  
1009 Line Leak

Page Number: 5 of 11  
Midland, TX

# Analytical Report

## Sample: 391510 - RP RE

Laboratory: Midland  
Analysis: BTEX  
QC Batch: 121128  
Prep Batch: 102466

Analytical Method: S 8021B  
Date Analyzed: 2015-04-29  
Sample Preparation: 2015-04-27

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

| Parameter    | Flag | Cert | RL<br>Result | Units | Dilution | RL     |
|--------------|------|------|--------------|-------|----------|--------|
| Benzene      |      | 1    | <b>10.7</b>  | mg/Kg | 50       | 0.0200 |
| Toluene      |      | 1    | <b>44.1</b>  | mg/Kg | 50       | 0.0200 |
| Ethylbenzene |      | 1    | <b>6.34</b>  | mg/Kg | 50       | 0.0200 |
| Xylene       |      | 1    | <b>32.9</b>  | mg/Kg | 50       | 0.0200 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 111    | mg/Kg | 50       | 100             | 111                 | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 102    | mg/Kg | 50       | 100             | 102                 | 70 - 130           |

Method Blanks

Method Blank (1)      QC Batch: 121128

QC Batch: 121128  
Prep Batch: 102466

Date Analyzed: 2015-04-29  
QC Preparation: 2015-04-27

Analyzed By: AK  
Prepared By: AK

| Parameter    | Flag | Cert | MDL<br>Result | Units | RL   |
|--------------|------|------|---------------|-------|------|
| Benzene      |      | 1    | <0.00533      | mg/Kg | 0.02 |
| Toluene      |      | 1    | <0.00645      | mg/Kg | 0.02 |
| Ethylbenzene |      | 1    | <0.0116       | mg/Kg | 0.02 |
| Xylene       |      | 1    | <0.00874      | mg/Kg | 0.02 |

| Surrogate                    | Flag | Cert | Result | Units | Dilution | Spike<br>Amount | Percent<br>Recovery | Recovery<br>Limits |
|------------------------------|------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Trifluorotoluene (TFT)       |      |      | 2.29   | mg/Kg | 1        | 2.00            | 114                 | 70 - 130           |
| 4-Bromofluorobenzene (4-BFB) |      |      | 1.99   | mg/Kg | 1        | 2.00            | 100                 | 70 - 130           |

Report Date: April 29, 2015  
7250715033.001

Work Order: 15042303  
1009 Line Leak

Page Number: 7 of 11  
Midland, TX

## Laboratory Control Spikes

### Laboratory Control Spike (LCS-1)

QC Batch: 121128  
Prep Batch: 102466

Date Analyzed: 2015-04-29  
QC Preparation: 2015-04-27

Analyzed By: AK  
Prepared By: AK

| Param        | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|--------------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|
| Benzene      |   | 1 | 2.47          | mg/Kg | 1    | 2.00            | <0.00533         | 124  | 70 - 130      |
| Toluene      |   | 1 | 2.27          | mg/Kg | 1    | 2.00            | <0.00645         | 114  | 70 - 130      |
| Ethylbenzene |   | 1 | 2.32          | mg/Kg | 1    | 2.00            | <0.0116          | 116  | 70 - 130      |
| Xylene       |   | 1 | 6.91          | mg/Kg | 1    | 6.00            | <0.00874         | 115  | 70 - 130      |

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

| Param        | F | C | LCS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit | RPD | RPD<br>Limit |
|--------------|---|---|---------------|-------|------|-----------------|------------------|------|---------------|-----|--------------|
| Benzene      |   | 1 | 2.32          | mg/Kg | 1    | 2.00            | <0.00533         | 116  | 70 - 130      | 6   | 20           |
| Toluene      |   | 1 | 2.14          | mg/Kg | 1    | 2.00            | <0.00645         | 107  | 70 - 130      | 6   | 20           |
| Ethylbenzene |   | 1 | 2.14          | mg/Kg | 1    | 2.00            | <0.0116          | 107  | 70 - 130      | 8   | 20           |
| Xylene       |   | 1 | 6.44          | mg/Kg | 1    | 6.00            | <0.00874         | 107  | 70 - 130      | 7   | 20           |

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

| Surrogate                    | LCS<br>Result | LCS<br>Result | Units | Dil. | Spike<br>Amount | LCS<br>Rec. | LCS<br>Rec. | Rec.<br>Limit |
|------------------------------|---------------|---------------|-------|------|-----------------|-------------|-------------|---------------|
| Trifluorotoluene (TFT)       | 2.17          | 2.17          | mg/Kg | 1    | 2.00            | 108         | 108         | 70 - 130      |
| 4-Bromofluorobenzene (4-BFB) | 2.09          | 2.06          | mg/Kg | 1    | 2.00            | 104         | 103         | 70 - 130      |

Report Date: April 29, 2015  
7250715033.001

Work Order: 15042303  
1009 Line Leak

Page Number: 8 of 11  
Midland, TX

## Matrix Spikes

**Matrix Spike (MS-1)**      Spiked Sample: 391990

QC Batch: 121128  
Prep Batch: 102466

Date Analyzed: 2015-04-29  
QC Preparation: 2015-04-27

Analyzed By: AK  
Prepared By: AK

| Param        | F | C | MS<br>Result | Units | Dil. | Spike<br>Amount | Matrix<br>Result | Rec. | Rec.<br>Limit |
|--------------|---|---|--------------|-------|------|-----------------|------------------|------|---------------|
| Benzene      |   | 1 | 2.05         | mg/Kg | 1    | 2.00            | <0.00533         | 102  | 70 - 130      |
| Toluene      |   | 1 | 1.86         | mg/Kg | 1    | 2.00            | <0.00645         | 93   | 70 - 130      |
| Ethylbenzene |   | 1 | 1.91         | mg/Kg | 1    | 2.00            | <0.0116          | 96   | 70 - 130      |
| Xylene       |   | 1 | 5.63         | mg/Kg | 1    | 6.00            | <0.00874         | 94   | 70 - 130      |

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 | 2.18          | mg/Kg | 1    | 2.00            | <0.00533         | 109  | 70 - 130      | 6   | 20           |
| Toluene      |   | 1 | 2.06          | mg/Kg | 1    | 2.00            | <0.00645         | 103  | 70 - 130      | 10  | 20           |
| Ethylbenzene |   | 1 | 2.09          | mg/Kg | 1    | 2.00            | <0.0116          | 104  | 70 - 130      | 9   | 20           |
| Xylene       |   | 1 | 6.14          | mg/Kg | 1    | 6.00            | <0.00874         | 102  | 70 - 130      | 9   | 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)       | 2.02         | 1.90          | mg/Kg | 1    | 2               | 101        | 95          | 70 - 130      |
| 4-Bromofluorobenzene (4-BFB) | 1.91         | 2.12          | mg/Kg | 1    | 2               | 96         | 106         | 70 - 130      |



## Calibration Standards

### Standard (CCV-2)

QC Batch: 121128

Date Analyzed: 2015-04-29

Analyzed By: AK

| Param        | Flag | Cert | Units | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|--------------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene      |      | 1    | mg/kg | 0.100                 | 0.120                  | 120                         | 80 - 120                      | 2015-04-29       |
| Toluene      |      | 1    | mg/kg | 0.100                 | 0.111                  | 111                         | 80 - 120                      | 2015-04-29       |
| Ethylbenzene |      | 1    | mg/kg | 0.100                 | 0.106                  | 106                         | 80 - 120                      | 2015-04-29       |
| Xylene       |      | 1    | mg/kg | 0.300                 | 0.306                  | 102                         | 80 - 120                      | 2015-04-29       |

### Standard (CCV-3)

QC Batch: 121128

Date Analyzed: 2015-04-29

Analyzed By: AK

| Param        | Flag | Cert | Units | CCVs<br>True<br>Conc. | CCVs<br>Found<br>Conc. | CCVs<br>Percent<br>Recovery | Percent<br>Recovery<br>Limits | Date<br>Analyzed |
|--------------|------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Benzene      |      | 1    | mg/kg | 0.100                 | 0.120                  | 120                         | 80 - 120                      | 2015-04-29       |
| Toluene      |      | 1    | mg/kg | 0.100                 | 0.110                  | 110                         | 80 - 120                      | 2015-04-29       |
| Ethylbenzene |      | 1    | mg/kg | 0.100                 | 0.103                  | 103                         | 80 - 120                      | 2015-04-29       |
| Xylene       |      | 1    | mg/kg | 0.300                 | 0.310                  | 103                         | 80 - 120                      | 2015-04-29       |

## 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       |
| 1 | NELAP                | T104704392-14-8      | 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.  |
| MI1 | Split peak or shoulder peak   |
| MI2 | Instrument software did not integrate   |
| MI3 | Instrument software misidentified the peak  |
| MI4 | Instrument software integrated improperly   |
| MI5 | Baseline correction   |
| Qc  | Calibration check outside of laboratory limits.   |
| Qr  | RPD outside of laboratory limits  |
| Qs  | Spike recovery outside of laboratory limits.  |
| Qsr | Surrogate recovery outside of laboratory limits.  |
| U   | The analyte is not detected above the SDL   |

### Attachments

Report Date: April 29, 2015  
7250715033.001

Work Order: 15042303  
1009 Line Leak


Page Number: 11 of 11  
Midland, TX

---

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

15042303

## CHAIN OF CUSTODY RECORD

|  |                  |  |         |   |             |  |   |
|--|------------------|--|---------|---|-------------|--|---|
| <br><b>APEX</b>   |                  | Laboratory: <u>Trane</u><br>Address: <u>Midland TX</u><br>Contact: _____<br>Phone: _____ |         | ANALYSIS REQUESTED<br><br>                |             | Lab use only<br>Due Date: _____<br><br>Temp. of coolers when received (C°): <u>5.8</u><br>1 2 3 4 5<br>Page <u>1</u> of <u>1</u> |   |
| Project Manager <u>Karolanne Tobey</u><br>Sampler's Name <u>Thomas Franklin</u>  |                  | PO/SO #: _____<br>Sampler's Signature <u>[Signature]</u>                                 |         | No/Type of Containers<br><u>1 - Glass</u> |             |  |   |
| Proj. No. <u>7250715033.001</u>  |                  | Project Name <u>Eddy Co NW</u>   |         | Identifying Marks of Sample(s) <u>15'</u> |             |  |   |
| Matrix <u>4015</u>   | Date <u>4/22</u> | Time <u>1145</u>   | C o m p | G r a b                                   | Start Depth | End Depth  | VOA<br>A/G<br>1 L<br>250 ml<br>Glass Jar<br>P/O |
| S  | 4/22             | 1145   | K       | RP  | RE          | 15'  | K K K   |
| <del>           Turn around time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush<br/>           Relinquished by (Signature) <u>[Signature]</u> Date: <u>4-23-15</u> Time: <u>8:31</u><br/>           Relinquished by (Signature) _____ Date: _____ Time: _____<br/>           Relinquished by (Signature) _____ Date: _____ Time: _____<br/>           Relinquished by (Signature) _____ Date: _____ Time: _____<br/>           Relinquished by (Signature) _____ Date: _____ Time: _____         </del> |                  |  |         |   |             |  |   |
| Matrix Container <u>WW - Wastewater</u><br><u>VOA - 40 ml vial</u>   |                  |  |         |   |             |  |   |

Matrix Container WW - Wastewater VOA - 40 ml vial  
 W - Water A/G - Amber / Or Glass 1 Liter S - Soil SD - Solid L - Liquid 250 ml - Glass wide mouth C - Charcoal tube P/O - Plastic or other  
 SL - sludge O - Oil

# **Analytical Report 514760**

**for  
APEX/Titan**

**Project Manager: Karolanne Toby**

**1009 Line Leak**

**7250715033**

**04-SEP-15**

Collected By: Client



**12600 West I-20 East Odessa, Texas 79765**

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-15-19), Arizona (AZ0765), Florida (E871002), Louisiana (03054)  
Oklahoma (9218)

Xenco-Atlanta (EPA Lab Code: GA00046):

Florida (E87429), North Carolina (483), South Carolina (98015), Kentucky (85), DoD ( L10-135)  
Texas (T104704477), Louisiana (04176), USDA (P330-07-00105)

Xenco-Lakeland: Florida (E84098)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-TX)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295-TX)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco Tucson (EPA Lab code:AZ000989): Arizona (AZ0758)



04-SEP-15

Project Manager: **Karolanne Toby**

**APEX/Titan**

505 N. Big Spring Ste. 301 A

Midland, TX 79701

Reference: XENCO Report No(s): **514760**

**1009 Line Leak**

Project Address: NM

**Karolanne Toby:**

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 514760. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 514760 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

---

**Kelsey Brooks**

Project Manager

***Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.***

*Certified and approved by numerous States and Agencies.*

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## Sample Cross Reference 514760



### APEX/Titan, Midland, TX

1009 Line Leak

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| CS-1      | S      | 09-02-15 15:45 | 22 - 23      | 514760-001    |
| CS-2      | S      | 09-02-15 15:50 | 28 - 29      | 514760-002    |
| CS-3      | S      | 09-02-15 15:55 | 42 - 43      | Not Analyzed  |
| CS-4      | S      | 09-02-15 16:00 | 54 - 55      | Not Analyzed  |



## CASE NARRATIVE



*Client Name: APEX/Titan*  
*Project Name: 1009 Line Leak*

Project ID: 7250715033  
Work Order Number(s): 514760

Report Date: 04-SEP-15  
Date Received: 09/03/2015

---

**Sample receipt non conformances and comments:**

24 HOUR RUSH  
SITE IS IN NEW MEXICO

---

**Sample receipt non conformances and comments per sample:**

None





# Certificate of Analysis Summary 514760

APEX/Titan, Midland, TX

Project Name: 1009 Line Leak



Project Id: 7250715033

Contact: Karolanne Toby

Project Location: NM

Date Received in Lab: Thu Sep-03-15 09:13 am

Report Date: 04-SEP-15

Project Manager: Kelsey Brooks

| <i>Analysis Requested</i> | <i>Lab Id:</i>    | 514760-001      | 514760-002      |  |  |  |  |
|---------------------------|-------------------|-----------------|-----------------|--|--|--|--|
|                           | <i>Field Id:</i>  | CS-1            | CS-2            |  |  |  |  |
|                           | <i>Depth:</i>     | 22-23           | 28-29           |  |  |  |  |
|                           | <i>Matrix:</i>    | SOIL            | SOIL            |  |  |  |  |
|                           | <i>Sampled:</i>   | Sep-02-15 15:45 | Sep-02-15 15:50 |  |  |  |  |
| <b>BTEX by EPA 8021B</b>  | <i>Extracted:</i> | Sep-03-15 20:00 | Sep-03-15 20:00 |  |  |  |  |
|                           | <i>Analyzed:</i>  | Sep-03-15 23:55 | Sep-04-15 00:12 |  |  |  |  |
|                           | <i>Units/RL:</i>  | mg/kg RL        | mg/kg RL        |  |  |  |  |
| Benzene                   |                   | ND 0.000998     | ND 0.000992     |  |  |  |  |
| Toluene                   |                   | ND 0.00200      | ND 0.00198      |  |  |  |  |
| Ethylbenzene              |                   | ND 0.000998     | ND 0.000992     |  |  |  |  |
| m,p-Xylenes               |                   | ND 0.00200      | ND 0.00198      |  |  |  |  |
| o-Xylene                  |                   | ND 0.000998     | ND 0.000992     |  |  |  |  |
| Total Xylenes             |                   | ND 0.000998     | ND 0.000992     |  |  |  |  |
| Total BTEX                |                   | ND 0.000998     | ND 0.000992     |  |  |  |  |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.  
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.  
XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented.  
Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.0%

Kelsey Brooks  
Project Manager

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

**MDL** Method Detection Limit      **SDL** Sample Detection Limit      **LOD** Limit of Detection

**PQL** Practical Quantitation Limit      **MQL** Method Quantitation Limit      **LOQ** Limit of Quantitation

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

\* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation

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 9701 Harry Hines Blvd, Dallas, TX 75220  
 5332 Blackberry Drive, San Antonio TX 78238  
 2505 North Falkenburg Rd, Tampa, FL 33619  
 12600 West I-20 East, Odessa, TX 79765  
 6017 Financial Drive, Norcross, GA 30071  
 3725 E. Atlanta Ave, Phoenix, AZ 85040

| Phone          | Fax            |
|----------------|----------------|
| (281) 240-4200 | (281) 240-4280 |
| (214) 902 0300 | (214) 351-9139 |
| (210) 509-3334 | (210) 509-3335 |
| (813) 620-2000 | (813) 620-2033 |
| (432) 563-1800 | (432) 563-1713 |
| (770) 449-8800 | (770) 449-5477 |
| (602) 437-0330 |                |



# Form 2 - Surrogate Recoveries

Project Name: 1009 Line Leak

Work Orders : 514760,

Project ID: 7250715033

Lab Batch #: 976101

Sample: 514760-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/03/15 23:55

## SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene           | 0.0287              | 0.0300             | 96                    | 80-120               |       |
| 4-Bromofluorobenzene          | 0.0310              | 0.0300             | 103                   | 80-120               |       |

Lab Batch #: 976101

Sample: 514760-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 09/04/15 00:12

## SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene           | 0.0279              | 0.0300             | 93                    | 80-120               |       |
| 4-Bromofluorobenzene          | 0.0302              | 0.0300             | 101                   | 80-120               |       |

Lab Batch #: 976101

Sample: 697632-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/03/15 00:22

## SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene           | 0.0284              | 0.0300             | 95                    | 80-120               |       |
| 4-Bromofluorobenzene          | 0.0307              | 0.0300             | 102                   | 80-120               |       |

Lab Batch #: 976101

Sample: 697632-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/02/15 22:21

## SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene           | 0.0315              | 0.0300             | 105                   | 80-120               |       |
| 4-Bromofluorobenzene          | 0.0331              | 0.0300             | 110                   | 80-120               |       |

Lab Batch #: 976101

Sample: 697632-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 09/02/15 22:38

## SURROGATE RECOVERY STUDY

| BTEX by EPA 8021B<br>Analytes | Amount Found<br>[A] | True Amount<br>[B] | Recovery<br>%R<br>[D] | Control Limits<br>%R | Flags |
|-------------------------------|---------------------|--------------------|-----------------------|----------------------|-------|
| 1,4-Difluorobenzene           | 0.0310              | 0.0300             | 103                   | 80-120               |       |
| 4-Bromofluorobenzene          | 0.0320              | 0.0300             | 107                   | 80-120               |       |

\* Surrogate outside of Laboratory QC limits

\*\* Surrogates outside limits; data and surrogates confirmed by reanalysis

\*\*\* Poor recoveries due to dilution

Surrogate Recovery [D] =  $100 * A / B$

All results are based on MDL and validated for QC purposes.



# BS / BSD Recoveries



Project Name: 1009 Line Leak

Work Order #: 514760

Project ID: 7250715033

Analyst: PJB

Date Prepared: 09/02/2015

Date Analyzed: 09/02/2015

Lab Batch ID: 976101

Sample: 697632-1-BKS

Batch #: 1

Matrix: Solid

Units: mg/kg

## BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

| <b>BTEX by EPA 8021B</b> | <b>Blank<br/>Sample Result<br/>[A]</b> | <b>Spike<br/>Added<br/>[B]</b> | <b>Blank<br/>Spike<br/>Result<br/>[C]</b> | <b>Blank<br/>Spike<br/>%R<br/>[D]</b> | <b>Spike<br/>Added<br/>[E]</b> | <b>Blank<br/>Spike<br/>Duplicate<br/>Result [F]</b> | <b>Blk. Spk<br/>Dup.<br/>%R<br/>[G]</b> | <b>RPD<br/>%</b> | <b>Control<br/>Limits<br/>%R</b> | <b>Control<br/>Limits<br/>%RPD</b> | <b>Flag</b> |
|--------------------------|--|--------------------------------|---|---------------------------------------|--------------------------------|---|---|------------------|----------------------------------|------------------------------------|-------------|
| <b>Analytes</b>          |  |                                |   |                                       |                                |   |   |                  |                                  |                                    |             |
| Benzene                  | <0.00500                               | 0.500                          | 0.465                                     | 93                                    | 0.500                          | 0.457   | 91                                      | 2                | 70-130                           | 35                                 |             |
| Toluene                  | <0.0100                                | 0.500                          | 0.479                                     | 96                                    | 0.500                          | 0.470   | 94                                      | 2                | 70-130                           | 35                                 |             |
| Ethylbenzene             | <0.00500                               | 0.500                          | 0.499                                     | 100                                   | 0.500                          | 0.497   | 99                                      | 0                | 71-129                           | 35                                 |             |
| m,p-Xylenes              | <0.0100                                | 1.00                           | 1.03                                      | 103                                   | 1.00                           | 1.02  | 102                                     | 1                | 70-135                           | 35                                 |             |
| o-Xylene                 | <0.00500                               | 0.500                          | 0.496                                     | 99                                    | 0.500                          | 0.498   | 100                                     | 0                | 71-133                           | 35                                 |             |

Relative Percent Difference RPD =  $200 * |(C-F)/(C+F)|$

Blank Spike Recovery [D] =  $100 * (C)/[B]$

Blank Spike Duplicate Recovery [G] =  $100 * (F)/[E]$

All results are based on MDL and Validated for QC Purposes



**APEX**

Office Location Midland, TX

Laboratory: Xenico Labs  
Address: 1211 W. Florida Ave  
Midland, TX 79701

ANALYSIS  
REQUESTED

Lab use only  
Due Date:

5/14/200

Temp. of coolers when received (C°): -2.5°

Page 1 of 1

Project Manager Karolanne Tobly

PO/ISO #:

Sampler's Name

Sampler's Signature

Karolanne Tobly

Proj. No.

Project Name

Not/Type of Containers

7250715033

1009 Line Leak

4/40Z

| Matrix | Date | Time | C<br>o<br>m<br>p | G<br>r<br>a<br>b | Identifying Marks of Sample(s) | Start<br>Depth | End<br>Depth | VOA | A/G<br>1 L | 250<br>mL | Glass<br>Jar | P/O |
|--------|------|------|------------------|------------------|--------------------------------|----------------|--------------|-----|------------|-----------|--------------|-----|
|--------|------|------|------------------|------------------|--------------------------------|----------------|--------------|-----|------------|-----------|--------------|-----|

S 9/2/15 15:45 X CS-1 22 23

I 15:50 CS-2 20 29

I 15:55 CS-3 42 43

S 9/2/15 16:00 Y CS-4 54 55

BTEX 80218  
HOLD SAMPLES

Lab Sample ID (Lab Use Only)

Turn around time ☐ Normal ☐ 25% Rush ☐ 50% Rush ☒ 100% Rush

Relinquished by (Signature) [Signature] Date: 9/3/15 Time: 9:00 Received by: (Signature) [Signature] Date: 9/3/15 Time: 9:00

Relinquished by (Signature) [Signature] Date: 9/3/15 Time: 9:13 Received by: (Signature) [Signature] Date: 9/3/15 Time: 9:13

Relinquished by (Signature) Date: Time: Received by: (Signature) Date: Time:

Relinquished by (Signature) Date: Time: Received by: (Signature) Date: Time:

NOTES:

\* Site is in New Mexico \*  
\* 24 hr rush \*

Matrix: WW - Wastewater VOA - 40 ml vial W - Water A/G - Amber / Or Glass 1 Liter S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - sludge O - Oil



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: APEX/Titan

Date/ Time Received: 09/03/2015 09:13:00 AM

Work Order #: 514760

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

| Sample Receipt Checklist   | Comments |
|--|----------|
| #1 *Temperature of cooler(s)?  | -2.5     |
| #2 *Shipping container in good condition?  | Yes      |
| #3 *Samples received on ice?   | Yes      |
| #4 *Custody Seals intact on shipping container/ cooler?  | N/A      |
| #5 Custody Seals intact on sample bottles?   | N/A      |
| #6 *Custody Seals Signed and dated?  | N/A      |
| #7 *Chain of Custody present?  | Yes      |
| #8 Sample instructions complete on Chain of Custody?   | Yes      |
| #9 Any missing/extra samples?  | No       |
| #10 Chain of Custody signed when relinquished/ received?   | Yes      |
| #11 Chain of Custody agrees with sample label(s)?  | Yes      |
| #12 Container label(s) legible and intact?   | Yes      |
| #13 Sample matrix/ properties agree with Chain of Custody?   | Yes      |
| #14 Samples in proper container/ bottle?   | Yes      |
| #15 Samples properly preserved?  | Yes      |
| #16 Sample container(s) intact?  | Yes      |
| #17 Sufficient sample amount for indicated test(s)?  | Yes      |
| #18 All samples received within hold time?   | Yes      |
| #19 Subcontract of sample(s)?  | No       |
| #20 VOC samples have zero headspace (less than 1/4 inch bubble)?   | N/A      |
| #21 <2 for all samples preserved with HNO <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts. | N/A      |
| #22 >10 for all samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH?  | N/A      |

**\* Must be completed for after-hours delivery of samples prior to placing in the refrigerator**

Analyst:

PH Device/Lot#:

Checklist completed by:

Caroline Dugan

Date: 09/03/2015

Checklist reviewed by:

Kelsey Brooks

Date: 09/04/2015



## APPENDIX F

### NMOCD C-141 Documentation

**NM OIL CONSERVATION**  
ARTESIA DISTRICT

APR 07 2015

Form C-141  
Revised August 8, 2011

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

State of New Mexico  
Energy Minerals and Natural Resources

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

**RECEIVED**  
Submitted to appropriate District Office in  
accordance with 19.15.29 NMAC.

**FAB1508435844**

**Release Notification and Corrective Action**

**OAB1509851503**

**OPERATOR**

☒ Initial Report ☐ Final Report

|  |  |
|--|--|
| Name of Company <b>Enterprise Field Services LLC</b>                                       | Contact <b>Dina Babinski</b>                         |
| Address <b>PO Box 4324, Houston TX 77210</b>   | Telephone No. <b>210-528-3824</b>                    |
| Facility Name <b>Pipeline ROW, 1009 Gathering Lateral</b>                                  | Facility Type <b>Gas Gathering Pipeline</b>          |
| Surface Owner <b>Department of Interior/Bureau of Land Management/Department of Energy</b> | Mineral Owner <b>NA - Pipeline</b> API No. <b>NA</b> |

**LOCATION OF RELEASE**

|                         |                      |                        |                     |                             |                                  |                             |                               |                       |
|-------------------------|----------------------|------------------------|---------------------|-----------------------------|----------------------------------|-----------------------------|-------------------------------|-----------------------|
| Unit Letter<br><b>M</b> | Section<br><b>23</b> | Township<br><b>22S</b> | Range<br><b>30E</b> | Feet from the<br><b>105</b> | North/South Line<br><b>South</b> | Feet from the<br><b>381</b> | East/West Line<br><b>East</b> | County<br><b>Eddy</b> |
|-------------------------|----------------------|------------------------|---------------------|-----------------------------|----------------------------------|-----------------------------|-------------------------------|-----------------------|

Latitude **N 32.37066** Longitude **W -103.85719**

**NATURE OF RELEASE**

|  |   |  |
|--|---|--|
| Type of Release <b>Natural Gas, Pipeline Liquids</b>   | Volume of Release <b>1147 MCF, 2 bbl pipeline liquids</b>     | Volume Recovered <b>NA</b>                                 |
| Source of Release <b>Pipeline Leak</b>   | Date and Hour of Occurrence<br><b>3/29/2015 14:30 MDT</b>     | Date and Hour of Discovery<br><b>3/29/2015 @ 14:30 MDT</b> |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required   | If YES, To Whom?<br><b>NMOCD District 2 Reporting Hotline</b> |  |
| By Whom? <b>Osman De Leon</b>  | Date and Hour <b>3/29/2015 14:44 MDT</b>                      |  |
| Was a Watercourse Reached?<br><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.*<br><b>A pipeline leak was detected by pumper passing by. Operations personnel isolated leaking portion of pipeline and proceeded with pipeline repairs following standard One-Call.</b>  |   |  |
| Describe Area Affected and Cleanup Action Taken.*<br><b>Approximately 2 bbl pipeline liquids spilled to the ground within pipeline right-of-way. Contaminated soil will be excavated and disposed at an approved landfill. Soil sampling will be performed to demonstrate compliance with NMOCD remediation standards.</b>   |   |  |
| 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: <i>Jon Fields</i>                     | <b>OIL CONSERVATION DIVISION</b>                     |                                   |
| Printed Name: <b>Jon Fields</b>                  | Approved by  | Signed By <i>Mike Brennan</i>     |
| Title: <b>Director, Field Environmental</b>      | Approval Date: <b>4/8/15</b>                         | Expiration Date: <b>N/A</b>       |
| E-mail Address: <b>snolan@eprod.com</b>          | Conditions of Approval:                              | Attached <input type="checkbox"/> |
| Date: <b>3-7-2015</b> Phone: <b>713-381-6595</b> | <b>Remediation per O.C.D. Rules &amp; Guidelines</b> |                                   |

\* Attach Additional Sheets If Necessary

**SUBMIT REMEDIATION PROPOSAL NO**  
**LATER THAN: 5/8/15**

**2RP. 2937**



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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised August 8, 2011

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

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

|  |   |                   |
|--|---|-------------------|
| Name of Company <b>Enterprise Field Services LLC</b>                                       | Contact <b>Dina Babinski</b>                |                   |
| Address <b>PO Box 4324, Houston TX 77210</b>   | Telephone No. <b>210-528-3824</b>           |                   |
| Facility Name <b>Pipeline ROW, 1009 Gathering Lateral</b>                                  | Facility Type <b>Gas Gathering Pipeline</b> |                   |
| Surface Owner <b>Department of Interior/Bureau of Land Management/Department of Energy</b> | Mineral Owner <b>NA - Pipeline</b>          | API No. <b>NA</b> |

#### LOCATION OF RELEASE

|                         |                      |                        |                     |                             |                                  |                             |                               |                       |
|-------------------------|----------------------|------------------------|---------------------|-----------------------------|----------------------------------|-----------------------------|-------------------------------|-----------------------|
| Unit Letter<br><b>M</b> | Section<br><b>23</b> | Township<br><b>22S</b> | Range<br><b>30E</b> | Feet from the<br><b>105</b> | North/South Line<br><b>South</b> | Feet from the<br><b>381</b> | East/West Line<br><b>East</b> | County<br><b>Eddy</b> |
|-------------------------|----------------------|------------------------|---------------------|-----------------------------|----------------------------------|-----------------------------|-------------------------------|-----------------------|

Latitude **N 32.37066** Longitude **W -103.85719**

#### NATURE OF RELEASE

|  |  |  |
|--|--|--|
| Type of Release <b>Natural Gas, Pipeline Liquids</b>   | Volume of Release <b>1147 MCF, 29 bbl pipeline liquids (updated)</b> | Volume Recovered <b>NA</b>                                 |
| Source of Release <b>Pipeline Leak</b>   | Date and Hour of Occurrence<br><b>3/29/2015 14:30 MDT</b>            | Date and Hour of Discovery<br><b>3/29/2015 @ 14:30 MDT</b> |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br><b>NMOCD District 2 Reporting Hotline</b>        |  |
| By Whom? <b>Osman De Leon</b>  | Date and Hour <b>3/29/2015 14:44 MDT</b>                             |  |
| Was a Watercourse Reached?<br><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.\*

**A pipeline leak was detected by pumper passing by. Operations personnel isolated leaking portion of pipeline and proceeded with pipeline repairs following standard One-Call.**

Describe Area Affected and Cleanup Action Taken.\*

**Operations personnel originally estimated approximately 2 bbl pipeline liquids spilled to the ground within pipeline right-of-way. After further investigation and excavation, it was determined that the liquid spill volume is approximately 29 bbl pipeline liquids. Enterprise will prepare a site-specific remediation work plan and submit to NMOCD for review and approval.**

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: <b>Jon Fields</b>  | Approved by                      |                  |                                   |
| Title: <b>Director, Field Environmental</b>  | Approval Date:                   | Expiration Date: |                                   |
| E-mail Address: <b>snolan@eprod.com</b>  | Conditions of Approval:          |                  | Attached <input type="checkbox"/> |
| Date: <b>3-19-2015</b>   | Phone: <b>713-381-6595</b>       |                  |                                   |

\* Attach Additional Sheets If Necessary



## APPENDIX G

NMOCD and BLM Approved Workplan



July 10, 2015

Enterprise Field Services, LLC  
PO Box 4324  
Houston, TX 77252  
Attention: **Ms. Dina Ferguson**

Re: Response/Remediation Plan  
1009 Line Leak  
Eddy County, New Mexico  
Section 23, Township 22 South, Range 30 East  
Apex Project No.: 7250715033.001

Dear Ms. Ferguson:

Apex TITAN, Inc. (Apex) is presenting this Response/Remediation Plan to Enterprise Field Services, LLC (Enterprise) for submittal to the New Mexico Oil Conservation Division (NMOCD) and Bureau of Land Management (BLM) to mitigate the release of natural gas and natural gas liquids associated with the Enterprise 1009 natural gas gathering pipeline. The Response/Remediation Plan describes how Enterprise will respond to the release under NMOCD jurisdiction. The proposed scope of work is based on Apex's review of the previous correspondence between Ms. Dina Ferguson and Mr. Mike Bratcher of the NMOCD, and analytical data that has been generated regarding the site.

## **SITE LOCATION AND BACKGROUND**

The 1009 Line Leak release site is located in Section 23, Township 22 South, Range 30 East, in Eddy County, New Mexico. The geographic coordinates of the site are 32.37060N, 103.85719W. The property affected by the release is managed by the BLM.

The release occurred on March 29, 2015. No water courses were affected. Approximately 29 barrels (bbls) of natural gas pipeline liquids were released from the 1009 pipeline within the right-of-way (ROW). A C-141 form was filed on April 7, 2015 notifying the NMOCD of the intentions of Enterprise to repair the pipeline and remediate the immediate area.

The total excavated area at this time is 55 feet long by 15 feet wide with an approximate depth of 15 feet, observed from the ground surface. The approximate area of the impact is shown on the attached Figure 1.

## **CHEMICALS OF CONCERN (COCs)**

Soil samples collected from the excavation have been analyzed for benzene, toluene, ethylbenzene and xylenes, total petroleum hydrocarbon (TPH) gasoline range organics (GRO), TPH diesel range organics (DRO) and chloride by EPA Methods SW846-8021B, 8015M and E300 respectively. All soil samples were below the NMOCD Recommended Remediation Action Levels for TPH GRO/DRO and chloride. The chemicals of concern (COCs) identified at the site include benzene, toluene, ethylbenzene and xylenes (BTEX).

**I. OBJECTIVES OF SCOPE OF WORK**

The primary objectives of the scope of work is to backfill the excavation with clean fill material and install one (1) soil boring to define the extent of vertical impact to soil.

**I.A. Site Restoration**

The current excavation dimensions are approximately 55 feet by 15 feet by 15 feet deep. The excavation will be backfilled with clean fill material. The surface soils at the site will be reseeded with a BLM approved seed mix and returned to approximate original grade.

**I.B. Vertical Delineation**

**I.a. Advancement of Soil Boring**

A soil boring will be advanced on-site utilizing an air rotary drilling rig under the supervision of a State of New Mexico licensed monitoring well driller. The soil boring will be placed as near to the release point as possible, taking into account safety and mandated set-backs from the pipeline. The soil boring will be advanced to a maximum depth of approximately 80 feet below ground surface, to the initial water table or 15 feet below the deepest positive photoionization detector (PID) reading, whichever is shallower.

Sampling and drilling equipment will be decontaminated by high pressure cleaning prior to commencement of the project and between the advancement of each soil boring.

Soil samples will be collected continuously to the extent practical using core barrels or split spoon samplers to document lithology, color, relative moisture content and visual or olfactory evidence of impairment. In addition, the samples will be scanned with a photoionization detector (PID) for the presence of VOCs.

Drill cuttings and decontamination water will be stored at a secure Enterprise location in labeled, 55-gallon, DOT-approved drums pending the results of the laboratory analyses. The drum labels will bear the apparent contents of the drum and the accumulation date.

Following the conclusion of the Site investigation activities, Apex will coordinate the removal and disposition of the investigation derived soil and decontamination water generated during investigation activities.

Apex will utilize the investigation data to characterize the waste for off-Site disposal. Apex will evaluate the analytical data and prepare waste profiles for submittal to a landfill approved by the client. Apex will prepare the appropriate manifests to document waste disposition, and will submit the manifests to the client for signature as the generator. It should be noted that it is the generator's responsibility to select the disposal facility and the waste transporter.

---

**I.C. Sampling Program**

Apex's soil sampling program will consist of the following:

- 1) Collection of two (2) soil samples from the soil boring from any of the following locations at geologist discretion based on findings:
  - a) the zone exhibiting the highest concentration of VOC's based on visual, olfactory or PID evidence,
  - b) from the capillary fringe zone,
  - c) from a change in lithology, or
  - d) from the bottom of the boring.

The soil samples will be collected in laboratory prepared glassware and placed on ice in a cooler, which will be secured with a custody seal. The samples will be transported to a selected analytical laboratory along with a completed chain-of-custody form.

**I.D. Laboratory Analytical Program**

The soil samples collected from the soil boring will be analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) utilizing EPA Method SW-846-8021B.

**I.E. Corrective Action Report**

Upon completion of site investigation activities, a Corrective Action Report and closure request of the site will be prepared if the field data indicates closure is warranted. The report will include documentation of field investigation activities, a site plan detailing pertinent site features, logs of subsurface exploration, laboratory analytical results, an evaluation of investigation results and recommendations concerning further action, if necessary.

**II. PROJECT SCHEDULE**

Apex is prepared to commence work on this project immediately following notification to proceed.

We appreciate the opportunity to provide this Response/Remediation Plan and look forward to working with you on this project. If you should have any questions or comments regarding this proposal, please contact the undersigned.

Sincerely,  
**Apex TITAN, Inc.**

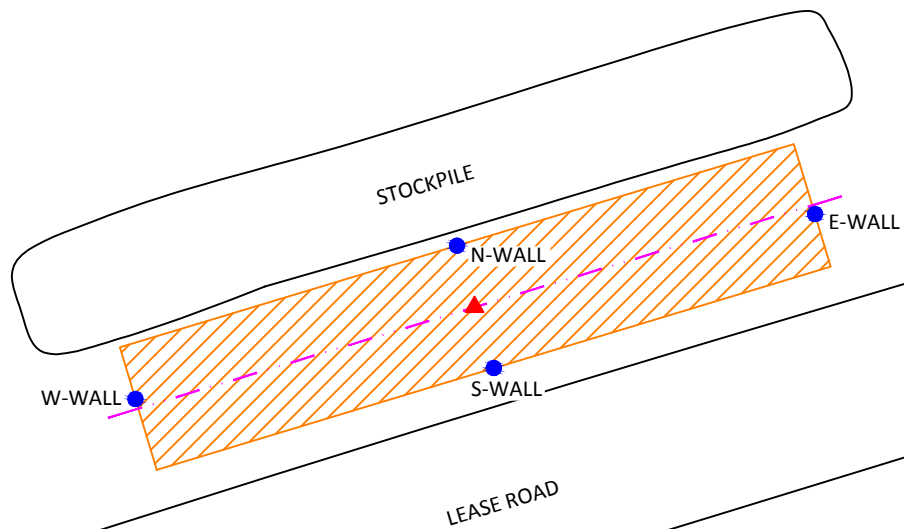
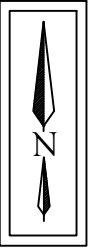


Karolanne Toby  
Staff Geologist



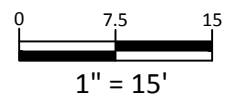
Liz Scaggs, P.G.  
Division Manager

Attachments: Figure 1 - Site Plan



**LEGEND:**

- SAMPLE LOCATION
- ▲ RELEASE POINT
- 1009 PIPELINE
- EXTENT OF EXCAVATION TO 15 FT BGS



**1009 Line Leak**  
Eddy County, New Mexico  
32.370740N, 103.857236W



**Apex TITAN, Inc.**  
505 N. Big Springs Street, Suite 301A  
Midland, Texas 79701  
Phone: (432) 695-6016  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

**FIGURE 1**  
**Site Plan**

Project No. 7250715033



## APPENDIX H

### NMOCD AND BLM Correspondence

## Nolan, Shiver

---

**From:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>  
**Sent:** Tuesday, July 14, 2015 9:35 AM  
**To:** Nolan, Shiver; Ferguson, Dina  
**Cc:** Patterson, Heather, EMNRD  
**Subject:** RE: Line 1009 Remediation Plan

RE: Enterprise Field Services, LLC \* 1009 Gathering Lateral \* M-23-22s-30e \* Eddy County, NM  
NMOCD Tracking number: **2RP-2937** \* Date of release: 3/29/15

Greetings,

Your proposal for additional delineation at the above referenced release site is approved. Be advised that additional remedial action may be required based on the delineation results. OCD notes the following:

The form C-141 initial report indicates that 2 bbls of pipeline liquids were released. The current proposal indicates a release of 29 bbls of pipeline liquids. Please clarify the release volume.

The current proposal refers to an attached "figure 1", which shows the approximate area of impact. Figure 1 was not included in the submittal. Please provide figure 1, and a table/tables showing any analytical data obtained to date.

Like approval by BLM is required on federal sites.

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

If you have any questions or concerns, and for notification, please contact me.

Mike Bratcher  
NMOCD District 2  
811 S. First Street  
Artesia, NM 88210  
O: 575-748-1283 X108  
C: 575-626-0857  
F: 575-748-9720

---

**From:** Nolan, Shiver [<mailto:SNolan@eprod.com>]  
**Sent:** Monday, July 13, 2015 12:07 PM  
**To:** Bratcher, Mike, EMNRD  
**Subject:** Line 1009 Remediation Plan

Mr. Bratcher, attached is a proposed work plan to complete vertical delineation of the pipeline liquid spill that occurred on March 29, 2015 from our line 1009. Currently, the excavation is open and Enterprise would like to proceed with the proposed plans to mobilize equipment and personnel once we receive confirmation from your office. Please contact Mrs. Dina Ferguson with any questions, [diferguson@eprod.com](mailto:diferguson@eprod.com) or 210-232-4880.



---

This message (including any attachments) is confidential and intended for a specific individual and purpose. If you are not the intended recipient, please notify the sender immediately and delete this message.

## Nolan, Shiver

---

**From:** Nolan, Shiver  
**Sent:** Monday, July 13, 2015 1:07 PM  
**To:** 'mike.bratcher@state.nm.us'  
**Subject:** Line 1009 Remediation Plan  
**Attachments:** 1009 RAP.pdf

Mr. Bratcher, attached is a proposed work plan to complete vertical delineation of the pipeline liquid spill that occurred on March 29, 2015 from our line 1009. Currently, the excavation is open and Enterprise would like to proceed with the proposed plans to mobilize equipment and personnel once we receive confirmation from your office. Please contact Mrs. Dina Ferguson with any questions, [djferguson@eprod.com](mailto:djferguson@eprod.com) or 210-232-4880.



July 10, 2015

Enterprise Field Services, LLC  
PO Box 4324  
Houston, TX 77252  
Attention: **Ms. Dina Ferguson**

Re: Response/Remediation Plan  
1009 Line Leak  
Eddy County, New Mexico  
Section 23, Township 22 South, Range 30 East  
Apex Project No.: 7250715033.001

Dear Ms. Ferguson:

Apex TITAN, Inc. (Apex) is presenting this Response/Remediation Plan to Enterprise Field Services, LLC (Enterprise) for submittal to the New Mexico Oil Conservation Division (NMOCD) and Bureau of Land Management (BLM) to mitigate the release of natural gas and natural gas liquids associated with the Enterprise 1009 natural gas gathering pipeline. The Response/Remediation Plan describes how Enterprise will respond to the release under NMOCD jurisdiction. The proposed scope of work is based on Apex's review of the previous correspondence between Ms. Dina Ferguson and Mr. Mike Bratcher of the NMOCD, and analytical data that has been generated regarding the site.

## **SITE LOCATION AND BACKGROUND**

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The release occurred on March 29, 2015. No water courses were affected. Approximately 29 barrels (bbls) of natural gas pipeline liquids were released from the 1009 pipeline within the right-of-way (ROW). A C-141 form was filed on April 7, 2015 notifying the NMOCD of the intentions of Enterprise to repair the pipeline and remediate the immediate area.

The total excavated area at this time is 55 feet long by 15 feet wide with an approximate depth of 15 feet, observed from the ground surface. The approximate area of the impact is shown on the attached Figure 1.

## **CHEMICALS OF CONCERN (COCs)**

Soil samples collected from the excavation have been analyzed for benzene, toluene, ethylbenzene and xylenes, total petroleum hydrocarbon (TPH) gasoline range organics (GRO), TPH diesel range organics (DRO) and chloride by EPA Methods SW846-8021B, 8015M and E300 respectively. All soil samples were below the NMOCD Recommended Remediation Action Levels for TPH GRO/DRO and chloride. The chemicals of concern (COCs) identified at the site include benzene, toluene, ethylbenzene and xylenes (BTEX).

## **I. OBJECTIVES OF SCOPE OF WORK**

The primary objectives of the scope of work is to backfill the excavation with clean fill material and install one (1) soil boring to define the extent of vertical impact to soil.

### **I.A. Site Restoration**

The current excavation dimensions are approximately 55 feet by 15 feet by 15 feet deep. The excavation will be backfilled with clean fill material. The surface soils at the site will be reseeded with a BLM approved seed mix and returned to approximate original grade.

### **I.B. Vertical Delineation**

#### **I.a. Advancement of Soil Boring**

A soil boring will be advanced on-site utilizing an air rotary drilling rig under the supervision of a State of New Mexico licensed monitoring well driller. The soil boring will be placed as near to the release point as possible, taking into account safety and mandated set-backs from the pipeline. The soil boring will be advanced to a maximum depth of approximately 80 feet below ground surface, to the initial water table or 15 feet below the deepest positive photoionization detector (PID) reading, whichever is shallower.

Sampling and drilling equipment will be decontaminated by high pressure cleaning prior to commencement of the project and between the advancement of each soil boring.

Soil samples will be collected continuously to the extent practical using core barrels or split spoon samplers to document lithology, color, relative moisture content and visual or olfactory evidence of impairment. In addition, the samples will be scanned with a photoionization detector (PID) for the presence of VOCs.

Drill cuttings and decontamination water will be stored at a secure Enterprise location in labeled, 55-gallon, DOT-approved drums pending the results of the laboratory analyses. The drum labels will bear the apparent contents of the drum and the accumulation date.

Following the conclusion of the Site investigation activities, Apex will coordinate the removal and disposition of the investigation derived soil and decontamination water generated during investigation activities.

Apex will utilize the investigation data to characterize the waste for off-Site disposal. Apex will evaluate the analytical data and prepare waste profiles for submittal to a landfill approved by the client. Apex will prepare the appropriate manifests to document waste disposition, and will submit the manifests to the client for signature as the generator. It should be noted that it is the generator's responsibility to select the disposal facility and the waste transporter.

---

**I.C. Sampling Program**

Apex's soil sampling program will consist of the following:

- 1) Collection of two (2) soil samples from the soil boring from any of the following locations at geologist discretion based on findings:
  - a) the zone exhibiting the highest concentration of VOC's based on visual, olfactory or PID evidence,
  - b) from the capillary fringe zone,
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  - d) from the bottom of the boring.

The soil samples will be collected in laboratory prepared glassware and placed on ice in a cooler, which will be secured with a custody seal. The samples will be transported to a selected analytical laboratory along with a completed chain-of-custody form.

**I.D. Laboratory Analytical Program**

The soil samples collected from the soil boring will be analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX) utilizing EPA Method SW-846-8021B.

**I.E. Corrective Action Report**

Upon completion of site investigation activities, a Corrective Action Report and closure request of the site will be prepared if the field data indicates closure is warranted. The report will include documentation of field investigation activities, a site plan detailing pertinent site features, logs of subsurface exploration, laboratory analytical results, an evaluation of investigation results and recommendations concerning further action, if necessary.

**II. PROJECT SCHEDULE**

Apex is prepared to commence work on this project immediately following notification to proceed.

We appreciate the opportunity to provide this Response/Remediation Plan and look forward to working with you on this project. If you should have any questions or comments regarding this proposal, please contact the undersigned.

Sincerely,  
**Apex TITAN, Inc.**



Karolanne Toby  
Staff Geologist



Liz Scaggs, P.G.  
Division Manager

Attachments: Figure 1 - Site Plan

## **Nolan, Shiver**

---

**From:** Ferguson, Dina  
**Sent:** Tuesday, July 14, 2015 12:30 PM  
**To:** rpair@blm.gov  
**Cc:** Thompson, Roger; Nolan, Shiver  
**Subject:** Line 1009 pipeline release  
**Attachments:** Eddy County C-141 Pipeline ROW 1009 Gathering Lateral Update May 20....pdf; 1009 Line Leak Analytical Table.pdf; 1009 RAP Figure 1.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Mr. Pair, Enterprise recently submitted the attached Response Action Plan (RAP) to NMOCD for review and comment for which Enterprise received the response from NMOCD and has approval to move forward as proposed. Enterprise is submitting the attached for your review and comment and would like to proceed with the proposed RAP. Please contact me if you have any further questions.

### ***Dina Ferguson***

Enterprise Products Operating, LLC  
Field Environmental Supervisor  
210-232-4880  
[djferguson@eprod.com](mailto:djferguson@eprod.com)

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

State of New Mexico  
Energy Minerals and Natural Resources

Form C-141  
Revised August 8, 2011

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

Submit 1 Copy to appropriate District Office in  
accordance with 19.15.29 NMAC.

### Release Notification and Corrective Action

#### OPERATOR

☒ Initial Report ☐ Final Report

|  |   |                   |
|--|---|-------------------|
| Name of Company <b>Enterprise Field Services LLC</b>                                       | Contact <b>Dina Babinski</b>                |                   |
| Address <b>PO Box 4324, Houston TX 77210</b>   | Telephone No. <b>210-528-3824</b>           |                   |
| Facility Name <b>Pipeline ROW, 1009 Gathering Lateral</b>                                  | Facility Type <b>Gas Gathering Pipeline</b> |                   |
| Surface Owner <b>Department of Interior/Bureau of Land Management/Department of Energy</b> | Mineral Owner <b>NA - Pipeline</b>          | API No. <b>NA</b> |

#### LOCATION OF RELEASE

|                         |                      |                        |                     |                             |                                  |                             |                               |                       |
|-------------------------|----------------------|------------------------|---------------------|-----------------------------|----------------------------------|-----------------------------|-------------------------------|-----------------------|
| Unit Letter<br><b>M</b> | Section<br><b>23</b> | Township<br><b>22S</b> | Range<br><b>30E</b> | Feet from the<br><b>105</b> | North/South Line<br><b>South</b> | Feet from the<br><b>381</b> | East/West Line<br><b>East</b> | County<br><b>Eddy</b> |
|-------------------------|----------------------|------------------------|---------------------|-----------------------------|----------------------------------|-----------------------------|-------------------------------|-----------------------|

Latitude **N 32.37066** Longitude **W -103.85719**

#### NATURE OF RELEASE

|  |  |  |
|--|--|--|
| Type of Release <b>Natural Gas, Pipeline Liquids</b>   | Volume of Release <b>1147 MCF, 29 bbl pipeline liquids (updated)</b> | Volume Recovered <b>NA</b>                                 |
| Source of Release <b>Pipeline Leak</b>   | Date and Hour of Occurrence<br><b>3/29/2015 14:30 MDT</b>            | Date and Hour of Discovery<br><b>3/29/2015 @ 14:30 MDT</b> |
| Was Immediate Notice Given?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required | If YES, To Whom?<br><b>NMOCD District 2 Reporting Hotline</b>        |  |
| By Whom? <b>Osman De Leon</b>  | Date and Hour <b>3/29/2015 14:44 MDT</b>                             |  |
| Was a Watercourse Reached?<br><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.\*

**A pipeline leak was detected by pumper passing by. Operations personnel isolated leaking portion of pipeline and proceeded with pipeline repairs following standard One-Call.**

Describe Area Affected and Cleanup Action Taken.\*

**Operations personnel originally estimated approximately 2 bbl pipeline liquids spilled to the ground within pipeline right-of-way. After further investigation and excavation, it was determined that the liquid spill volume is approximately 29 bbl pipeline liquids. Enterprise will prepare a site-specific remediation work plan and submit to NMOCD for review and approval.**

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: <b>Jon Fields</b>  | Approved by                      |                  |                                   |
| Title: <b>Director, Field Environmental</b>  | Approval Date:                   | Expiration Date: |                                   |
| E-mail Address: <b>snolan@eprod.com</b>  | Conditions of Approval:          |                  | Attached <input type="checkbox"/> |
| Date: <b>3-19-2015</b>   | Phone: <b>713-381-6595</b>       |                  |                                   |

\* Attach Additional Sheets If Necessary

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**1009 Line Leak**

| Sample I.D.   | Sample Date | Sample Depth<br>(feet bgs) | Soil Status | Benzene<br>(mg/Kg) | Toluene<br>(mg/Kg) | Ethylbenzene<br>(mg/Kg) | Xylenes<br>(mg/Kg) | BTEX (mg/Kg) | TPH<br>GRO<br>(mg/Kg) | TPH<br>DRO<br>(mg/Kg) | TPH<br>GRO/DRO<br>(mg/Kg) | Chlorides<br>(mg/Kg) |
|---|-------------|----------------------------|-------------|--------------------|--------------------|-------------------------|--------------------|--------------|-----------------------|-----------------------|---------------------------|----------------------|
| New Mexico Oil Conservation Division (NMOCD) Recommended Remediation Action Levels (RRALs) (Total Ranking Score: 0) |             |                            |             |                    |                    |                         |                    |              |                       |                       |                           |                      |
| New Mexico Oil Conservation Division (NMOCD)<br>Recommended Remediation Action Level                                |             |                            |             | 10                 | NE                 | NE                      | NE                 | 50           | NE                    | NE                    | 5,000                     | 1,000                |
| E-Wall  | 4/8/2015    | 4'                         | In-Situ     | <0.0200            | 0.0214             | <0.0200                 | 0.0428             | 0.0642       | <4.00                 | <50.0                 | <54.0                     | <20.0                |
| W-Wall  | 4/8/2015    | 4'                         | In-Situ     | <0.0200            | 0.0249             | <0.0200                 | 0.0418             | 0.0667       | <4.00                 | <50.0                 | <54.0                     | 96                   |
| N-Wall  | 4/8/2015    | 4'                         | In-Situ     | 1.32               | 4.3                | 2.26                    | 8.99               | 16.9         | 910                   | 137                   | 1,047                     | 96                   |
| S-Wall  | 4/8/2015    | 4'                         | In-Situ     | 1.76               | 11.1               | 3.59                    | 15.8               | 32.3         | 871                   | <50.0                 | 871                       | 769                  |
| RP  | 4/8/2015    | 6.5'                       | Excavated   | <b>12.5</b>        | <b>41.7</b>        | <b>6.1</b>              | <b>31.5</b>        | <b>91.8</b>  | 2,300                 | <50.0                 | 2,300                     | 588                  |
| RP RE   | 4/22/2015   | 15'                        | In-Situ     | <b>10.7</b>        | <b>44.1</b>        | <b>6.34</b>             | <b>32.9</b>        | <b>94.04</b> | NS                    | NS                    | NS                        | NS                   |
| <b>STOCKPILE SAMPLE ANALYTICAL RESULTS</b>  |             |                            |             |                    |                    |                         |                    |              |                       |                       |                           |                      |
| STP   | 4/8/2015    | NA                         |             | <b>44</b>          | <b>105</b>         | <b>11.1</b>             | <b>68.9</b>        | <b>229</b>   | 4,730                 | <50.0                 | 4,730                     | 588                  |

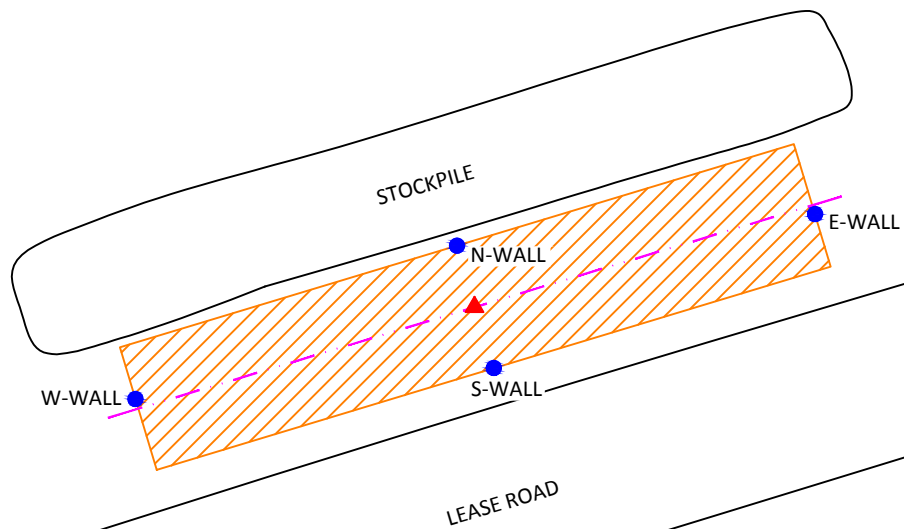
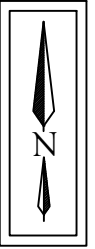
Note: Concentrations in **bold** and yellow exceed the applicable OCD Remediation Action Level

mg/Kg- milligrams per Kilograms

NE - Not Established

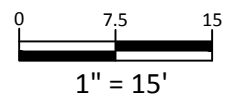
NS - Not Sampled





**LEGEND:**

- SAMPLE LOCATION
- ▲ RELEASE POINT
- 1009 PIPELINE
- EXTENT OF EXCAVATION TO 15 FT BGS



**1009 Line Leak**  
Eddy County, New Mexico  
32.370740N, 103.857236W

Project No. 7250715033



**Apex TITAN, Inc.**  
505 N. Big Springs Street, Suite 301A  
Midland, Texas 79701  
Phone: (432) 695-6016  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

**FIGURE 1**  
**Site Plan**



## APPENDIX I

### Waste Disposal Tickets

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

Approved  
by Anita Gaudin  
on 8/18/2015 9:35 AM

## LEA LAND, LLC

Bill To: Talon 300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

Unique

### NON-HAZARDOUS WASTE MANIFEST

NO 110276

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. #7

|   |  |                                    |                              |
|---|--|------------------------------------|------------------------------|
| G<br>E<br>N<br>E<br>R<br>A<br>T<br>O<br>R | 3. COMPANY NAME<br>Enterprise Products | 4. ADDRESS<br>2162 Commerce        | 5. PICK-UP DATE<br>8/18/2015 |
|   | PHONE NO.<br>(432) 230-1414            | CITY STATE ZIP<br>Midland TX 79703 | 6. TNRCC I.D. NO.            |

|  |                           |                      |                     |                         |
|--|---------------------------|----------------------|---------------------|-------------------------|
| 7. NAME OR DESCRIPTION OF WASTE SHIPPED: | 8. CONTAINERS<br>No. Type | 9. TOTAL<br>QUANTITY | 10. UNIT<br>Wt/Vol. | 11. TEXAS<br>WASTE ID # |
| a. Non-Regulated. Non Hazardous Waste    | 1 CM                      |                      |                     |                         |
| b.                                       |                           |                      |                     |                         |
| c.                                       |                           |                      |                     |                         |
| d. WT: 38,680 39,240 41,640              |                           |                      |                     |                         |

|  |                                 |
|--|---------------------------------|
| 12. COMMENTS OR SPECIAL INSTRUCTIONS:<br>ENTERPRISE LINE 1009<br>TOTAL 119,560 | 13. WASTE PROFILE NO.<br>708582 |
|--|---------------------------------|

|  |                           |                       |
|--|---------------------------|-----------------------|
| 14. IN CASE OF EMERGENCY OR SPILL, CONTACT |                           |                       |
| NAME<br>Kin Slaughter                      | PHONE NO.<br>575-887-4048 | 24-HOUR EMERGENCY NO. |

15. GENERATOR'S CERTIFICATION: I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

|                    |           |      |
|--------------------|-----------|------|
| PRINTED/TYPED NAME | SIGNATURE | DATE |
|--------------------|-----------|------|

|  |   |
|--|---|
| 16. TRANSPORTER (1)<br>NAME: TALON LPE<br>TEXAS I.D. NO.<br>IN CASE OF EMERGENCY CONTACT: KEN<br>EMERGENCY PHONE: (575) 602-1311 | 17. TRANSPORTER (2)<br>NAME:<br>TEXAS I.D. NO.<br>IN CASE OF EMERGENCY CONTACT:<br>EMERGENCY PHONE: |
|--|---|

|  |   |
|--|---|
| 18. TRANSPORTER (1): Acknowledgment of receipt of material<br>PRINTED/TYPED NAME: <u>Stacy McTeer</u><br>SIGNATURE: <u>[Signature]</u> DATE: 8/18/2015 | 19. TRANSPORTER (2): Acknowledgment of receipt of material<br>PRINTED/TYPED NAME: _____<br>SIGNATURE: _____ DATE: _____ |
|--|---|

|               |   |                        |
|---------------|---|------------------------|
| Lea Land, LLC | ADDRESS:<br>Mile Marker 64, U.S. Hwy 62/180,<br>30 Miles East of Carlsbad, NM | PHONE:<br>575-887-4048 |
|---------------|---|------------------------|

|                                      |              |
|--------------------------------------|--------------|
| PERMIT NO.<br>WM-01-035 - New Mexico | 20. COMMENTS |
|--------------------------------------|--------------|

21. DISPOSAL FACILITY'S CERTIFICATION: I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

|  |                   |                |              |
|--|-------------------|----------------|--------------|
| AUTHORIZED SIGNATURE<br><u>[Signature]</u> | CELL NO.<br>_____ | DATE 8/18/2015 | TIME<br>9:45 |
|--|-------------------|----------------|--------------|

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

Bill To Talon:

Unique #24

### NON-HAZARDOUS WASTE MANIFEST

NO 110277

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. #24

|  |  |   |  |                      |                     |                         |
|--|--|---|--|----------------------|---------------------|-------------------------|
| G<br>E<br>N<br>E<br>R<br>A<br>T<br>O<br>R      | 3. COMPANY NAME<br><b>Enterprise Products</b>                        | 4. ADDRESS<br><b>2182 Commerce</b>        | 5. PICK-UP DATE<br><b>8/18/2015</b>    |                      |                     |                         |
|  | PHONE NO.<br><b>(432) 230-1414</b>                                   | CITY STATE ZIP<br><b>Midland TX 79703</b> | 6. TNRCC I.D. NO.                      |                      |                     |                         |
| N<br>E<br>R<br>A<br>T<br>O<br>R                | 7. NAME OR DESCRIPTION OF WASTE SHIPPED:                             |   | 8. CONTAINERS<br>No. Type              | 9. TOTAL<br>QUANTITY | 10. UNIT<br>Wt/Vol. | 11. TEXAS<br>WASTE ID # |
|  | a. <b>Non-Regulated. Non Hazardous Waste</b>                         |   | <b>1</b> <b>CM</b>                     |                      |                     |                         |
|  | b.   |   |  |                      |                     |                         |
|  | c.   |   |  |                      |                     |                         |
| A<br>T<br>T<br>R<br>I<br>B<br>U<br>T<br>E<br>D | d. WT: <b>39460 35520 38060</b>                                      |   |  |                      |                     |                         |
|  | 12. COMMENTS OR SPECIAL INSTRUCTIONS:<br><b>ENTERPRISE LINE 1009</b> |   | 13. WASTE PROFILE NO.<br><b>708582</b> |                      |                     |                         |

TOTAL 113040

### 14. IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME: **Kin Slaughter** PHONE NO: **575-887-4048** 24-HOUR EMERGENCY NO.

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

PRINTED/TYPED NAME SIGNATURE DATE

### 16. TRANSPORTER (1)

NAME: **TALON LPE**  
TEXAS I.D. NO.  
IN CASE OF EMERGENCY CONTACT: **KEN**  
EMERGENCY PHONE: **(575) 802-1311**

### 17. TRANSPORTER (2)

NAME:  
TEXAS I.D. NO.  
IN CASE OF EMERGENCY CONTACT:  
EMERGENCY PHONE:

### 18. TRANSPORTER (1): Acknowledgment of receipt of material

PRINTED/TYPED NAME: **Richard Villalobos**  
SIGNATURE: **Richard Villalobos** DATE: **8/18/2015**

### 19. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME: \_\_\_\_\_  
SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

Lea Land, LLC

### ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

### PHONE:

575-887-4048

### PERMIT NO.

WM-01-035 - New Mexico

### 20. COMMENTS

21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

### AUTHORIZED SIGNATURE

**Santos Gonzalez**

### CELL NO.

DATE **8/18/2015**

### TIME

**9:50**

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

Approved  
by Anita Galsby  
on 9/8/2015 9:33 AM

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

*Martinez*

### NON-HAZARDOUS WASTE MANIFEST

NO 110278

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. #25

G

3. COMPANY NAME  
Enterprise Products

4. ADDRESS  
2182 Commerce

5. PICK-UP DATE  
8/18/2015

E

PHONE NO.  
(432) 230-1414

CITY  
Midland

STATE

TX 79703

ZIP

6. TNRCC I.D. NO.

N

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

a. Non-Regulated, Non Hazardous Waste

8. CONTAINERS

No.

Type

9. TOTAL

QUANTITY

10. UNIT

Wt/Vol.

11. TEXAS

WASTE ID #

E

b.

c.

R

d. WT:

37,740 38,920 37,480

A

12. COMMENTS OR SPECIAL INSTRUCTIONS:  
ENTERPRISE LINE 1009

*Total 114,140  
76,140*

13. WASTE PROFILE NO.

708582

T

14. IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME  
Kin Slaughter

PHONE NO.  
575-887-4048

24-HOUR EMERGENCY NO.

O

15. GENERATOR'S CERTIFICATION: I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16. TRANSPORTER (1)

NAME:

TALON LPE

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

KEN

EMERGENCY PHONE:

(575) 602-1311

17. TRANSPORTER (2)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

S

18. TRANSPORTER (1): Acknowledgment of receipt of material

PRINTED/TYPED NAME

*Hernandez*

SIGNATURE

DATE

8/18/2015

19. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

D

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

F

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

I

S

C

P

O

L

S

A

T

L

21. DISPOSAL FACILITY'S CERTIFICATION: I Hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

*Santa Bonzalez*

CELL NO.

DATE 8/18/2015

TIME

10:30

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 1

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

Approved  
by Anita G. Gishby  
on 8/18/2015 9:31 AM

## LEA LAND, LLC

Bill To TALON

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

Martinez

### NON-HAZARDOUS WASTE MANIFEST

NO 110279

1. PAGE OF

2. TRAILER NO. #007

G

3. COMPANY NAME  
Enterprise Products

4. ADDRESS  
2162 Commerce

5. PICK-UP DATE  
8/18/2015

E

PHONE NO.  
(432) 230-1414

CITY STATE ZIP  
Midland TX 79703

6. TNRCC I.D. NO.

N

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS

9. TOTAL

10. UNIT

11. TEXAS

a. Non-Regulated, Non Hazardous Waste

No.

Type

QUANTITY

Wt/Vol.

WASTE ID #

b.

c.

R

dWT: 37,600 42,420

A

12. COMMENTS OR SPECIAL INSTRUCTIONS:

ENTERPRISE LINE 1009

13. WASTE PROFILE NO.

709582

TOTAL 80,020

T

14. IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME  
Kin Slaughter

PHONE NO  
575-887-4048

24-HOUR EMERGENCY NO.

O

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16. TRANSPORTER (1)

NAME: TALON LPE

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT: KEN

EMERGENCY PHONE: (575) 802-1311

17. TRANSPORTER (2)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

S

18. TRANSPORTER (1): Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

8/18/2015

19. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

D

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

F

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

I

S

C

P

I

O

L

S

I

T

A

21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE 8/18/2015

TIME

10:40

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPIES

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

Bill To Talon

Martinez #06

### NON-HAZARDOUS WASTE MANIFEST

NO 110280

1. PAGE OF

2. TRAILER NO.

G

3. COMPANY NAME  
Enterprise Products

4. ADDRESS  
2182 Commerce

5. PICK UP DATE  
8/18/2015

E

PHONE NO.  
(432) 230-1414

CITY  
Midland

STATE  
TX

ZIP  
79703

6. TNRCC I.D. NO.

N

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS

9. TOTAL

10. UNIT

11. TEXAS

a. Non-Regulated, Non Hazardous Waste

No.

Type

QUANTITY

Wt/Vol.

WASTE ID #

b.

c.

d. WT:

40,640 38,880

12. COMMENTS OR SPECIAL INSTRUCTIONS:  
ENTERPRISE LINE 1009

13. WASTE PROFILE NO.  
708582

TOTAL 79,520

A

14. IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME  
Kin Slaughter

PHONE NO.  
575-887-4048

24-HOUR EMERGENCY NO.

T

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16. TRANSPORTER (1)

NAME: TALON LPE

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

KEN

EMERGENCY PHONE: (575) 602-1311

17. TRANSPORTER (2)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

R

18. TRANSPORTER (1): Acknowledgment of receipt of material

PRINTED/TYPED NAME Jim Galvan

SIGNATURE Jim Galvan DATE 8/18/2015

19. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE

DATE

D

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

F

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

S

21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

A

AUTHORIZED SIGNATURE

CELL NO.

DATE 8/18/2015

TIME

10:45

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

Approved  
by Anita G. Gableby  
on 9/15/2015 9:32 AM

## LEA LAND, LLC

Bill To TALON

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

Martinez

### NON-HAZARDOUS WASTE MANIFEST

NO 110281

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. #29

G

3. COMPANY NAME  
Enterprise Products

4. ADDRESS  
2162 Commerce

5. PICK-UP DATE  
8/18/2015

E

PHONE NO.  
(432) 230-1414

CITY STATE ZIP  
Midland TX 79703

6. TNRCC I.D. NO.

N

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

a. Non-Regulated, Non Hazardous Waste

1 CM

E

b.

R

dWT: 38,160 37,360 45,260

A

12. COMMENTS OR SPECIAL INSTRUCTIONS:  
ENTERPRISE LINE 1009

TOTAL 120,780  
75,720

13. WASTE PROFILE NO.  
708582

T

14. IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME  
Kin Slaughter

PHONE NO  
575-887-4048

24-HOUR EMERGENCY NO.

O

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

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16. TRANSPORTER (1)

NAME: TALON LPE

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT: KEN

EMERGENCY PHONE: (575) 802-1311

18. TRANSPORTER (1): Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE DATE 8/18/2015

17. TRANSPORTER (2)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

19. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME

SIGNATURE DATE

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Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE 8/18/2015

TIME

10:50

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 1



# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

Approved  
by Anita Goolsby  
on 8/18/2015 9:39 AM

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

Armando's

### NON-HAZARDOUS WASTE MANIFEST

NO 110282

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. #

A 07

G

3. COMPANY NAME  
Enterprise Products

4. ADDRESS  
2182 Commerce

5. PICK-UP DATE  
8/18/2015

E

PHONE NO.  
(432) 230-1414

CITY STATE ZIP  
Midland TX 79703

6. TNRCC LD. NO.

N

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

8. CONTAINERS  
No. Type

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

a. Non-Regulated, Non Hazardous Waste

1

CM

E

b.

R

c.

d. WT: 42,080 45,940

A

12. COMMENTS OR SPECIAL INSTRUCTIONS:  
ENTERPRISE LINE 1009

13. WASTE PROFILE NO.

708582

TOTAL 88,020

T

#### 14. IN CASE OF EMERGENCY OR SPILL, CONTACT

NAME  
Kin Slaughter

PHONE NO  
575-887-4048

24-HOUR EMERGENCY NO.

O

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC

R

PRINTED/TYPED NAME

SIGNATURE

DATE

T

16. TRANSPORTER (1)

17. TRANSPORTER (2)

NAME: TALON LPE

NAME:

TEXAS I.D. NO.

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

KEN

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE: (575) 602-1311

EMERGENCY PHONE:

S

18. TRANSPORTER (1): Acknowledgment of receipt of material

19. TRANSPORTER (2): Acknowledgment of receipt of material

PRINTED/TYPED NAME

ARMANDO MUÑOZ

PRINTED/TYPED NAME

SIGNATURE

Armando Munoz

DATE

8/18/2015

SIGNATURE

DATE

DISPOSAL FACILITY

Lea Land, LLC

ADDRESS:

Mile Marker 64, U.S. Hwy 62/180,  
30 Miles East of Carlsbad, NM

PHONE:

575-887-4048

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.

AUTHORIZED SIGNATURE

CELL NO.

DATE 8/18/2015

TIME

11:00

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3

TRANSPORTERS: COPIES 4 & 5

COPY 1

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 US HWY 62/180 • 30 MILES EAST OF CARLSBAD, NM • PHONE (575) 887-4048

Approved  
by Anita Coolsby  
on 8/18/2015 9:39 AM

## LEA LAND, LLC

1300 WEST MAIN STREET • OKLAHOMA CITY, OK 73106 • PHONE (405) 236-4257

Bill To Talon

Rockin X

### NON-HAZARDOUS WASTE MANIFEST

NO 110283

1. PAGE \_\_\_ OF \_\_\_

2. TRAILER NO. #02

|  |   |  |   |  |                                 |                         |
|--|---|--|---|--|---------------------------------|-------------------------|
| G<br>E<br>N<br>E<br>R<br>A<br>T<br>O<br>R                | 3. COMPANY NAME<br>Enterprise Products  |  | 4. ADDRESS<br>2182 Commerce   |  | 5. PICK-UP DATE<br>8/18/2015    |                         |
|  | PHONE NO.<br>(432) 230-1414   |  | CITY<br>Midland   | STATE<br>TX  | ZIP<br>79703                    | 6. TNRCC LD. NO.        |
|  | 7. NAME OR DESCRIPTION OF WASTE SHIPPED:  |  | 8. CONTAINERS<br>No. Type   | 9. TOTAL<br>QUANTITY   | 10. UNIT<br>Wt/Vol.             | 11. TEXAS<br>WASTE ID # |
|  | a. Non-Regulated, Non Hazardous Waste   |  | 1   | CM   |                                 |                         |
| T<br>R<br>A<br>N<br>S<br>P<br>O<br>R<br>T<br>E<br>R<br>S | b.  |  |   |  |                                 |                         |
|  | c.  |  |   |  |                                 |                         |
|  | d. WT: 34,980 36,680  |  |   |  |                                 |                         |
|  | 12. COMMENTS OR SPECIAL INSTRUCTIONS:<br>ENTERPRISE LINE 1009   |  | TOTAL 71,660  |  | 13. WASTE PROFILE NO.<br>709582 |                         |
| D<br>I<br>S<br>P<br>O<br>S<br>I<br>T<br>A<br>L<br>Y      | 14. IN CASE OF EMERGENCY OR SPILL, CONTACT  |  |   |  |                                 |                         |
|  | NAME<br>Kin Slaughter   |  | PHONE NO.<br>575-887-4048   |  | 24-HOUR EMERGENCY NO.           |                         |
|  | 15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations, and are the same materials previously approved by LEA LAND, LLC |  |   |  |                                 |                         |
|  | PRINTED/TYPED NAME  |  |   | SIGNATURE  |                                 | DATE                    |
| D<br>I<br>S<br>P<br>O<br>S<br>I<br>T<br>A<br>L<br>Y      | 16. TRANSPORTER (1)<br>NAME: TALON LPE<br>TEXAS LD. NO.<br>IN CASE OF EMERGENCY CONTACT: KEN<br>EMERGENCY PHONE: (575) 602-1311   |  |   | 17. TRANSPORTER (2)<br>NAME:<br>TEXAS LD. NO.<br>IN CASE OF EMERGENCY CONTACT:<br>EMERGENCY PHONE: |                                 |                         |
|  | 18. TRANSPORTER (1): Acknowledgment of receipt of material  |  |   | 19. TRANSPORTER (2): Acknowledgment of receipt of material   |                                 |                         |
|  | PRINTED/TYPED NAME: X [Signature]   |  |   | PRINTED/TYPED NAME: _____  |                                 |                         |
|  | SIGNATURE: X [Signature] DATE: 8/18/2015  |  |   | SIGNATURE: _____ DATE: _____   |                                 |                         |
| D<br>I<br>S<br>P<br>O<br>S<br>I<br>T<br>A<br>L<br>Y      | Lea Land, LLC   |  | ADDRESS:<br>Mile Marker 64, U.S. Hwy 62/180,<br>30 Miles East of Carlsbad, NM |  | PHONE:<br>575-887-4048          |                         |
|  | PERMIT NO.<br>WM-01-035 - New Mexico  |  | 20. COMMENTS  |  |                                 |                         |
|  | 21. DISPOSAL FACILITY'S CERTIFICATION: I hereby certify that the above described wastes were delivered to this facility, that the facility is authorized and permitted to receive such wastes.  |  |   |  |                                 |                         |
|  | AUTHORIZED SIGNATURE: [Signature]   |  |   | CELL NO.   | DATE: 8/18/2015                 | TIME: 11:10             |

GENERATOR: COPIES 1 & 6

DISPOSAL SITE: COPIES 2 & 3


TRANSPORTERS: COPIES 4 & 5

COPY 1

## LEA LAND, LLC

### Purchase of Backfill Material

Lea Land's backfill material (caliche or top soil) is generated by excavation of the material from within the 640 acres owned by Lea Land, LLC. This material is native soil and, therefore, has never been treated. Backfill material is excavated as needed.

  
Saralyn Hall  
Marketing Manager