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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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 *Enterprise Field Services LLC* | Contact *Alena Miro* |
| *PO Box 4324, Houston, TX 77210* | Telephone No. *575-628-6802* |
| Facility Name *Pipeline ROW, Line 1009* | Facility Type: *Gas Gathering Pipeline* |

| | | |
|---|---|---|
| Surface Owner *State of New Mexico* | Mineral Owner *NA - Pipeline* | Lease No. *NA* |

## LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|---|---|---|---|---|---|---|---|---|
| *F* | *13* | *21S* | *34E* | *462* | *South* | *493* | *East* | *Lea* |

**Latitude:** *32.480269* **Longitude:** *W -103.425138*

## NATURE OF RELEASE

| | | |
|---|---|---|
| Type of Release *Natural Gas and pipeline liquids* | Volume of Release: *1724 MCF gas and 60 bbls liquids* | Volume Recovered: *N/A* |
| Source of Release *Pipeline Leak.* | Date and Hour of Occurrence *1/19/2016 @ 08:45 MST* | Date and Hour of Discovery *1/19/2016 @ 08:45 MST* |
| Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required | If YES, To Whom? *Region 1 – Kellie Jones* | |
| By Whom? *Alena Polk* | Date and Hour *1/19/2016 @ 11 am* | |
| Was a Watercourse Reached? ☐ Yes ☒ No | If YES, Volume Impacting the Watercourse. | |

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

***Pipeline leak was detected by a third party. Pipeline segment and free fluids were isolated, blown down, and repaired following a standard one-call. About 60 bbls of liquid noted on ROW.***

Describe Area Affected and Cleanup Action Taken.*

***A liquid spill of about 60bbls occurred as part of the leak. Remediation actions followed the Enterprise Products, General Release Notification, Response and Remediation Plan (March 9, 2015).***

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: Jon E. Fields | OIL CONSERVATION DIVISION | |
| Printed Name: *Jon E. Fields* | Approved by District Supervisor: Ashley Maxwell | |
| Title: *Director, Field Environmental* | Approval Date: 4/20/2023 | Expiration Date: |
| E-mail Address: *jefields@eprod.com* | Conditions of Approval: | Attached ☐ |
| Date: 5-9-19 Phone: *713-381-6684* | | |

* Attach Additional Sheets If Necessary

# CORRECTIVE ACTION REPORT

Property:

**1009 Pipeline Release #2**
**32.480269 N, 103.425138 W**
**SE¼ NW¼, S13 T21S R34E**
**Lea County, New Mexico**
NMOCD RP No.: 1RP-4121

November 15, 2017
Apex Project No. 725010112135

Prepared for:

**Enterprise Field Services LLC**
PO Box 4324
Houston, TX 77210
**Attn: Ms. Alena Miro**

Prepared by:

Karolanne Toby
Project Manager

Sharon Hall-Hunt, P.G.
Branch Manager

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**CORRECTIVE ACTION REPORT**

**1009 Pipeline Release #2**
32.480269 N, 103.425138 W
SE¼ NW ¼, S13 T21S R34E
Lea County, New Mexico
NMOCD RP No.: 1RP-4121

Apex Project No. 725010112135

## 1.0 INTRODUCTION

### *1.1 Site Description & Background*

The 1009 Pipeline Release #2 release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southeast (SE) ¼ of the northeast (NW) ¼ of Section 13 in Township 21 South and Range 34 East in rural Lea County, New Mexico, (32.480269 N, 103.425138 W) referred to hereinafter as the "Site". The Site is located on property consisting of native rangeland periodically interrupted by oil and natural gas production with adjacent gathering facilities, including the Enterprise 1009 natural gas gathering pipeline (1009 pipeline) which traverses the area from southwest to northeast.

On January 19, 2016, Enterprise was notified of a release on a segment of the 1009 pipeline by a third party. Immediate response action commenced in accordance with the Enterprise *General Release Notification, Response and Remediation Plan* (dated March 2015). The pipeline segment was isolated, blown down and repaired by Enterprise subsequent to notification of the release. Approximately 60 barrels (bbls) of natural gas pipeline liquids (NGPL) were released from the pipeline and impacted subsurface soils in the vicinity of the release point within the 1009 pipeline ROW. Enterprise submitted an initial Form C-141 for the release at the Site on January 19, 2016. The associated New Mexico Oil Conservation Division (NMOCD) RP No. is 1RP-4121.

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 objectives of the corrective actions were to assess and reduce the concentration of constituents of concern (COCs) in the on-Site soils to below the NMOCD Recommended Remediation Action Levels (RALs) using the New Mexico Energy, Minerals and Natural Resources Division (EMNRD) OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.

The objectives of Apex TITAN, Inc. (Apex's) scope of services were to:

1) Conduct field observations and guide excavation activities during response action activities utilizing a photoionization detector (PID) to measure volatile organic compounds (VOCs) and a salinity meter (ExStik®) to measure chloride, as well as visual and olfactory evidence to evaluate the potential presence and extent of NGPL impacted on-Site soils.

2) Collect soil samples from the release point and excavation areas based on visual and olfactory evidence of impairment for analysis of benzene, toluene, ethylbenzene and xylenes (BTEX), total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) and chloride.

## 2.0 SITE CHARACTERIZATION

### *2.1 Geology and Hydrogeology*

The lithology encountered during soil investigation and remediation activities at the Site consisted of fine sandy loam and sandy clay loam. The publication *Geology and Groundwater Conditions in Southern Lea County, New Mexico*, published by the State Bureau of Mines and Mineral Resources, a division of the New Mexico Institute of Mining and Technology, indicates that the Site is located over Quaternary sand and alluvium underlain by Pliocene calcareous sand capped with a thick layer of caliche, containing some clay, silt and gravel.

### *2.2 Site Ranking*

In accordance with the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex utilized the general Site characteristics obtained during the completion of corrective action activities and information available from the Office of the New Mexico Office of the State Engineer (NMOSE) online database 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 | 20 |
| | 50 to 99 feet | 10 | |
| | >100 feet | 0 | |
| Wellhead Protection Area <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** | | | 20 |

Based on Apex's evaluation of the scoring criteria, the Site would have a maximum Total Ranking Score of "20". This ranking is based on the following:

- The approximate depth to the initial groundwater-bearing zone is less than 50 feet.
- 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 "20", the recommended COC concentrations for soils remaining in place include:

- 10 milligrams per Kilogram (mg/Kg) for benzene;
- 50 mg/Kg for total BTEX;
- 100 mg/Kg for combined TPH GRO and DRO; and
- 250 mg/Kg for chloride.

## 3.0 RESPONSE ACTIONS

### *3.1 Soil Excavation Activities*

On January 19, 2016, Enterprise was notified of a release on a segment of the 1009 pipeline by a third party. The pipeline segment was isolated, blown down and repaired by Enterprise subsequent to notification of the release. An estimated 60 bbls of NGPL was released from the 1009 pipeline and impacted subsurface soils in the vicinity of the release point within the pipeline ROW. Enterprise submitted an initial Form C-141 for the release at the Site on January 19, 2016. The associated NMOCD RP No. is 1RP-4121. The initial and final Form C-141 are provided in Appendix E.

The initial excavation activities to replace the leaking portion of the pipeline were carried out on February 11, 2016 by NMR Pipeline, LLC (NMR). Excavation activities resumed on February 24, 2016, to over-excavate and remove impacted material from the excavation sidewalls and floor. Apex was present during this time to provide excavation oversight and assist in soil removal utilizing field measurements collected with the PID and salinity meter. Impacted soil was removed from below and surrounding the release point on the 1009 pipeline. Based on Apex's field screening data generated during field activities, the excavation sidewalls and floor required further removal of affected soils.

On November 2, 2016, NMR returned to the Site to complete over-excavation activities in the northeast and south/southwest portion of the excavation. Apex was present during this time to provide excavation oversight and to collect soil samples. Based on laboratory analytical results, additional excavation was required in the southern portion of the excavation, located outside the Enterprise boundaries of 1009 pipeline ROW.

On January 13, 2017, Enterprise submitted a *Right of Entry Request for Remediation* form to Ms. Aubrey Dunn, the State of New Mexico Commissioner of Public Lands in order to continue excavating affected soils located outside the designated 1009 pipeline ROW. On March 24, 2017, the *Right of Entry Request for Remediation* form was approved (Contract No.: ROE-3081). A copy of the Right of Entry Permit for the Site is included in Appendix F.

On May 10, 2017 and May 31, 2017, NMR returned to the Site to complete over-excavation activities outside the 1009 pipeline ROW. Apex was present during this time to provide excavation oversight and to collect soil samples. Based on laboratory analytical results, additional excavation was required in the southern portion of the excavation.

On August 7, 2017, NMR returned to the Site to complete over-excavation activities in the southern portion of the excavation, located outside the 1009 pipeline ROW.

Final excavation dimensions were approximately 95 feet long by 20 to 28 feet wide, with an approximate depth ranging from five (5) feet to 10.5 feet below ground surface (bgs).

Impacted soil was excavated with heavy equipment and staged into one (1) stockpile on-Site. Based on laboratory analytical results of the composite confirmation soil sample collected from the stockpile (STP), the stockpiled soils were transported off-Site for disposal. Approximately 639 tons of impacted soil was transported off-Site for disposal at Lea Land Disposal facility located in Eunice, New Mexico. Subsequent to receipt of confirmation sample analytical results, the excavation was backfilled with non-impacted caliche fill material, compacted utilizing heavy equipment and the area was contoured to approximate original surface grade. Waste disposal manifests are provided in Appendix G.

### *3.2 Soil Sampling Program*

Apex's soil sampling program consisted of collecting confirmation soil samples from the on-Site excavation prior to the excavation backfill. Soil samples were observed to document lithology, color, moisture content, and visual and olfactory evidence of petroleum hydrocarbon.

On November 2, 2016, Apex collected seven (7) confirmation soil samples (CS-1 through CS-7) at the Site from the sidewalls of the excavation and areas along the excavation floor, including directly under the point of release on the 1009 pipeline. The confirmation soil samples (CS-1 through CS-3 and CS-6) were collected from the sidewalls of the excavation from an approximate depth of three (3) feet bgs. The confirmation soil samples (CS-4, CS-5 and CS-7) were collected from the excavation floor in the vicinity of the release point from approximate depths ranging from five (5) to 10.5 feet bgs.

Based on initial laboratory analytical results, additional excavation was conducted. On May 10, 2017, subsequent to additional excavation, Apex returned to the Site and collected five (5) confirmation soil samples (CS-3 RE, CS-8, CS-9, CS-10 and CS-11) from the new excavation boundaries and locations within the excavation that previously reflected exceedances in COC concentrations. The confirmation samples (CS-3 RE, CS-8, CS-9, CS-10 and CS-11) were collected along the excavation sidewalls approximate depths ranging from three (3) to six (6) feet bgs.

Based on laboratory analytical results, additional excavation was conducted. On May 31, 2017, subsequent to additional excavation, Apex returned to the Site and collected four (4) confirmation soil samples (CS-9-RE, CS-9-RE2, CS-10-RE and CS-10-RE2) from locations that previously reflected exceedances in the COC concentrations. The confirmation soil samples were collected along the southern portion of the excavation sidewall, located outside the 1009 Pipeline ROW, from approximate depths ranging from three (3) to six (6) feet bgs. In addition, Apex collected a composite soil sample (STP) from the stockpiled soils on-Site.

Based on laboratory analytical results, additional excavation was conducted. On August 7, 2017, subsequent to additional excavation, Apex returned to the Site and collected two (2) confirmation soil samples (CS-9-RE3 and CS-10-RE3) from locations that previously reflected exceedances in the COC concentrations. The confirmation soil samples were collected from the southern portion of the excavation sidewall, located outside the 1009 Pipeline ROW, from approximate depths ranging from four (4) to six (6) feet bgs.

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 Xenco Laboratories in Midland, Texas. Soil samples were analyzed for TPH GRO/DRO utilizing Environmental Protection Agency (EPA) Method 8015B, BTEX utilizing EPA Method 8021B and chloride utilizing EPA method 300.

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

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

## 4.0 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 New Mexico Administrative Code 19.15.29 *Remediation Plan*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

### *4.1 Soil Samples*

Apex compared the benzene, total BTEX, TPH GRO/DRO/ORO and chloride concentrations or laboratory reporting limits (RLs) associated with the soil samples collected from the Site to the OCD *Recommended Remediation Action Levels* (RALs) for sites having a total ranking score of "20".

**Benzene**

The excavation confirmation soil samples (CS-1 through CS-11) did not exhibit benzene concentrations above the laboratory RLs, which are below the OCD RAL of 10 mg/Kg for a Site Ranking of "20".

The stockpile composite soil sample (STP) did not exhibit a benzene concentration above the laboratory RL, which is below the OCD RAL of 10 mg/Kg for a Site Ranking of "20".

**Total BTEX**

The excavation confirmation soil samples (CS-1 through CS-11) indicated total BTEX concentrations ranging from below the laboratory RLs to 0.0146 mg/Kg, which are below the OCD RAL of 50 mg/Kg for a Site Ranking of "20".

The stockpile composite soil sample (STP) did not exhibit a total BTEX concentration above the laboratory RL, which is below the OCD RAL of 50 mg/Kg for a Site Ranking of "20".

**TPH**

The final excavation confirmation soil samples (CS-1, CS-2, CS-3-RE, CS-4 through CS-8, CS-9-RE3, CS-10-RE3 and CS-11) indicated total TPH concentrations ranging from below the laboratory RLs to 38.1 mg/Kg, which are below the OCD RAL of 100 mg/Kg for a Site Ranking of "20".

The stockpile composite soil sample (STP) indicated a combined TPH GRO/DRO concentration of 487 mg/Kg, which above the OCD RAL of 100 mg/Kg for a Site Ranking of "20".

**Chloride**

The final excavation confirmation soil samples (CS-1, CS-2, CS-3-RE, CS-4 through CS-8, CS-9-RE3, CS-10-RE3 and CS-11) indicated chloride concentrations ranging from 17.5 mg/Kg to 96.8 mg/Kg, which are below the OCD RAL of 250 mg/Kg for a Site Ranking of "20".

The stockpile composite soil sample (STP) indicated a chloride concentration of 925 mg/Kg, which above the OCD RAL of 250 mg/Kg for a Site Ranking of "20".

Laboratory analytical results are summarized in the table included in Appendix B. The executed chain-of-custody forms and laboratory data sheets are provided in Appendix D.

## 5.0 FINDINGS AND RECOMMENDATIONS

**Findings**

The 1009 Pipeline Release #2 release site is located within the Enterprise pipeline ROW in the SE ¼ of the NW ¼ of Section 13 in Township 21 South and Range 34 East in rural Lea County, New Mexico, (32.480269 N, 103.425138 W). The Site is located on property consisting of native rangeland periodically interrupted by oil and natural gas production with adjacent gathering facilities, including the Enterprise 1009 pipeline.

On January 19, 2016, Enterprise was notified of a release on a segment of the 1009 pipeline by a third party. Immediate response action commenced in accordance with the Enterprise *General Release Notification, Response and Remediation Plan* (dated March 2015). The pipeline segment was isolated, blown down and repaired by Enterprise subsequent to notification of the release. Approximately 60 bbls of NGPL was released from the pipeline and impacted subsurface soils in the vicinity of the release point within the 1009 pipeline ROW. Enterprise submitted an initial Form C-141 for the release at the Site on January 19, 2016 (RP No.: 1RP-4121). Under the supervision of Enterprise personnel, NGPL affected soils were excavated by NMR.

- The primary objective of the corrective actions was to evaluate the presence, magnitude and extent of COCs in the soil affected by the release of NGPL from the 1009 pipeline.
- On-Site remediation included excavation of the affected area impacted by the release of NGPL, starting from the release point. The final excavated area measured approximately 95 feet long by 20 to 28 feet wide, with an approximate depth ranging from five (5) feet to 10.5 feet bgs.
- Impacted soil was excavated with heavy equipment and staged into one (1) stockpile on-Site (STP). The stockpile was transported off-Site for disposal at Lea Land Disposal Facility located in Eunice, New Mexico.
- The soils remaining in place near the release point on the 1009 pipeline do not exhibit benzene, total BTEX, total TPH and/or chloride concentrations above the OCD RALs for a Site Ranking of “20”.
- Approximately 639 tons of excavated impacted soil was transported off-Site to Lea Land disposal facility in Eunice, New Mexico. Subsequent to receipt of confirmation sample analytical results, the excavation was backfilled with non-impacted caliche fill material, compacted utilizing heavy equipment and the area was contoured to approximate original surface grade.

**Recommendations**

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

## 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

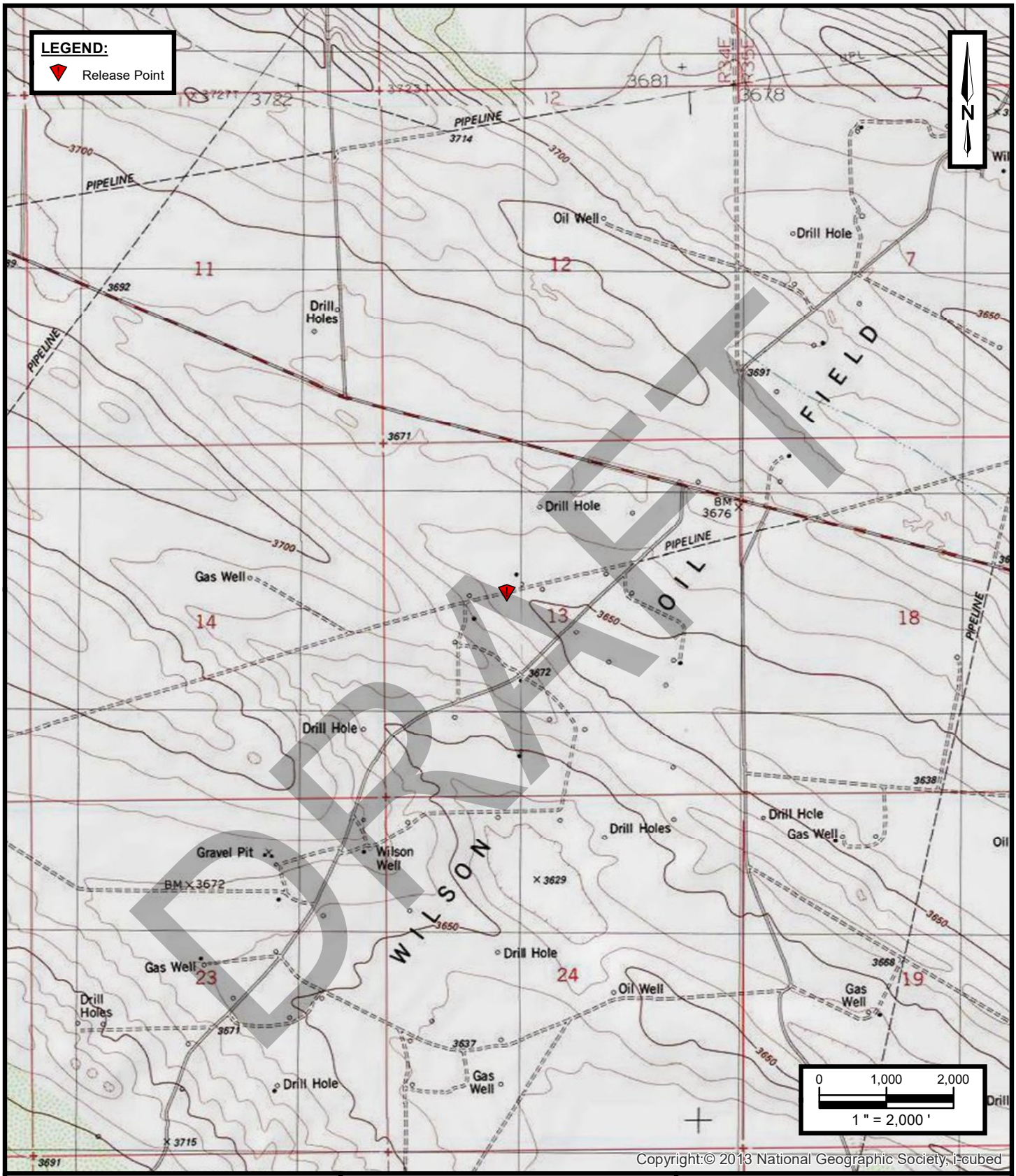
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client.

Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence of hazardous substances, petroleum products, or other constituents may have been latent, inaccessible, unobservable, or not present during these services, and Apex cannot represent that the Site contains no hazardous substances, toxic materials, petroleum products, or other latent conditions beyond those identified during this scope of services. Environmental conditions at other areas or portions of the Site may vary from those encountered at actual sample locations. Apex's findings and recommendations are based solely upon data available to Apex at the time of these services.

This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, the report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.

# APPENDIX A

## Figures




**Enterprise Field Services LLC.**
**1009 Pipeline Release #2**
Lea County, New Mexico
32.480269 N, 103.425138 W

Project No. 725010112135

**Apex TITAN, Inc.**
505 N Big Spring St., Suite 301A
Midland, Texas 79701
*Phone: (432) 695-6016*
www.apexcos.com
***A Subsidiary of Apex Companies, LLC***

**FIGURE 1**

**Topographic Map**

San Simon Ranch
New Mexico Quadrangle
1984

Z:\Dallas South\Drafting\2016\725010112135\Figure 1.mxd Modified 11/4/2016 by JSimpson NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US Coordinate System


**Enterprise Field Services LLC.**
**1009 Pipeline Release #2**
Lea County, New Mexico
32.480269 N, 103.425138 W

Project No. 725010112135

**Apex TITAN, Inc.**
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Midland, Texas 79701
*Phone: (432) 695-6016*
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***A Subsidiary of Apex Companies, LLC***

**FIGURE 2**

**Site Vicinity Map**

Aerial Photograph February 2014

Z:\Dallas South\Drafting\2016\725010112135\Figure 2.mxd Modified 11/4/2016 by JSimpson NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US Coordinate System

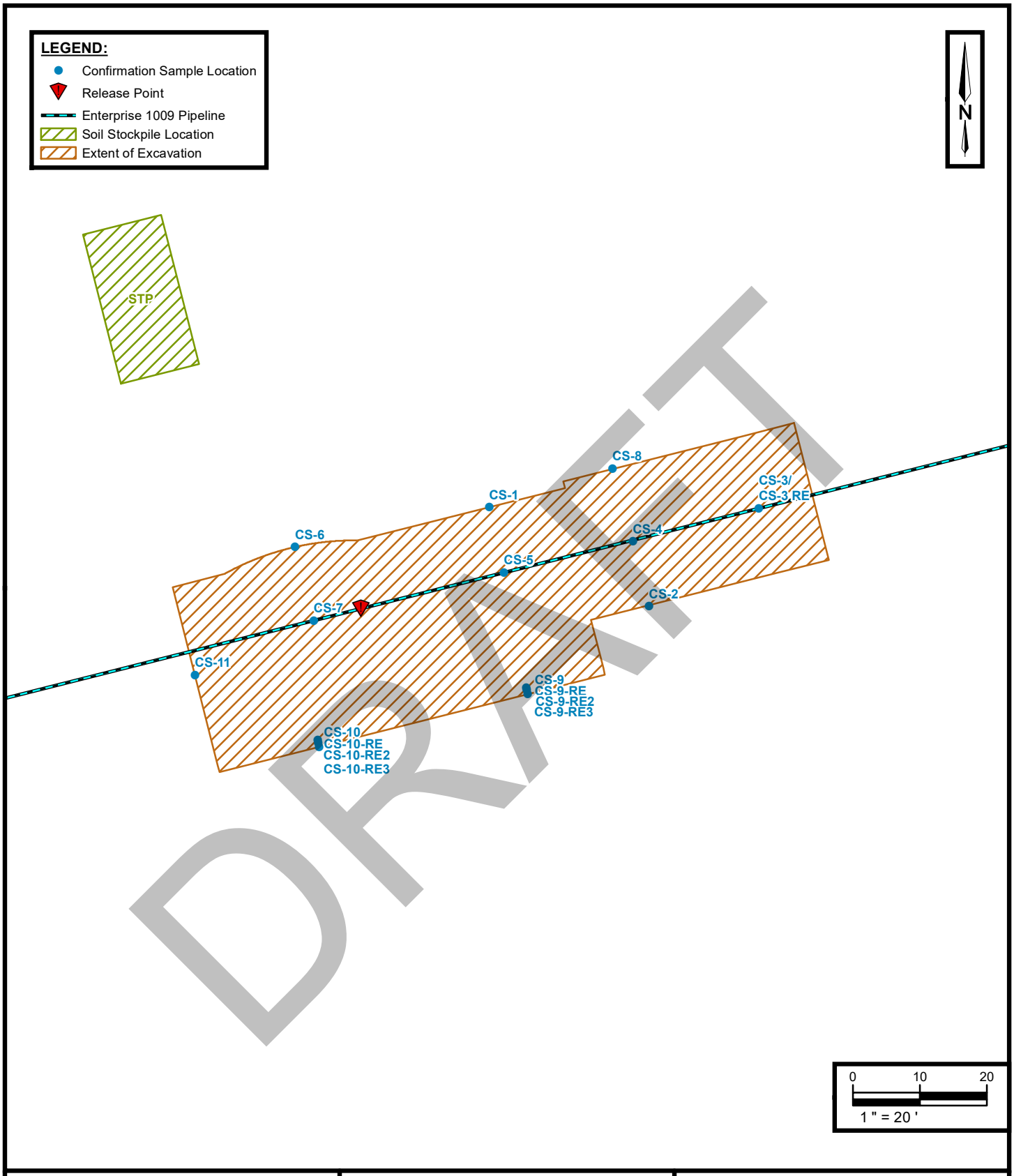


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**FIGURE 3**

**Site Map**

Z:\Dallas South\Drafting\2016\725010112135\Figure 3.mxd Modified 6/12/2017 by jsimpson NAD 1983 2011 StatePlane New Mexico East FIPS 3001 Ft US Coordinate System

# APPENDIX B

## Tables

# TABLE 1

## SOIL SAMPLE ANALYTICAL RESULTS

## 1009 Pipeline Release #2

| Sample I.D. | Sample Date | Sample Depth (feet bgs) | Benzene (mg/Kg) | Toluene (mg/Kg) | Ethylbenzene (mg/Kg) | Xylenes (mg/Kg) | Total BTEX (mg/Kg) | TPH GRO (mg/Kg) | TPH DRO (mg/Kg) | TPH ORO (mg/Kg) | Total TPH (mg/Kg) | Chloride (mg/Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **New Mexico Oil Conservation Division (NMOCD) Recommended Remediation Action Level (RAL) (Site Ranking: 20)** | | | **10** | **NE** | | | **50** | **NE** | | | **100** | **250** |
| **EXCAVATION CONFIRMATION SAMPLE ANALYTICAL RESULTS** | | | | | | | | | | | | |
| CS-1 | 11/2/2016 | 3 | <0.00150 | <0.00200 | <0.00200 | <0.00200 | <0.00150 | <15.0 | <15.0 | NA | <15.0 | **23.4** |
| CS-2 | 11/2/2016 | 3 | <0.00149 | <0.00198 | <0.00198 | <0.00198 | <0.00149 | **15.1** | **23.0** | NA | **38.1** | **23.4** |
| CS-3 | 11/2/2016 | 3 | <0.00149 | <0.00199 | <0.00199 | <0.00199 | <0.00149 | <15.0 | **395** | NA | **395** | **81.0** |
| CS-3 RE | 5/10/2017 | 3 | NA | | | | | <15.0 | <15.0 | <15.0 | <15.0 | NA |
| CS-4 | 11/2/2016 | 5 | <0.00150 | <0.00200 | <0.00200 | <0.00200 | <0.00150 | <15.0 | <15.0 | NA | <15.0 | **20.9** |
| CS-5 | 11/2/2016 | 5 | <0.00149 | <0.00199 | <0.00199 | <0.00199 | <0.00149 | <15.0 | <15.0 | NA | <15.0 | **20.0** |
| CS-6 | 11/2/2016 | 3 | <0.00150 | <0.00200 | <0.00200 | <0.00200 | <0.00150 | <15.0 | <15.0 | NA | <15.0 | **28.3** |
| CS-7 | 11/2/2016 | 10.5 | <0.00149 | <0.00198 | <0.00198 | <0.00198 | <0.00149 | <15.0 | <15.0 | NA | <15.0 | **17.5** |
| CS-8 | 5/10/2017 | 3 | <0.00560 | <0.00560 | <0.00560 | <0.00560 | <0.00560 | <14.9 | **23.4** | <14.9 | **23.4** | **90.0** |
| CS-9 | 5/10/2017 | 3 | <0.00586 | <0.00586 | <0.00586 | **0.0146** | **0.0146** | <15.0 | **22.2** | <15.0 | **22.2** | **477** |
| CS-9-RE | 5/31/2017 | 3 | NA | | | | | | | | | **451** |
| CS-9-RE2 | 5/31/2017 | 3 | NA | | | | | | | | | **520** |
| CS-9-RE3 | 8/7/2017 | 4 | NA | | | | | | | | | **84.6** |
| CS-10 | 5/10/2017 | 6 | <0.00558 | <0.00558 | <0.00558 | <0.00558 | <0.00558 | <15.0 | **27.3** | <15.0 | **27.3** | **538** |
| CS-10-RE | 5/31/2017 | 6 | NA | | | | | | | | | **591** |
| CS-10-RE2 | 5/31/2017 | 6 | NA | | | | | | | | | **689** |
| CS-10-RE3 | 8/7/2017 | 6 | NA | | | | | | | | | **71.7** |
| CS-11 | 5/10/2017 | 6 | <0.00570 | <0.00570 | <0.00570 | <0.00570 | <0.00570 | <15.0 | <15.0 | <15.0 | <15.0 | **96.8** |
| **STOCKPILE COMPOSITE SAMPLE ANALYTICAL RESULTS** | | | | | | | | | | | | |
| STP | 5/31/2017 | NA | <0.00348 | <0.00348 | <0.00348 | <0.00348 | <0.00348 | **16.1** | **386** | NA | **487** | **925** |

*Note: Concentations in **bold** and yellow exceed the applicable OCD Remediation Action Levels*

*: indicates overexcavation and/or resample.*

*bgs: below ground surface*

*DRO: Diesel Range Organics*

*GRO: Gasoline Range Organics*

*mg/Kg: milligrams per Kilogram*

*NA: Not Analyzed*

*NE: Not Established*

*ORO: Oil Range Organics*

# APPENDIX C

## Photo Documentation

# SITE PHOTOS

1009 Pipeline Release #2

View of initial excavation activities, facing northeast.

View of initial excavation and placement of stockpiled soils, facing southwest.

View of excavation area and stockpiles subsequent to over-excavation activities, facing northeast.

View of stockpiled soils generated during over-excavation activities, facing northeast.

View of final excavation boundaries, facing north.

# APPENDIX D

## Laboratory Analytical Reports & Chain of Custody Documentation

# Analytical Report 539655

## for

## APEX/Titan

**Project Manager: Karolanne Toby**

**1009 Pipeline Release #2**

**725010112135**

**04-NOV-16**

Collected By: Client

**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

# Table of Contents

04-NOV-16

Project Manager: **Karolanne Toby**
**APEX/Titan**
505 N. Big Spring Ste. 301 A
Midland, TX 79701

Reference: XENCO Report No(s): **539655**
**1009 Pipeline Release #2**
Project Address:

**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) 539655. 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. 539655 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

# Sample Cross Reference 539655

## APEX/Titan, Midland, TX

1009 Pipeline Release #2

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| CS-1 | S | 11-02-16 13:05 | 3 ft | 539655-001 |
| CS-2 | S | 11-02-16 13:08 | 3 ft | 539655-002 |
| CS-3 | S | 11-02-16 13:14 | 3 ft | 539655-003 |
| CS-4 | S | 11-02-16 13:17 | 5 ft | 539655-004 |
| CS-5 | S | 11-02-16 13:20 | 5 ft | 539655-005 |
| CS-6 | S | 11-02-16 13:26 | 3 ft | 539655-006 |
| CS-7 | S | 11-02-16 15:15 | 10.5 ft | 539655-007 |

# CASE NARRATIVE



***Client Name: APEX/Titan***

***Project Name: 1009 Pipeline Release #2***

Project ID: *725010112135*
Work Order Number(s): *539655*

Report Date: *04-NOV-16*
Date Received: *11/02/2016*

**Sample receipt non conformances and comments:**

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

None

**Analytical non conformances and comments:**

Batch: LBA-3003278 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 539655

## APEX/Titan, Midland, TX

## Project Name: 1009 Pipeline Release #2

**Project Id:** 725010112135
**Contact:** Karolanne Toby
**Project Location:**

**Date Received in Lab:** Wed Nov-02-16 05:50 pm
**Report Date:** 04-NOV-16
**Project Manager:** Kelsey Brooks

| Analysis Requested | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 539655-001 | | 539655-002 | | 539655-003 | | 539655-004 | | 539655-005 | | 539655-006 | |
| | ***Field Id:*** | CS-1 | | CS-2 | | CS-3 | | CS-4 | | CS-5 | | CS-6 | |
| | ***Depth:*** | 3- ft | | 3- ft | | 3- ft | | 5- ft | | 5- ft | | 3- ft | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | |
| | ***Sampled:*** | Nov-02-16 13:05 | | Nov-02-16 13:08 | | Nov-02-16 13:14 | | Nov-02-16 13:17 | | Nov-02-16 13:20 | | Nov-02-16 13:26 | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Nov-03-16 18:00 | | Nov-03-16 18:00 | | Nov-03-16 18:00 | | Nov-03-16 18:00 | | Nov-03-16 18:00 | | Nov-03-16 18:00 | |
| | ***Analyzed:*** | Nov-03-16 23:27 | | Nov-04-16 12:54 | | Nov-04-16 11:33 | | Nov-04-16 11:49 | | Nov-04-16 12:05 | | Nov-04-16 12:21 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Benzene | | <0.00150 | 0.00150 | <0.00149 | 0.00149 | <0.00149 | 0.00149 | <0.00150 | 0.00150 | <0.00149 | 0.00149 | <0.00150 | 0.00150 |
| Toluene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Ethylbenzene | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| m,p-Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| o-Xylene | | <0.00300 | 0.00300 | <0.00298 | 0.00298 | <0.00298 | 0.00298 | <0.00299 | 0.00299 | <0.00299 | 0.00299 | <0.00300 | 0.00300 |
| Total Xylenes | | <0.00200 | 0.00200 | <0.00198 | 0.00198 | <0.00199 | 0.00199 | <0.00200 | 0.00200 | <0.00199 | 0.00199 | <0.00200 | 0.00200 |
| Total BTEX | | <0.00150 | 0.00150 | <0.00149 | 0.00149 | <0.00149 | 0.00149 | <0.00150 | 0.00150 | <0.00149 | 0.00149 | <0.00150 | 0.00150 |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Nov-03-16 10:00 | | Nov-03-16 10:00 | | Nov-03-16 10:00 | | Nov-03-16 10:00 | | Nov-03-16 10:00 | | Nov-03-16 10:00 | |
| | ***Analyzed:*** | Nov-03-16 10:38 | | Nov-03-16 10:59 | | Nov-03-16 11:06 | | Nov-03-16 11:13 | | Nov-03-16 11:20 | | Nov-03-16 12:10 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| Chloride | | 23.4 | 5.00 | 23.4 | 5.00 | 81.0 | 5.00 | 20.9 | 5.00 | 20.0 | 5.00 | 28.3 | 5.00 |
| **TPH by SW 8015B** | ***Extracted:*** | Nov-03-16 12:00 | | Nov-03-16 12:00 | | Nov-03-16 12:00 | | Nov-03-16 12:00 | | Nov-03-16 12:00 | | Nov-03-16 12:00 | |
| | ***Analyzed:*** | Nov-03-16 15:39 | | Nov-03-16 16:52 | | Nov-03-16 17:16 | | Nov-03-16 17:39 | | Nov-03-16 18:03 | | Nov-03-16 18:27 | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL |
| C6-C10 Gasoline Range Hydrocarbons | | <15.0 | 15.0 | 15.1 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| C10-C28 Diesel Range Hydrocarbons | | <15.0 | 15.0 | 23.0 | 15.0 | 395 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |
| Total TPH | | <15.0 | 15.0 | 38.1 | 15.0 | 395 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 |





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

Kelsey Brooks
Project Manager



Final 1.000

# Certificate of Analysis Summary 539655

## APEX/Titan, Midland, TX

## Project Name: 1009 Pipeline Release #2

**Project Id:** 725010112135
**Contact:** Karolanne Toby
**Project Location:**

**Date Received in Lab:** Wed Nov-02-16 05:50 pm
**Report Date:** 04-NOV-16
**Project Manager:** Kelsey Brooks

| *Analysis Requested* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 539655-007 | | | | | |
| | ***Field Id:*** | CS-7 | | | | | |
| | ***Depth:*** | 10.5- ft | | | | | |
| | ***Matrix:*** | SOIL | | | | | |
| | ***Sampled:*** | Nov-02-16 15:15 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | Nov-03-16 18:00 | | | | | |
| | ***Analyzed:*** | Nov-04-16 12:38 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Benzene | | <0.00149 | 0.00149 | | | | |
| Toluene | | <0.00198 | 0.00198 | | | | |
| Ethylbenzene | | <0.00198 | 0.00198 | | | | |
| m,p-Xylenes | | <0.00198 | 0.00198 | | | | |
| o-Xylene | | <0.00298 | 0.00298 | | | | |
| Total Xylenes | | <0.00198 | 0.00198 | | | | |
| Total BTEX | | <0.00149 | 0.00149 | | | | |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | Nov-03-16 10:00 | | | | | |
| | ***Analyzed:*** | Nov-03-16 12:17 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| Chloride | | 17.5 | 5.00 | | | | |
| **TPH by SW 8015B** | ***Extracted:*** | Nov-03-16 12:00 | | | | | |
| | ***Analyzed:*** | Nov-03-16 18:52 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | | | | |
| C6-C10 Gasoline Range Hydrocarbons | | <15.0 | 15.0 | | | | |
| C10-C28 Diesel Range Hydrocarbons | | <15.0 | 15.0 | | | | |
| Total TPH | | <15.0 | 15.0 | | | | |







Kelsey Brooks
Project Manager

# Flagging Criteria

**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

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 539655,

**Project ID:** 725010112135

**Lab Batch #:** 3003270 **Sample:** 539655-001 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 15:39

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 103 | 99.9 | 103 | 70-135 | |
| o-Terphenyl | 52.9 | 50.0 | 106 | 70-135 | |

**Lab Batch #:** 3003270 **Sample:** 539655-002 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 16:52

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | 99.7 | 101 | 70-135 | |
| o-Terphenyl | 52.6 | 49.9 | 105 | 70-135 | |

**Lab Batch #:** 3003270 **Sample:** 539655-003 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 17:16

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 103 | 99.8 | 103 | 70-135 | |
| o-Terphenyl | 52.6 | 49.9 | 105 | 70-135 | |

**Lab Batch #:** 3003270 **Sample:** 539655-004 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 17:39

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 102 | 99.8 | 102 | 70-135 | |
| o-Terphenyl | 52.6 | 49.9 | 105 | 70-135 | |

**Lab Batch #:** 3003270 **Sample:** 539655-005 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 18:03

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | 99.7 | 101 | 70-135 | |
| o-Terphenyl | 51.6 | 49.9 | 103 | 70-135 | |

* 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.

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 539655,

**Project ID:** 725010112135

**Lab Batch #:** 3003270 **Sample:** 539655-006 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 18:27

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 96.8 | 99.9 | 97 | 70-135 | |
| o-Terphenyl | 50.2 | 50.0 | 100 | 70-135 | |

**Lab Batch #:** 3003270 **Sample:** 539655-007 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 18:52

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 88.4 | 99.7 | 89 | 70-135 | |
| o-Terphenyl | 46.5 | 49.9 | 93 | 70-135 | |

**Lab Batch #:** 3003278 **Sample:** 539655-001 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 23:27

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0303 | 0.0300 | 101 | 80-120 | |
| 4-Bromofluorobenzene | 0.0302 | 0.0300 | 101 | 80-120 | |

**Lab Batch #:** 3003278 **Sample:** 539655-003 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/04/16 11:33

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0313 | 0.0300 | 104 | 80-120 | |
| 4-Bromofluorobenzene | 0.0341 | 0.0300 | 114 | 80-120 | |

**Lab Batch #:** 3003278 **Sample:** 539655-004 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/04/16 11:49

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0282 | 0.0300 | 94 | 80-120 | |
| 4-Bromofluorobenzene | 0.0273 | 0.0300 | 91 | 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.

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 539655,

**Project ID:** 725010112135

**Lab Batch #:** 3003278 **Sample:** 539655-005 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/04/16 12:05

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0289 | 0.0300 | 96 | 80-120 | |
| 4-Bromofluorobenzene | 0.0290 | 0.0300 | 97 | 80-120 | |

**Lab Batch #:** 3003278 **Sample:** 539655-006 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/04/16 12:21

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0294 | 0.0300 | 98 | 80-120 | |
| 4-Bromofluorobenzene | 0.0297 | 0.0300 | 99 | 80-120 | |

**Lab Batch #:** 3003278 **Sample:** 539655-007 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/04/16 12:38

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0290 | 0.0300 | 97 | 80-120 | |
| 4-Bromofluorobenzene | 0.0275 | 0.0300 | 92 | 80-120 | |

**Lab Batch #:** 3003278 **Sample:** 539655-002 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/04/16 12:54

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0277 | 0.0300 | 92 | 80-120 | |
| 4-Bromofluorobenzene | 0.0302 | 0.0300 | 101 | 80-120 | |

**Lab Batch #:** 3003270 **Sample:** 715717-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 11/03/16 14:27

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 124 | 100 | 124 | 70-135 | |
| o-Terphenyl | 64.8 | 50.0 | 130 | 70-135 | |

* 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.

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 539655,

**Project ID:** 725010112135

**Lab Batch #:** 3003278 **Sample:** 715732-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 11/03/16 21:02

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0280 | 0.0300 | 93 | 80-120 | |
| 4-Bromofluorobenzene | 0.0289 | 0.0300 | 96 | 80-120 | |

**Lab Batch #:** 3003270 **Sample:** 715717-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 11/03/16 14:51

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 124 | 100 | 124 | 70-135 | |
| o-Terphenyl | 63.7 | 50.0 | 127 | 70-135 | |

**Lab Batch #:** 3003278 **Sample:** 715732-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 11/03/16 19:13

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0284 | 0.0300 | 95 | 80-120 | |
| 4-Bromofluorobenzene | 0.0274 | 0.0300 | 91 | 80-120 | |

**Lab Batch #:** 3003270 **Sample:** 715717-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 11/03/16 15:15

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 128 | 100 | 128 | 70-135 | |
| o-Terphenyl | 63.8 | 50.0 | 128 | 70-135 | |

**Lab Batch #:** 3003278 **Sample:** 715732-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 11/03/16 19:59

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0282 | 0.0300 | 94 | 80-120 | |
| 4-Bromofluorobenzene | 0.0277 | 0.0300 | 92 | 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.

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 539655,

**Project ID:** 725010112135

**Lab Batch #:** 3003270 **Sample:** 539655-001 S / MS **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 16:03

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 118 | 100 | 118 | 70-135 | |
| o-Terphenyl | 54.2 | 50.0 | 108 | 70-135 | |

**Lab Batch #:** 3003278 **Sample:** 539655-004 S / MS **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 20:15

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0317 | 0.0300 | 106 | 80-120 | |
| 4-Bromofluorobenzene | 0.0303 | 0.0300 | 101 | 80-120 | |

**Lab Batch #:** 3003270 **Sample:** 539655-001 SD / MSD **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 16:26

**SURROGATE RECOVERY STUDY**

**TPH by SW 8015B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 119 | 99.9 | 119 | 70-135 | |
| o-Terphenyl | 53.8 | 50.0 | 108 | 70-135 | |

**Lab Batch #:** 3003278 **Sample:** 539655-004 SD / MSD **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 11/03/16 20:30

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0288 | 0.0300 | 96 | 80-120 | |
| 4-Bromofluorobenzene | 0.0305 | 0.0300 | 102 | 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 Pipeline Release #2

**Work Order #:** 539655 **Project ID:** 725010112135

**Analyst:** PJB **Date Prepared:** 11/03/2016 **Date Analyzed:** 11/03/2016

**Lab Batch ID:** 3003278 **Sample:** 715732-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| BTEX by EPA 8021B<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00150 | 0.100 | 0.0881 | 88 | 0.100 | 0.0979 | 98 | 11 | 70-130 | 35 | |
| Toluene | <0.00200 | 0.100 | 0.0893 | 89 | 0.100 | 0.0994 | 99 | 11 | 70-130 | 35 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0910 | 91 | 0.100 | 0.100 | 100 | 9 | 71-129 | 35 | |
| m,p-Xylenes | <0.00200 | 0.200 | 0.186 | 93 | 0.200 | 0.205 | 103 | 10 | 70-135 | 35 | |
| o-Xylene | <0.00300 | 0.100 | 0.103 | 103 | 0.100 | 0.0995 | 100 | 3 | 71-133 | 35 | |

**Analyst:** MNR **Date Prepared:** 11/03/2016 **Date Analyzed:** 11/03/2016

**Lab Batch ID:** 3003231 **Sample:** 715690-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 270 | 108 | 250 | 268 | 107 | 1 | 90-110 | 20 | |



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

# BS / BSD Recoveries

## Project Name: 1009 Pipeline Release #2

**Work Order #:** 539655 **Project ID:** 725010112135

**Analyst:** ARM **Date Prepared:** 11/03/2016 **Date Analyzed:** 11/03/2016

**Lab Batch ID:** 3003270 **Sample:** 715717-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| TPH by SW 8015B<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 Gasoline Range Hydrocarbons | <15.0 | 1000 | 961 | 96 | 1000 | 952 | 95 | 1 | 70-135 | 35 | |
| C10-C28 Diesel Range Hydrocarbons | <15.0 | 1000 | 1020 | 102 | 1000 | 1020 | 102 | 0 | 70-135 | 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

# Form 3 - MS / MSD Recoveries



## Project Name: 1009 Pipeline Release #2

**Work Order # :** 539655 **Project ID:** 725010112135

**Lab Batch ID:** 3003278 **QC- Sample ID:** 539655-004 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 11/03/2016 **Date Prepared:** 11/03/2016 **Analyst:** PJB

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| BTEX by EPA 8021B Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00149 | 0.0994 | 0.0796 | 80 | 0.0998 | 0.0793 | 79 | 0 | 70-130 | 35 | |
| Toluene | <0.00199 | 0.0994 | 0.0826 | 83 | 0.0998 | 0.0818 | 82 | 1 | 70-130 | 35 | |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0825 | 83 | 0.0998 | 0.0809 | 81 | 2 | 71-129 | 35 | |
| m,p-Xylenes | <0.00199 | 0.199 | 0.170 | 85 | 0.200 | 0.166 | 83 | 2 | 70-135 | 35 | |
| o-Xylene | <0.00298 | 0.0994 | 0.0843 | 85 | 0.0998 | 0.0818 | 82 | 3 | 71-133 | 35 | |

**Lab Batch ID:** 3003231 **QC- Sample ID:** 539631-009 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 11/03/2016 **Date Prepared:** 11/03/2016 **Analyst:** MNR

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300 Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 12200 | 5000 | 17100 | 98 | 5000 | 16900 | 94 | 1 | 90-110 | 20 | |

**Lab Batch ID:** 3003231 **QC- Sample ID:** 539655-001 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 11/03/2016 **Date Prepared:** 11/03/2016 **Analyst:** MNR

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300 Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 23.4 | 250 | 284 | 104 | 250 | 285 | 105 | 0 | 90-110 | 20 | |



Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

# Form 3 - MS / MSD Recoveries



## Project Name: 1009 Pipeline Release #2

**Work Order # :** 539655 **Project ID:** 725010112135

**Lab Batch ID:** 3003270 **QC- Sample ID:** 539655-001 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 11/03/2016 **Date Prepared:** 11/03/2016 **Analyst:** ARM

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| TPH by SW 8015B<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 Gasoline Range Hydrocarbons | <15.0 | 1000 | 871 | 87 | 999 | 890 | 89 | 2 | 70-135 | 35 | |
| C10-C28 Diesel Range Hydrocarbons | <15.0 | 1000 | 951 | 95 | 999 | 983 | 98 | 3 | 70-135 | 35 | |



Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

# CHAIN OF CUSTODY RECORD

APEX

Office Location: Midland

Project Manager: Kordianne Toby

Laboratory: Xenco

Address: Midland, TX

Contact:

Phone:

PO/SO #: 7250101112185

Lab use only
Due Date:

Temp: IR ID:R-8
CF:+ 0.1 4.0°C
Corrected Temp: 4.1°C

1 | 2 | 3 | 4 | 5

Page 1 of 1

Sampler's Name: Georgiana McShane

Sampler's Signature:

Proj. No.: 7250101112185

Project Name: 1009 Pipeline Release #2

No/Type of Containers: 7

| Matrix | Date | Time | Comp | Grab | Identifying Marks of Sample(s) | Start Depth | End Depth | VOA | A/G 1 Lt. | 250 ml | Glass Jar | P/O | TPH GRO/DRO | BTEX 8021B | Chloride | Lab Sample ID (Lab Use Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 11/2/16 | 1305 | | X | CS-1 | | 3' | | | | X | | X | X | X | 539155 |
| | | 1308 | | | CS-2 | | 3' | | | | | | | | | |
| | | 1314 | | | CS-3 | | 3' | | | | | | | | | |
| | | 1317 | | | CS-4 | | 5' | | | | | | | | | |
| | | 1320 | | | CS-5 | | 5' | | | | | | | | | |
| | | 1326 | | | CS-6 | | 3' | | | | | | | | | |
| S | 11/2/16 | 1515 | | X | CS-7 | | 1.25' | | | | X | | X | X | X | |
| | | | | | NFG | | | | | | | | | | | |

Turn around time: ☐ Normal ☐ 25% Rush ☐ 50% Rush ☑ 100% Rush

| | Date: | Time: | Received by: (Signature) | Date: | Time: |
|---|---|---|---|---|---|
| Relinquished by (Signature) | 11/2/16 | 1750 | | 11-2-16 | 17:50 |
| Relinquished by (Signature) | | | | | |
| Relinquished by (Signature) | | | | | |
| Relinquished by (Signature) | | | | | |

NOTES:
* 24 hour rush
* NM samples

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

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** APEX/Titan

**Date/ Time Received:** 11/02/2016 05:50:00 PM

**Work Order #:** 539655

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 4.1 |
| #2 *Shipping container in good condition? | **N/A** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seal present on shipping container/ cooler? | **N/A** |
| #5 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #6 Custody Seals intact on sample bottles? | **N/A** |
| #7 *Custody Seals Signed and dated? | **N/A** |
| #8 *Chain of Custody present? | **Yes** |
| #9 Sample instructions complete on Chain of Custody? | **Yes** |
| #10 Any missing/extra samples? | **No** |
| #11 Chain of Custody signed when relinquished/ received? | **Yes** |
| #12 Chain of Custody agrees with sample label(s)? | **Yes** |
| #13 Container label(s) legible and intact? | **Yes** |
| #14 Sample matrix/ properties agree with Chain of Custody? | **Yes** |
| #15 Samples in proper container/ bottle? | **Yes** |
| #16 Samples properly preserved? | **Yes** |
| #17 Sample container(s) intact? | **Yes** |
| #18 Sufficient sample amount for indicated test(s)? | **Yes** |
| #19 All samples received within hold time? | **Yes** |
| #20 Subcontract of sample(s)? | **N/A** |
| #21 VOC samples have zero headspace (less than 1/4 inch bubble)? | **N/A** |
| #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts. | **N/A** |
| #23 >10 for all samples preserved with NaAsO2+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:** Jessica Kramer — Date: 11/03/2016
Jessica Kramer

**Checklist reviewed by:** Kelsey Brooks — Date: 11/03/2016
Kelsey Brooks

# Analytical Report 552880

## for

## APEX/Titan

**Project Manager: Karolanne Toby**

**1009 Pipeline Release #2**

**725010112135**

**15-MAY-17**

Collected By: Client

**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

15-MAY-17

Project Manager: **Karolanne Toby**
**APEX/Titan**
505 N. Big Spring Ste. 301 A
Midland, TX 79701

Reference: XENCO Report No(s): **552880**
**1009 Pipeline Release #2**
Project Address:

**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) 552880. 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. 552880 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

# Sample Cross Reference 552880

## APEX/Titan, Midland, TX

1009 Pipeline Release #2

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| CS-3 RE | S | 05-10-17 14:45 | | 552880-001 |
| CS-8 | S | 05-10-17 12:04 | | 552880-002 |
| CS-9 | S | 05-10-17 15:30 | | 552880-003 |
| CS-10 | S | 05-10-17 14:00 | | 552880-004 |
| CS-11 | S | 05-10-17 16:06 | | 552880-005 |
| CS-6RE | S | 05-10-17 14:10 | | Not Analyzed |



Version: 1.%

# CASE NARRATIVE



***Client Name: APEX/Titan***

***Project Name: 1009 Pipeline Release #2***

Project ID: *725010112135*
Work Order Number(s): *552880*

Report Date: *15-MAY-17*
Date Received: *05/11/2017*

**Sample receipt non conformances and comments:**

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

None

**Analytical non conformances and comments:**

Batch: LBA-3017155 BTEX by EPA 8021B

Lab Sample ID 552880-002 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 552880-002, -003, -004, -005.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analysis Summary 552880

## APEX/Titan, Midland, TX

## Project Name: 1009 Pipeline Release #2



**Project Id:** 725010112135
**Contact:** Karolanne Toby
**Project Location:**

**Date Received in Lab:** Thu May-11-17 08:34 am
**Report Date:** 15-MAY-17
**Project Manager:** Kelsey Brooks

| Analysis Requested | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ***Lab Id:*** | 552880-001 | | 552880-002 | | 552880-003 | | 552880-004 | | 552880-005 | | | | | |
| | ***Field Id:*** | CS-3 RE | | CS-8 | | CS-9 | | CS-10 | | CS-11 | | | | | |
| | ***Depth:*** | | | | | | | | | | | | | | |
| | ***Matrix:*** | SOIL | | SOIL | | SOIL | | SOIL | | SOIL | | | | | |
| | ***Sampled:*** | May-10-17 14:45 | | May-10-17 12:04 | | May-10-17 15:30 | | May-10-17 14:00 | | May-10-17 16:06 | | | | | |
| **BTEX by EPA 8021B** | ***Extracted:*** | | | May-11-17 17:00 | | May-11-17 17:00 | | May-11-17 17:00 | | May-11-17 17:00 | | | | | |
| | ***Analyzed:*** | | | May-12-17 14:23 | | May-12-17 15:28 | | May-12-17 13:42 | | May-12-17 15:45 | | | | | |
| | ***Units/RL:*** | | | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Benzene | | | | <0.00560 | 0.00560 | <0.00586 | 0.00586 | <0.00558 | 0.00558 | <0.00570 | 0.00570 | | | | |
| Toluene | | | | <0.00560 | 0.00560 | <0.00586 | 0.00586 | <0.00558 | 0.00558 | <0.00570 | 0.00570 | | | | |
| Ethylbenzene | | | | <0.00560 | 0.00560 | <0.00586 | 0.00586 | <0.00558 | 0.00558 | <0.00570 | 0.00570 | | | | |
| m,p-Xylenes | | | | <0.0112 | 0.0112 | 0.0146 | 0.0117 | <0.0112 | 0.0112 | <0.0114 | 0.0114 | | | | |
| o-Xylene | | | | <0.00560 | 0.00560 | <0.00586 | 0.00586 | <0.00558 | 0.00558 | <0.00570 | 0.00570 | | | | |
| Total Xylenes | | | | <0.00560 | 0.00560 | 0.0146 | 0.00586 | <0.00558 | 0.00558 | <0.00570 | 0.00570 | | | | |
| Total BTEX | | | | <0.00560 | 0.00560 | 0.0146 | 0.00586 | <0.00558 | 0.00558 | <0.00570 | 0.00570 | | | | |
| **Inorganic Anions by EPA 300** | ***Extracted:*** | | | May-11-17 17:00 | | May-11-17 17:00 | | May-11-17 17:00 | | May-11-17 17:00 | | | | | |
| | ***Analyzed:*** | | | May-11-17 22:23 | | May-11-17 22:30 | | May-11-17 22:38 | | May-11-17 22:45 | | | | | |
| | ***Units/RL:*** | | | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| Chloride | | | | 90.0 | 4.95 | 477 | 4.97 | 538 | 4.98 | 96.8 | 4.98 | | | | |
| **TPH by SW8015 Mod** | ***Extracted:*** | May-11-17 09:00 | | May-11-17 09:00 | | May-11-17 09:00 | | May-11-17 09:00 | | May-11-17 09:00 | | | | | |
| | ***Analyzed:*** | May-11-17 17:14 | | May-11-17 17:40 | | May-11-17 18:06 | | May-11-17 18:30 | | May-11-17 18:54 | | | | | |
| | ***Units/RL:*** | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | mg/kg | RL | | | | |
| C6-C10 Gasoline Range Hydrocarbons | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| C10-C28 Diesel Range Organics | | <15.0 | 15.0 | 23.4 | 14.9 | 22.2 | 15.0 | 27.3 | 15.0 | <15.0 | 15.0 | | | | |
| C28-C35 Oil Range Hydrocarbons | | <15.0 | 15.0 | <14.9 | 14.9 | <15.0 | 15.0 | <15.0 | 15.0 | <15.0 | 15.0 | | | | |
| Total TPH | | <15.0 | 15.0 | 23.4 | 14.9 | 22.2 | 15.0 | 27.3 | 15.0 | <15.0 | 15.0 | | | | |





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

Version: 1.%

Kelsey Brooks
Project Manager



Final 1.000

# Flagging Criteria

**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

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 552880,

**Project ID:** 725010112135

**Lab Batch #:** 3017125 **Sample:** 552880-001 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/11/17 17:14

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | 99.8 | 101 | 70-135 | |
| o-Terphenyl | 46.4 | 49.9 | 93 | 70-135 | |

**Lab Batch #:** 3017125 **Sample:** 552880-002 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/11/17 17:40

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | 99.6 | 101 | 70-135 | |
| o-Terphenyl | 47.1 | 49.8 | 95 | 70-135 | |

**Lab Batch #:** 3017125 **Sample:** 552880-003 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/11/17 18:06

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 102 | 99.7 | 102 | 70-135 | |
| o-Terphenyl | 46.7 | 49.9 | 94 | 70-135 | |

**Lab Batch #:** 3017125 **Sample:** 552880-004 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/11/17 18:30

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 105 | 99.9 | 105 | 70-135 | |
| o-Terphenyl | 48.1 | 50.0 | 96 | 70-135 | |

**Lab Batch #:** 3017125 **Sample:** 552880-005 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/11/17 18:54

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 106 | 99.7 | 106 | 70-135 | |
| o-Terphenyl | 48.7 | 49.9 | 98 | 70-135 | |

* 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.



Version: 1.%



Final 1.000

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 552880,

**Project ID:** 725010112135

**Lab Batch #:** 3017155 **Sample:** 552880-004 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/12/17 13:42

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0313 | 0.0300 | 104 | 80-120 | |
| 4-Bromofluorobenzene | 0.0258 | 0.0300 | 86 | 80-120 | |

**Lab Batch #:** 3017155 **Sample:** 552880-002 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/12/17 14:23

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0331 | 0.0300 | 110 | 80-120 | |
| 4-Bromofluorobenzene | 0.0282 | 0.0300 | 94 | 80-120 | |

**Lab Batch #:** 3017155 **Sample:** 552880-003 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/12/17 15:28

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0285 | 0.0300 | 95 | 80-120 | |
| 4-Bromofluorobenzene | 0.0273 | 0.0300 | 91 | 80-120 | |

**Lab Batch #:** 3017155 **Sample:** 552880-005 / SMP **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/12/17 15:45

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0348 | 0.0300 | 116 | 80-120 | |
| 4-Bromofluorobenzene | 0.0327 | 0.0300 | 109 | 80-120 | |

**Lab Batch #:** 3017125 **Sample:** 724487-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 05/11/17 08:25

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 112 | 100 | 112 | 70-135 | |
| o-Terphenyl | 52.6 | 50.0 | 105 | 70-135 | |

* 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.



Version: 1.%



Final 1.000

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 552880,

**Project ID:** 725010112135

**Lab Batch #:** 3017155 **Sample:** 724501-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 05/11/17 09:55

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0345 | 0.0300 | 115 | 80-120 | |
| 4-Bromofluorobenzene | 0.0248 | 0.0300 | 83 | 80-120 | |

**Lab Batch #:** 3017155 **Sample:** 724501-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 05/11/17 07:24

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0354 | 0.0300 | 118 | 80-120 | |
| 4-Bromofluorobenzene | 0.0323 | 0.0300 | 108 | 80-120 | |

**Lab Batch #:** 3017125 **Sample:** 724487-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 05/11/17 08:48

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 128 | 100 | 128 | 70-135 | |
| o-Terphenyl | 58.2 | 50.0 | 116 | 70-135 | |

**Lab Batch #:** 3017155 **Sample:** 724501-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 05/11/17 07:40

**SURROGATE RECOVERY STUDY**

**BTEX by EPA 8021B**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0349 | 0.0300 | 116 | 80-120 | |
| 4-Bromofluorobenzene | 0.0324 | 0.0300 | 108 | 80-120 | |

**Lab Batch #:** 3017125 **Sample:** 724487-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 05/11/17 09:14

**SURROGATE RECOVERY STUDY**

**TPH by SW8015 Mod**

| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 125 | 100 | 125 | 70-135 | |
| o-Terphenyl | 55.5 | 50.0 | 111 | 70-135 | |

* 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.



Version: 1.%



Final 1.000

# Form 2 - Surrogate Recoveries

**Project Name:** 1009 Pipeline Release #2

**Work Orders :** 552880,

**Project ID:** 725010112135

**Lab Batch #:** 3017155 **Sample:** 552880-002 S / MS **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/12/17 12:53

**SURROGATE RECOVERY STUDY**

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0301 | 0.0300 | 100 | 80-120 | |
| 4-Bromofluorobenzene | 0.0259 | 0.0300 | 86 | 80-120 | |

**Lab Batch #:** 3017155 **Sample:** 552880-002 SD / MSD **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 05/12/17 13:09

**SURROGATE RECOVERY STUDY**

| BTEX by EPA 8021B<br>Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0343 | 0.0300 | 114 | 80-120 | |
| 4-Bromofluorobenzene | 0.0297 | 0.0300 | 99 | 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.

Version: 1.%

# BS / BSD Recoveries

## Project Name: 1009 Pipeline Release #2

**Work Order #:** 552880 **Project ID:** 725010112135

**Analyst:** ALJ **Date Prepared:** 05/11/2017 **Date Analyzed:** 05/11/2017

**Lab Batch ID:** 3017155 **Sample:** 724501-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| BTEX by EPA 8021B<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00996 | 0.498 | 0.411 | 83 | 0.502 | 0.399 | 79 | 3 | 70-130 | 35 | |
| Toluene | <0.00996 | 0.498 | 0.389 | 78 | 0.502 | 0.394 | 78 | 1 | 70-130 | 35 | |
| Ethylbenzene | <0.00996 | 0.498 | 0.411 | 83 | 0.502 | 0.401 | 80 | 2 | 71-129 | 35 | |
| m,p-Xylenes | <0.0199 | 0.996 | 0.817 | 82 | 1.00 | 0.792 | 79 | 3 | 70-135 | 35 | |
| o-Xylene | <0.00996 | 0.498 | 0.381 | 77 | 0.502 | 0.396 | 79 | 4 | 71-133 | 35 | |

**Analyst:** MGO **Date Prepared:** 05/11/2017 **Date Analyzed:** 05/11/2017

**Lab Batch ID:** 3017146 **Sample:** 724493-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 264 | 106 | 250 | 272 | 109 | 3 | 90-110 | 20 | |

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

Version: 1.%

# BS / BSD Recoveries

## Project Name: 1009 Pipeline Release #2

**Work Order #:** 552880 **Project ID:** 725010112135

**Analyst:** ARM **Date Prepared:** 05/11/2017 **Date Analyzed:** 05/11/2017

**Lab Batch ID:** 3017125 **Sample:** 724487-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| TPH by SW8015 Mod<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C6-C10 Gasoline Range Hydrocarbons | <15.0 | 1000 | 997 | 100 | 1000 | 1070 | 107 | 7 | 70-135 | 35 | |
| C10-C28 Diesel Range Organics | <15.0 | 1000 | 1010 | 101 | 1000 | 994 | 99 | 2 | 70-135 | 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

Version: 1.%

# Form 3 - MS / MSD Recoveries



## Project Name: 1009 Pipeline Release #2

**Work Order # :** 552880 **Project ID:** 725010112135

**Lab Batch ID:** 3017155 **QC- Sample ID:** 552880-002 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 05/12/2017 **Date Prepared:** 05/11/2017 **Analyst:** ALJ

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| BTEX by EPA 8021B<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00542 | 0.271 | 0.132 | 49 | 0.280 | 0.146 | 52 | 10 | 70-130 | 35 | X |
| Toluene | <0.00542 | 0.271 | 0.122 | 45 | 0.280 | 0.138 | 49 | 12 | 70-130 | 35 | X |
| Ethylbenzene | <0.00542 | 0.271 | 0.117 | 43 | 0.280 | 0.125 | 45 | 7 | 71-129 | 35 | X |
| m,p-Xylenes | <0.0108 | 0.542 | 0.233 | 43 | 0.560 | 0.247 | 44 | 6 | 70-135 | 35 | X |
| o-Xylene | <0.00542 | 0.271 | 0.111 | 41 | 0.280 | 0.123 | 44 | 10 | 71-133 | 35 | X |

**Lab Batch ID:** 3017146 **QC- Sample ID:** 552883-004 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 05/11/2017 **Date Prepared:** 05/11/2017 **Analyst:** MGO

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 959 | 249 | 1160 | 81 | 249 | 1180 | 89 | 2 | 90-110 | 20 | X |



Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

552880

# CHAIN OF CUSTODY RECORD

APEX

Office Location Midland, TX

Project Manager K. Toby

Laboratory: Xenco

Address:

Contact:

Phone:

PO/SO #:

Sampler's Name: Kallen Kauk

Sampler's Signature:

Proj. No.: 72 5010112135

Project Name: 1009 Pipeline Release #2

No/Type of Containers: 6

ANALYSIS REQUESTED: BTEX; TPH (GRO/DRO - 8015); Chloride; HOLD

Lab use only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Page 1 of 1

| Matrix | Date | Time | Comp | Grab | Identifying Marks of Sample(s) | Start Depth | End Depth | VOA | A/G 1 Lt. | 250 ml | Glass Jar | P/O | BTEX | TPH (GRO/DRO - 8015) | Chloride | HOLD | Lab Sample ID (Lab Use Only) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 5-10-17 | 1445 | | X | CS-3 RE | | | | | | 1 | | | X | | | |
| | | 1204 | | | CS-8 | | | | | | | | X | X | X | | |
| | | 1530 | | | CS-9 | | | | | | | | | | | | |
| | | 1400 | | | CS-10 | | | | | | | | | | | | |
| | | 1606 | | | CS-11 | | | | | | | | X | X | X | | |
| S | 5-10-17 | 1410 | | X | CS-6 RE | | | | | | 1 | | | | | X | |

Kallen Kauk N.F.E

Turn around time: ☐ Normal ☐ 25% Rush ☐ 50% Rush ☑ 100% Rush

| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
|---|---|---|---|---|---|
| Kallen Kauk | 5-11-17 | 08:34 | Maraya | 5/11/17 | 08:34 |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |

NOTES:
New Mexico
*24 Hour Rush*

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

Temp. 1.0 IR ID:R-9
CF:(0-6: 0.0°C ) ( 6-23: +0.1°C)
Corrected Temp: 1.0

Apex TITAN, Inc. • 505 N. Big Springs Drive, Suite 301A • Midland, Texas 79701 • Office: 432-695-6016

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** APEX/Titan

**Date/ Time Received:** 05/11/2017 08:34:00 AM

**Work Order #:** 552880

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 1.6 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seal present on shipping container/ cooler? | **N/A** |
| #5 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #6 Custody Seals intact on sample bottles? | **N/A** |
| #7 *Custody Seals Signed and dated? | **N/A** |
| #8 *Chain of Custody present? | **Yes** |
| #9 Sample instructions complete on Chain of Custody? | **Yes** |
| #10 Any missing/extra samples? | **No** |
| #11 Chain of Custody signed when relinquished/ received? | **Yes** |
| #12 Chain of Custody agrees with sample label(s)? | **Yes** |
| #13 Container label(s) legible and intact? | **Yes** |
| #14 Sample matrix/ properties agree with Chain of Custody? | **Yes** |
| #15 Samples in proper container/ bottle? | **Yes** |
| #16 Samples properly preserved? | **Yes** |
| #17 Sample container(s) intact? | **Yes** |
| #18 Sufficient sample amount for indicated test(s)? | **Yes** |
| #19 All samples received within hold time? | **Yes** |
| #20 Subcontract of sample(s)? | **N/A** |
| #21 VOC samples have zero headspace? | **N/A** |
| #22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts. | **N/A** |
| #23 >10 for all samples preserved with NaAsO2+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:** Marithza Anaya Date: 05/12/2017

Marithza Anaya

**Checklist reviewed by:** Kelsey Brooks Date: 05/12/2017

Kelsey Brooks

# Analytical Report 554298

## for

## APEX/Titan

**Project Manager: Karolanne Toby**

**Pipeline Release #2**

**725010112135**

**12-JUN-17**

Collected By: Client

**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

12-JUN-17

Project Manager: **Karolanne Toby**
**APEX/Titan**
505 N. Big Spring Ste. 301 A
Midland, TX 79701

Reference: XENCO Report No(s): **554298**
**Pipeline Release #2**
Project Address:

**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) 554298. 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. 554298 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

# Sample Cross Reference 554298

## APEX/Titan, Midland, TX

Pipeline Release #2

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| CS-9-RE | S | 05-31-17 12:10 | - 3 ft | 554298-001 |
| CS-9-RE2 | S | 05-31-17 12:20 | - 3 ft | 554298-002 |
| CS-10-RE | S | 05-31-17 12:30 | - 6 ft | 554298-003 |
| CS-10-RE2 | S | 05-31-17 12:40 | - 6 ft | 554298-004 |
| STP | S | 05-31-17 13:00 | | 554298-005 |

# CASE NARRATIVE

***Client Name: APEX/Titan***

***Project Name: Pipeline Release #2***

Project ID: *725010112135*
Work Order Number(s): *554298*

Report Date: *12-JUN-17*
Date Received: *05/31/2017*

**Sample receipt non conformances and comments:**

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

None

**Analytical non conformances and comments:**

Batch: LBA-3019012 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

# Certificate of Analytical Results
## 554298
## APEX/Titan, Midland, TX
Pipeline Release #2

Sample Id: **CS-9-RE** Matrix: Soil Sample Depth: 3 ft

Lab Sample Id: 554298-001 Date Collected: 05.31.17 12.10 Date Received: 05.31.17 15.25

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3018622 Date Prep: 06.01.17 09.15

Prep seq: 725438

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **451** | 4.98 | 0.855 | mg/kg | 06.01.17 10:29 | | 1 |

Sample Id: **CS-9-RE2** Matrix: Soil Sample Depth: 3 ft

Lab Sample Id: 554298-002 Date Collected: 05.31.17 12.20 Date Received: 05.31.17 15.25

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3019052 Date Prep: 06.06.17 15.15

Prep seq: 725682

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **520** | 4.96 | 0.852 | mg/kg | 06.06.17 18:56 | | 1 |

Sample Id: **CS-10-RE** Matrix: Soil Sample Depth: 6 ft

Lab Sample Id: 554298-003 Date Collected: 05.31.17 12.30 Date Received: 05.31.17 15.25

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3018622 Date Prep: 06.01.17 09.15

Prep seq: 725438

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **591** | 4.95 | 0.850 | mg/kg | 06.01.17 10:52 | | 1 |

Sample Id: **CS-10-RE2** Matrix: Soil Sample Depth: 6 ft

Lab Sample Id: 554298-004 Date Collected: 05.31.17 12.40 Date Received: 05.31.17 15.25

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3019052 Date Prep: 06.06.17 15.15

Prep seq: 725682

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **689** | 4.94 | 0.848 | mg/kg | 06.06.17 19:03 | | 1 |

# Certificate of Analytical Results

## 554298

## APEX/Titan, Midland, TX

Pipeline Release #2

Sample Id: **STP** Matrix: Soil Sample Depth:

Lab Sample Id: 554298-005 Date Collected: 05.31.17 13.00 Date Received: 05.31.17 15.25

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3019449 Date Prep: 06.09.17 14.42

Prep seq: 725871

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **925** | 4.91 | 0.843 | mg/kg | 06.09.17 20:57 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3019194 Date Prep: 06.07.17 16.00

Prep seq: 725773

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Gasoline Range Hydrocarbons** | PHC610 | **16.1** | 15.0 | 7.98 | mg/kg | 06.08.17 07:03 | | 1 |
| **Diesel Range Organics** | C10C28DRO | **386** | 15.0 | 8.10 | mg/kg | 06.08.17 07:03 | | 1 |
| **Total TPH** | PHC635 | **487** | | 7.98 | mg/kg | 06.08.17 07:03 | | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|---|---|---|---|---|---|
| 1-Chlorooctane | 106 | 70 - 135 | % | | |
| o-Terphenyl | 107 | 70 - 135 | % | | |

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: ALJ % Moist: Tech: ALJ

Seq Number: 3019012 Date Prep: 06.06.17 08.00

Prep seq: 725660

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00348 | 0.00348 | 0.000671 | mg/kg | 06.07.17 12:26 | U | 2 |
| Toluene | 108-88-3 | <0.00348 | 0.00348 | 0.000794 | mg/kg | 06.07.17 12:26 | U | 2 |
| Ethylbenzene | 100-41-4 | <0.00348 | 0.00348 | 0.000984 | mg/kg | 06.07.17 12:26 | U | 2 |
| m,p-Xylenes | 179601-23-1 | <0.00697 | 0.00697 | 0.00177 | mg/kg | 06.07.17 12:26 | U | 2 |
| o-Xylene | 95-47-6 | <0.00348 | 0.00348 | 0.000600 | mg/kg | 06.07.17 12:26 | U | 2 |
| Total Xylenes | 1330-20-7 | <0.00348 | | 0.000600 | mg/kg | 06.07.17 12:26 | U | |
| Total BTEX | | <0.00348 | | 0.000600 | mg/kg | 06.07.17 12:26 | U | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 109 | 80 - 120 | % | | |
| 4-Bromofluorobenzene | 82 | 80 - 120 | % | | |

# Certificate of Analytical Results

## 554298

## APEX/Titan, Midland, TX

Pipeline Release #2

Sample Id: **725438-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 725438-1-BLK Date Collected: Date Received:

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3018622 Date Prep: 06.01.17 09.15

Prep seq: 725438

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | 0.858 | mg/kg | 06.01.17 09:33 | U | 1 |

Sample Id: **725660-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 725660-1-BLK Date Collected: Date Received:

Analytical Method: BTEX by EPA 8021B Prep Method: 5030B

Analyst: ALJ % Moist: Tech: ALJ

Seq Number: 3019012 Date Prep: 06.06.17 08.00

Prep seq: 725660

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | 0.000386 | mg/kg | 06.06.17 09:48 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | 0.000457 | mg/kg | 06.06.17 09:48 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | 0.000567 | mg/kg | 06.06.17 09:48 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00402 | 0.00402 | 0.00102 | mg/kg | 06.06.17 09:48 | U | 1 |
| o-Xylene | 95-47-6 | <0.00201 | 0.00201 | 0.000346 | mg/kg | 06.06.17 09:48 | U | 1 |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 86 | 80 - 120 | % | | |
| 4-Bromofluorobenzene | 81 | 80 - 120 | % | | |

Sample Id: **725682-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 725682-1-BLK Date Collected: Date Received:

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3019052 Date Prep: 06.06.17 15.15

Prep seq: 725682

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | 0.858 | mg/kg | 06.06.17 13:45 | U | 1 |

# Certificate of Analytical Results

## 554298

## APEX/Titan, Midland, TX

Pipeline Release #2

Sample Id: **725773-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 725773-1-BLK Date Collected: Date Received:

Analytical Method: TPH by SW8015 Mod Prep Method: 1005

Analyst: ARM % Moist: Tech: ARM

Seq Number: 3019194 Date Prep: 06.07.17 16.00

Prep seq: 725773

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons | PHC610 | <15.0 | 15.0 | 8.00 | mg/kg | 06.08.17 01:12 | U | 1 |
| Diesel Range Organics | C10C28DRO | <15.0 | 15.0 | 8.13 | mg/kg | 06.08.17 01:12 | U | 1 |
| Total TPH | PHC635 | <15.0 | | 8.00 | mg/kg | 06.08.17 01:12 | U | |

| Surrogate | % Recovery | Limits | Units | Analysis Date | Flag |
|---|---|---|---|---|---|
| 1-Chlorooctane | 112 | 70 - 135 | % | | |
| o-Terphenyl | 116 | 70 - 135 | % | | |

Sample Id: **725871-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 725871-1-BLK Date Collected: Date Received:

Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3019449 Date Prep: 06.09.17 14.42

Prep seq: 725871

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <5.00 | 5.00 | 0.858 | mg/kg | 06.09.17 17:32 | U | 1 |

# Flagging Criteria

**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

# Form 2 - Surrogate Recoveries

**Project Name:** Pipeline Release #2

**Work Orders :** 554298,

**Project ID:** 725010112135

**Lab Batch #:** 3019012 **Sample:** 725660-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 06/06/17 07:20

| BTEX by EPA 8021B<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0263 | 0.0300 | 88 | 80-120 | |
| 4-Bromofluorobenzene | 0.0338 | 0.0300 | 113 | 80-120 | |

**Lab Batch #:** 3019012 **Sample:** 725660-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 06/06/17 07:36

| BTEX by EPA 8021B<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0269 | 0.0300 | 90 | 80-120 | |
| 4-Bromofluorobenzene | 0.0304 | 0.0300 | 101 | 80-120 | |

**Lab Batch #:** 3019012 **Sample:** 554633-001 S / MS **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 06/06/17 08:26

| BTEX by EPA 8021B<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0312 | 0.0300 | 104 | 80-120 | |
| 4-Bromofluorobenzene | 0.0334 | 0.0300 | 111 | 80-120 | |

**Lab Batch #:** 3019012 **Sample:** 554633-001 SD / MSD **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 06/06/17 08:42

| BTEX by EPA 8021B<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0265 | 0.0300 | 88 | 80-120 | |
| 4-Bromofluorobenzene | 0.0305 | 0.0300 | 102 | 80-120 | |

**Lab Batch #:** 3019012 **Sample:** 725660-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 06/06/17 09:48

| BTEX by EPA 8021B<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1,4-Difluorobenzene | 0.0257 | 0.0300 | 86 | 80-120 | |
| 4-Bromofluorobenzene | 0.0243 | 0.0300 | 81 | 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.

# Form 2 - Surrogate Recoveries

**Project Name:** Pipeline Release #2

**Work Orders :** 554298,

**Project ID:** 725010112135

**Lab Batch #:** 3019194 **Sample:** 725773-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 06/08/17 01:12

| TPH by SW8015 Mod<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 112 | 100 | 112 | 70-135 | |
| o-Terphenyl | 58.2 | 50.0 | 116 | 70-135 | |

**Lab Batch #:** 3019194 **Sample:** 725773-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 06/08/17 01:34

| TPH by SW8015 Mod<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 101 | 100 | 101 | 70-135 | |
| o-Terphenyl | 51.5 | 50.0 | 103 | 70-135 | |

**Lab Batch #:** 3019194 **Sample:** 725773-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

**Units:** mg/kg **Date Analyzed:** 06/08/17 01:54

| TPH by SW8015 Mod<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 109 | 100 | 109 | 70-135 | |
| o-Terphenyl | 54.1 | 50.0 | 108 | 70-135 | |

**Lab Batch #:** 3019194 **Sample:** 554810-030 S / MS **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 06/08/17 02:35

| TPH by SW8015 Mod<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 100 | 99.8 | 100 | 70-135 | |
| o-Terphenyl | 50.1 | 49.9 | 100 | 70-135 | |

**Lab Batch #:** 3019194 **Sample:** 554810-030 SD / MSD **Batch:** 1 **Matrix:** Soil

**Units:** mg/kg **Date Analyzed:** 06/08/17 02:56

| TPH by SW8015 Mod<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 1-Chlorooctane | 108 | 99.9 | 108 | 70-135 | |
| o-Terphenyl | 52.4 | 50.0 | 105 | 70-135 | |

* 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: Pipeline Release #2

**Work Order #:** 554298 **Project ID:** 725010112135

**Analyst:** ALJ **Date Prepared:** 06/06/2017 **Date Analyzed:** 06/06/2017

**Lab Batch ID:** 3019012 **Sample:** 725660-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| BTEX by EPA 8021B<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00199 | 0.0994 | 0.0955 | 96 | 0.0998 | 0.105 | 105 | 9 | 70-130 | 35 | |
| Toluene | <0.00199 | 0.0994 | 0.102 | 103 | 0.0998 | 0.0982 | 98 | 4 | 70-130 | 35 | |
| Ethylbenzene | <0.00199 | 0.0994 | 0.0902 | 91 | 0.0998 | 0.0878 | 88 | 3 | 71-129 | 35 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.199 | 100 | 0.200 | 0.192 | 96 | 4 | 70-135 | 35 | |
| o-Xylene | <0.00199 | 0.0994 | 0.105 | 106 | 0.0998 | 0.0913 | 91 | 14 | 71-133 | 35 | |

**Analyst:** MGO **Date Prepared:** 06/01/2017 **Date Analyzed:** 06/01/2017

**Lab Batch ID:** 3018622 **Sample:** 725438-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 260 | 104 | 250 | 261 | 104 | 0 | 90-110 | 20 | |



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

# BS / BSD Recoveries

## Project Name: Pipeline Release #2

**Work Order #:** 554298 **Project ID:** 725010112135

**Analyst:** MGO **Date Prepared:** 06/06/2017 **Date Analyzed:** 06/06/2017

**Lab Batch ID:** 3019052 **Sample:** 725682-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 250 | 100 | 250 | 248 | 99 | 1 | 90-110 | 20 | |

**Analyst:** MGO **Date Prepared:** 06/09/2017 **Date Analyzed:** 06/09/2017

**Lab Batch ID:** 3019449 **Sample:** 725871-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <5.00 | 250 | 258 | 103 | 250 | 256 | 102 | 1 | 90-110 | 20 | |

**Analyst:** ARM **Date Prepared:** 06/07/2017 **Date Analyzed:** 06/08/2017

**Lab Batch ID:** 3019194 **Sample:** 725773-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| TPH by SW8015 Mod<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons | <15.0 | 1000 | 976 | 98 | 1000 | 1070 | 107 | 9 | 70-135 | 35 | |
| Diesel Range Organics | <15.0 | 1000 | 947 | 95 | 1000 | 1030 | 103 | 8 | 70-135 | 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

# Form 3 - MS / MSD Recoveries



## Project Name: Pipeline Release #2

**Work Order # :** 554298 **Project ID:** 725010112135

**Lab Batch ID:** 3019012 **QC- Sample ID:** 554633-001 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/06/2017 **Date Prepared:** 06/06/2017 **Analyst:** ALJ

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| BTEX by EPA 8021B Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | <0.00204 | 0.102 | 0.0862 | 85 | 0.102 | 0.0789 | 77 | 9 | 70-130 | 35 | |
| Toluene | <0.00204 | 0.102 | 0.0821 | 80 | 0.102 | 0.0788 | 77 | 4 | 70-130 | 35 | |
| Ethylbenzene | <0.00204 | 0.102 | 0.0777 | 76 | 0.102 | 0.0743 | 73 | 4 | 71-129 | 35 | |
| m,p-Xylenes | <0.00408 | 0.204 | 0.174 | 85 | 0.205 | 0.165 | 80 | 5 | 70-135 | 35 | |
| o-Xylene | <0.00204 | 0.102 | 0.0879 | 86 | 0.102 | 0.0838 | 82 | 5 | 71-133 | 35 | |

**Lab Batch ID:** 3018622 **QC- Sample ID:** 554298-001 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/01/2017 **Date Prepared:** 06/01/2017 **Analyst:** MGO

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300 Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 451 | 249 | 719 | 108 | 249 | 715 | 106 | 1 | 90-110 | 20 | |

**Lab Batch ID:** 3019052 **QC- Sample ID:** 554471-001 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/06/2017 **Date Prepared:** 06/06/2017 **Analyst:** MGO

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300 Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 316 | 247 | 572 | 104 | 247 | 563 | 100 | 2 | 90-110 | 20 | |



Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

# Form 3 - MS / MSD Recoveries



## Project Name: Pipeline Release #2

**Work Order # :** 554298 **Project ID:** 725010112135

**Lab Batch ID:** 3019052 **QC- Sample ID:** 554471-011 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/06/2017 **Date Prepared:** 06/06/2017 **Analyst:** MGO

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300 Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 322 | 250 | 565 | 97 | 250 | 565 | 97 | 0 | 90-110 | 20 | |

**Lab Batch ID:** 3019449 **QC- Sample ID:** 554810-018 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/12/2017 **Date Prepared:** 06/12/2017 **Analyst:** MGO

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300 Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 28.9 | 244 | 277 | 102 | 244 | 271 | 99 | 2 | 90-110 | 20 | |

**Lab Batch ID:** 3019449 **QC- Sample ID:** 554810-031 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/09/2017 **Date Prepared:** 06/09/2017 **Analyst:** MGO

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Inorganic Anions by EPA 300 Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 38.7 | 248 | 298 | 105 | 248 | 297 | 104 | 0 | 90-110 | 20 | |



Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

# Form 3 - MS / MSD Recoveries



## Project Name: Pipeline Release #2

**Work Order # :** 554298 **Project ID:** 725010112135

**Lab Batch ID:** 3019194 **QC- Sample ID:** 554810-030 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 06/08/2017 **Date Prepared:** 06/07/2017 **Analyst:** ARM

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| TPH by SW8015 Mod<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons | <15.0 | 998 | 1000 | 100 | 999 | 1010 | 101 | 1 | 70-135 | 35 | |
| Diesel Range Organics | <15.0 | 998 | 977 | 98 | 999 | 1010 | 101 | 3 | 70-135 | 35 | |



Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

# CHAIN OF CUSTODY RECORD

APEX

Office Location 505 N. Big Spring St. Suite 301A Midland, Tx

Project Manager K. Toby

Laboratory: Xeno Lab

Address: 211 W Florida Ave Midland, Tx

Contact:

Phone:

PO/SO #: 7250101112135

Sampler's Name: Ashley Gibbard

Sampler's Signature: AGG

Proj. No. 7250101123

Project Name: 1009 Pipeline Release #2

No/Type of Containers: 5/Glass Jar

ANALYSIS REQUESTED

Lab use only
Due Date:

Temp. of coolers when received (C°):
1 | 2 | 3 | 4 | 5

Page 1 of 1

554298

Lab Sample ID (Lab Use Only)

| Matrix | Date | Time | Comp | Grab | Identifying Marks of Sample(s) | Start Depth | End Depth | VOA | A/G 1 Lt. | 250 ml | Glass Jar | P/O | Chlorides Hold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 5/31/17 | 1210 | | ✓ | CS-9-RE | 3 | | | | | 1 | | ✓ |
| " | " | 1220 | | ✓ | CS-9-RE2 | 3 | | | | | 1 | | ✓ |
| " | " | 1230 | | ✓ | CS-10-RE | 6 | | | | | 1 | | ✓ |
| " | " | 1240 | | ✓ | CS-10-RE2 | 6 | | | | | 1 | | ✓ |
| S | 5/31/17 | 1300 | ✓ | | STP | - | | | | | 1 | | ✓ |

N. F. I

AGG 5/31/17

Turn around time ❑ Normal ❑ 25% Rush ❑ 50% Rush ☑ 100% Rush

| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
|---|---|---|---|---|---|
| AGG | 5/31/17 | 1525 | May | 5/31/17 | |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |

NOTES: *Straight From Field

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

Temp: 5.3 IR ID:R-8
CF:(0-6: -0.2°C )
(6-23: +0.2°C)
Corrected Temp: 5.1

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** APEX/Titan

**Date/ Time Received:** 05/31/2017 03:25:00 PM

**Work Order #:** 554298

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : r8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 5.1 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seal present on shipping container/ cooler? | **N/A** |
| #5 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #6 Custody Seals intact on sample bottles? | **N/A** |
| #7 *Custody Seals Signed and dated? | **N/A** |
| #8 *Chain of Custody present? | **Yes** |
| #9 Sample instructions complete on Chain of Custody? | **Yes** |
| #10 Any missing/extra samples? | **No** |
| #11 Chain of Custody signed when relinquished/ received? | **Yes** |
| #12 Chain of Custody agrees with sample label(s)? | **Yes** |
| #13 Container label(s) legible and intact? | **Yes** |
| #14 Sample matrix/ properties agree with Chain of Custody? | **Yes** |
| #15 Samples in proper container/ bottle? | **Yes** |
| #16 Samples properly preserved? | **Yes** |
| #17 Sample container(s) intact? | **Yes** |
| #18 Sufficient sample amount for indicated test(s)? | **Yes** |
| #19 All samples received within hold time? | **Yes** |
| #20 Subcontract of sample(s)? | **N/A** |
| #21 VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Marithza Anaya Date: 05/31/2017
Marithza Anaya

**Checklist reviewed by:** Kelsey Brooks Date: 05/31/2017
Kelsey Brooks

# Analytical Report 559437

## for

## APEX/Titan

**Project Manager: Karolanne Toby**

**Line 1009#2**

**725010112135**

**09-AUG-17**

Collected By: Client



**1211 W. Florida Ave, Midland TX 79701**

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

# Table of Contents

09-AUG-17

Project Manager: **Karolanne Toby**
**APEX/Titan**
505 N. Big Spring Ste. 301 A
Midland, TX 79701

Reference: XENCO Report No(s): **559437**
**Line 1009#2**
Project Address:

**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) 559437. 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. 559437 will be filed for 45 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

# Sample Cross Reference 559437

## APEX/Titan, Midland, TX

Line 1009#2

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|---|---|---|---|---|
| CS-9-RE3 | S | 08-07-17 08:30 | 4 - 4 | 559437-001 |
| CS-10-RE3 | S | 08-07-17 08:40 | 6 - 6 | 559437-002 |

# CASE NARRATIVE



***Client Name: APEX/Titan***

***Project Name: Line 1009#2***

| | | | |
|---|---|---|---|
| Project ID: | *725010112135* | Report Date: | *09-AUG-17* |
| Work Order Number(s): | *559437* | Date Received: | *08/07/2017* |

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

**Sample receipt non conformances and comments:**

Revised report for sample name change per Karolanne's e-mail-- 08/09/17 KB

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

None

# Certificate of Analytical Results

## 559437

## APEX/Titan, Midland, TX

Line 1009#2

Sample Id: **CS-9-RE3** Matrix: Soil Sample Depth: 4 - 4

Lab Sample Id: 559437-001 Date Collected: 08.07.17 08.30 Date Received: 08.07.17 12.55

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3024271 Date Prep: 08.07.17 15.25

Prep seq: 728880

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **84.6** | 4.96 | 0.852 | mg/kg | 08.07.17 21:07 | | 1 |

Sample Id: **CS-10-RE3** Matrix: Soil Sample Depth: 6 - 6

Lab Sample Id: 559437-002 Date Collected: 08.07.17 08.40 Date Received: 08.07.17 12.55

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3024271 Date Prep: 08.07.17 15.25

Prep seq: 728880

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| **Chloride** | 16887-00-6 | **71.7** | 4.97 | 0.853 | mg/kg | 08.07.17 21:30 | | 1 |

# Certificate of Analytical Results

## 559437

## APEX/Titan, Midland, TX

Line 1009#2

Sample Id: **728880-1-BLK** Matrix: Solid Sample Depth:

Lab Sample Id: 728880-1-BLK Date Collected: Date Received:

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3024271 Date Prep: 08.07.17 15.25

Prep seq: 728880

| Parameter | CAS Number | Result | MQL | SDL | Units | Analysis Date | Flag | Dil Factor |
|---|---|---|---|---|---|---|---|---|
| Chloride | 16887-00-6 | <0.858 | 5.00 | 0.858 | mg/kg | 08.07.17 20:44 | U | 1 |

# Flagging Criteria

**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

# BS / BSD Recoveries

## Project Name: Line 1009#2

**Work Order #:** 559437 **Project ID:** 725010112135

**Analyst:** MGO **Date Prepared:** 08/07/2017 **Date Analyzed:** 08/07/2017

**Lab Batch ID:** 3024271 **Sample:** 728880-1-BKS **Batch #:** 1 **Matrix:** Solid

**Units:** mg/kg

**BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY**

| Chloride by EPA 300<br>Analytes | Blank Sample Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Spike Added [E] | Blank Spike Duplicate Result [F] | Blk. Spk Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | <0.858 | 250 | 250 | 100 | 250 | 244 | 98 | 2 | 90-110 | 20 | |



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

# Form 3 - MS / MSD Recoveries



## Project Name: Line 1009#2

**Work Order # :** 559437 **Project ID:** 725010112135

**Lab Batch ID:** 3024271 **QC- Sample ID:** 559437-001 S **Batch #:** 1 **Matrix:** Soil

**Date Analyzed:** 08/07/2017 **Date Prepared:** 08/07/2017 **Analyst:** MGO

**Reporting Units:** mg/kg

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY**

| Chloride by EPA 300<br>Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chloride | 84.6 | 248 | 329 | 99 | 248 | 332 | 100 | 1 | 90-110 | 20 | |



Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

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

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

# CHAIN OF CUSTODY RECORD

APEX

Office Location Midland
505 N. Big Spring St. Suite 301A
Midland, TX 79701
Project Manager Karolanne Toby

Laboratory: Xenco Labs
Address: 1211 W Florida Ave
Midland, TX 79701
Contact: Kelsey Brooks
Phone:
PO/SO #: 725010112135

Sampler's Name: Simon Hudgens
Sampler's Signature:

Proj. No.: 725010112135
Project Name: Line 1009 #2

ANALYSIS REQUESTED

Lab use only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Page 1 of 1

559437
Lab Sample ID (Lab Use Only)

| Matrix | Date | Time | Comp | Grab | Identifying Marks of Sample(s) | Start Depth | End Depth | No/Type of Containers: VOA | A/G 1 Lt. | 250 ml | Glass Jar | P/O | Chlorides | BTEX 8021B | TPH Extended Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 8/7/17 | 0830 | | X | CS-9 | 4 | 4 | | | | | | X | X | X |
| S | 8/7/17 | 0840 | | X | CS-10 | 6 | 6 | | | | | | X | X | X |

NPB

Temp: 4.9 IR ID:R-8
CF:(0-6: -0.2°C )
(6-23: +0.2°C)
Corrected Temp: 4.7

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

| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
|---|---|---|---|---|---|
| | 8/7/17 | 1255 | Shanna Smith | 8-7-17 | 12:55 |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |

NOTES:
100% Rush 24HR
Chlorides only

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

# CHAIN OF CUSTODY RECORD

APEX

Office Location Midland
505 N. Big Spring St. Suite 301A
Midland, TX 79701
Project Manager Karolanne Toby

Laboratory: Xenco Labs
Address: 1211 W Florida Ave
Midland, TX 79701
Contact: Kelsey Brooks
Phone:
PO/SO #: 725010112135

Sampler's Name: Simon Hudgens
Sampler's Signature:

Proj. No.: 725010112135
Project Name: Line 1009 #2

ANALYSIS REQUESTED

Lab use only
Due Date:

Temp. of coolers when received (C°): 1 | 2 | 3 | 4 | 5

Page 1 of 1

559437
Lab Sample ID (Lab Use Only)

| Matrix | Date | Time | Comp | Grab | Identifying Marks of Sample(s) | Start Depth | End Depth | No/Type of Containers: VOA | A/G 1 Lt. | 250 ml | Glass Jar | P/O | Chlorides | BTEX 8021B | TPH Extended Range |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S | 8/7/17 | 0830 | | X | CS-9-RE3 | 4 | 4 | | | | | | X | X | X |
| S | 8/7/17 | 0840 | | X | CS-10-RE3 | 6 | 6 | | | | | | X | X | X |

NFB

Temp: 4.9 IR ID:R-8
CF:(0-6: -0.2°C )
(6-23: +0.2°C)
Corrected Temp: 4.7

Turn around time ❑ Normal ❑ 25% Rush ❑ 50% Rush X 100% Rush

| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
|---|---|---|---|---|---|
| | 8/7/17 | 1255 | Shanna Smith | 8-7-17 | 12:55 |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |
| Relinquished by (Signature) | Date: | Time: | Received by: (Signature) | Date: | Time: |

NOTES:
100% Rush 24HR
Chlorides only

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

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

**Client:** APEX/Titan

**Date/ Time Received:** 08/07/2017 12:55:00 PM

**Work Order #:** 559437

**Acceptable Temperature Range: 0 - 6 degC**
**Air and Metal samples Acceptable Range: Ambient**

**Temperature Measuring device used : R8**

| Sample Receipt Checklist | Comments |
|---|---|
| #1 *Temperature of cooler(s)? | 4.7 |
| #2 *Shipping container in good condition? | **Yes** |
| #3 *Samples received on ice? | **Yes** |
| #4 *Custody Seal present on shipping container/ cooler? | **N/A** |
| #5 *Custody Seals intact on shipping container/ cooler? | **N/A** |
| #6 Custody Seals intact on sample bottles? | **N/A** |
| #7 *Custody Seals Signed and dated? | **N/A** |
| #8 *Chain of Custody present? | **Yes** |
| #9 Sample instructions complete on Chain of Custody? | **Yes** |
| #10 Any missing/extra samples? | **No** |
| #11 Chain of Custody signed when relinquished/ received? | **Yes** |
| #12 Chain of Custody agrees with sample label(s)? | **Yes** |
| #13 Container label(s) legible and intact? | **Yes** |
| #14 Sample matrix/ properties agree with Chain of Custody? | **Yes** |
| #15 Samples in proper container/ bottle? | **Yes** |
| #16 Samples properly preserved? | **Yes** |
| #17 Sample container(s) intact? | **Yes** |
| #18 Sufficient sample amount for indicated test(s)? | **Yes** |
| #19 All samples received within hold time? | **Yes** |
| #20 Subcontract of sample(s)? | **No** |
| #21 VOC samples have zero headspace? | **N/A** |

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

Analyst: PH Device/Lot#:

**Checklist completed by:** Shawnee Smith Date: 08/07/2017
Shawnee Smith

**Checklist reviewed by:** Kelsey Brooks Date: 08/07/2017
Kelsey Brooks

# APPENDIX E

## Initial and Final C-141

# APPENDIX F

## Right of Entry Permit

**Aubrey Dunn**
**COMMISSIONER**

***State of New Mexico***
***Commissioner of Public Lands***
310 OLD SANTA FE TRAIL
P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

**COMMISSIONER'S OFFICE**
Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org



March 24, 2017

Enterprise Field Services, LLC
P.O. Box 4324
Houston, TX 77210

Attn: Alena Miro

Re: Right-of-Entry Permit No.: ROE-3081 Remediation

Dear Ms. Miro:

Enclosed is the completed captioned Right-of-Entry permit. If any corrections are necessary, please let us know and we will retype or amend this permit as necessary.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact Conrad Kegel at 505-827-5789.

Sincerely,

Aubrey Dunn
Commissioner of Public Lands

AD/CK

Enclosures

**NEW MEXICO STATE LAND OFFICE**
**Commissioner of Public Lands**
**Aubrey Dunn**
**New Mexico State Land Office Building**
**P.O. Box 1148, Santa Fe, NM 87504-1148**

# RIGHT OF ENTRY PERMIT
# CONTRACT NO. ROE-3081



## 1. RIGHT OF ENTRY PERMIT

This permit is issued under the authority of NMSA 1978, Section 19-1-2. Therefore, and in consideration of and subject to the terms, covenants, conditions, agreements, obligations and reservations contained in the permit and all other existing rights, the Commissioner of Public Lands, New Mexico State Land Office, State Of New Mexico, hereinafter called "COMMISSIONER," grants to **Enterprise Field Services, LLC,** whose address is **P.O. Box 4324, Houston, Texas 77210, hereinafter** called "PERMITTEE," authorized use of a specific tract(s) of State Trust Land only for the term, and only for the permitted use, described in this permit.

## 2. TERM AND LAND DESCRIPTION

Right of entry is granted for a term of **180 days**, commencing on the execution date of this document by the Commissioner of Public Lands, to the following State Trust Lands.

**Section 13, Township 21 South, Range 34 East. SE4NW4 Lea County**

## 3. APPLICATION and PROCESSING FEE

- **$50.00 Application Fee**
- **$500.00 Permit Fee**
- **$550.00 Total**

## 4. PERMITTED USE, PERSONNEL, EQUIPMENT AND MATERIALS

Permitted use is for the purpose of: **Accessing State Trust Land to perform remediation of soil impacted by natural gas pipeline liquids.**

Personnel present on State Trust Land: **Enterprise Field Services LLC, Apex Titan Inc., and New Mexico Rentals personnel**

Equipment & Materials present on State Trust Land: **Heavy construction quipment for soil removal**

***Prior to execution of project company must contact the Surface Lessees.***

***The granting of this permit does not allow access across private lands.***

## 5. IMPROVEMENTS

No improvements shall be placed on the premises without the prior written consent of the Commissioner.

## 6. RESERVATIONS

Commissioner reserves the right to execute leases, rights of way, easements, permits, exchange agreements, sale agreements, permits and other lawful rights on or across the land covered by this permit, including but not limited to any such rights for mining purposes and for the extraction of oil, gas, salt, geothermal resources, and other mineral deposits there from and the right to go upon, explore for, mine, remove and sell same.

## 7. COMPLIANCE WITH LAWS

Permittee shall at its own expense comply fully with and be subject to all applicable regulations, rules, ordinances, and requirements of law or of the Commissioner, including but not limited to the regulations of the State Land Office; Chapter 19 NMSA governing State Trust Lands; federal and state environmental laws and regulations; and the New Mexico Cultural Properties Act, NMSA 1978 Sections 18-6-1 through 18-6-23. It is illegal for any person or his agent to appropriate, excavate, injure, or destroy any historic, or prehistoric ruin or monument, or any object of historical, archaeological, architectural, or scientific value situated on lands owned or controlled by the State Land Office without a valid permit issued by the Cultural Properties Review Committee and approved by the Commissioner of Public Lands.

## 8. HOLD HARMLESS AND IMDEMNIFICATION

Permittee shall save, hold harmless, indemnify and defend Commissioner, the State Land Office, the State of New Mexico, and any of their officers, employees or agents, in their official and individual capacities, of and from any and all liability, claims, losses, damages, costs, and fees arising out of or alleged to arise out of, or directly or indirectly connected with, the operations of Permittee under this permit on or off State Trust Lands or arising out of the presence on State Trust Lands of any equipment, material, agent, invitee, contractor or subcontractor of Permittee. This Hold Harmless and Indemnification clause covers any claim, including any brought in any court or before any administrative agency, of any loss or alleged loss, and any damages or alleged damages asserted with respect to any violation or alleged violation of any state, federal or local law or regulation, including but not limited to any environmental law or regulation, any cultural properties law (including the New Mexico Cultural Properties Act, cited above) or regulation, and any alleged damage to the property, rights or interests of any State Land Office lessee, right-of-way holder, or other permittee.

## 9. AMENDMENT

This permit shall not be altered, changed, or amended except by an instrument in writing executed by Commissioner and Permittee.

## 10. WITHDRAWAL

Commissioner reserves the right to withdraw any or all of the land authorized for use under this permit. If applicable, Permittee shall vacate the acreage specified within 30 days after receipt of written notification of withdrawal from the Commissioner.

## 11. CANCELLATION

The violation by Permittee of any of the terms, conditions, or covenants of this permit or the nonpayment by Permittee of the fees due under this permit shall at the option of the Commissioner be considered a default and shall cause the cancellation of this permit 30 days after Permittee has been sent written notice of such.

## 12. PRESERVE AND PROTECT

The Permittee agrees to preserve and protect the natural environmental conditions of the land encompassed in this permit, and to take those reclamation or corrective actions that are accepted soil and water conservation practices and that are deemed necessary by the Commissioner to protect the land from pollution, erosion, or other environmental degradation. The Permittee further agrees not to injure the property of, or interfere with the operations or rights of, any State Land Office lessee, right-of-way holder, easement holder or other permittee who has rights to use the State Trust Land subject to this permit.

## 13. RECLAMATION, REMOVAL OF EQUIPMENT, MATERIALS, AND WASTE

The Permittee agrees to reclaim those areas that may be damaged by activities conducted thereon.

The Permittee agrees to remove from the State Trust Lands, no later than the end of the term of this permit, all equipment, and materials it has placed or brought upon the land and to clean up and remove from the land any trash, waste, effluent, or other products used or brought upon the land in connection with this permit.

## 14. SPECIAL INSTRUCTIONS AND/OR RESTRICTIONS

**1.** No off road traffic allowed.

**2.** No wood collection or tree cutting allowed.

**3.** Disturbing, dislodging, damaging, defacing, destroying or removing historical archaeological, paleontological or cultural sites or artifacts in a manner inconsistent with the provisions of the granted permit is prohibited.

**4.** Disturbing, dislodging, damaging, defacing, destroying any improvement, fixture, item, object or thing placed or located in, under or upon the land is prohibited.

**5.** This permit does not grant a right to enter State Trust Lands to which there is no public access.

**6.** Any uses or activities not within the scope of this permit are not allowed unless prior written approval from the Commissioner of Public Lands is granted.

WITNESS the hands and seals of PERMITTEE and COMMISSIONER on the day(s) and year entered below.

Telephone: 713-381-6684

**PERMITTEE**

**ACKNOWLEDGMENT**

**STATE OF** Texas )

**COUNTY OF** Harris )

The foregoing instrument was acknowledged before me this 21st day of MARCH, 20 17.

My Commission Expires: 8-26-2017

NOTARY PUBLIC

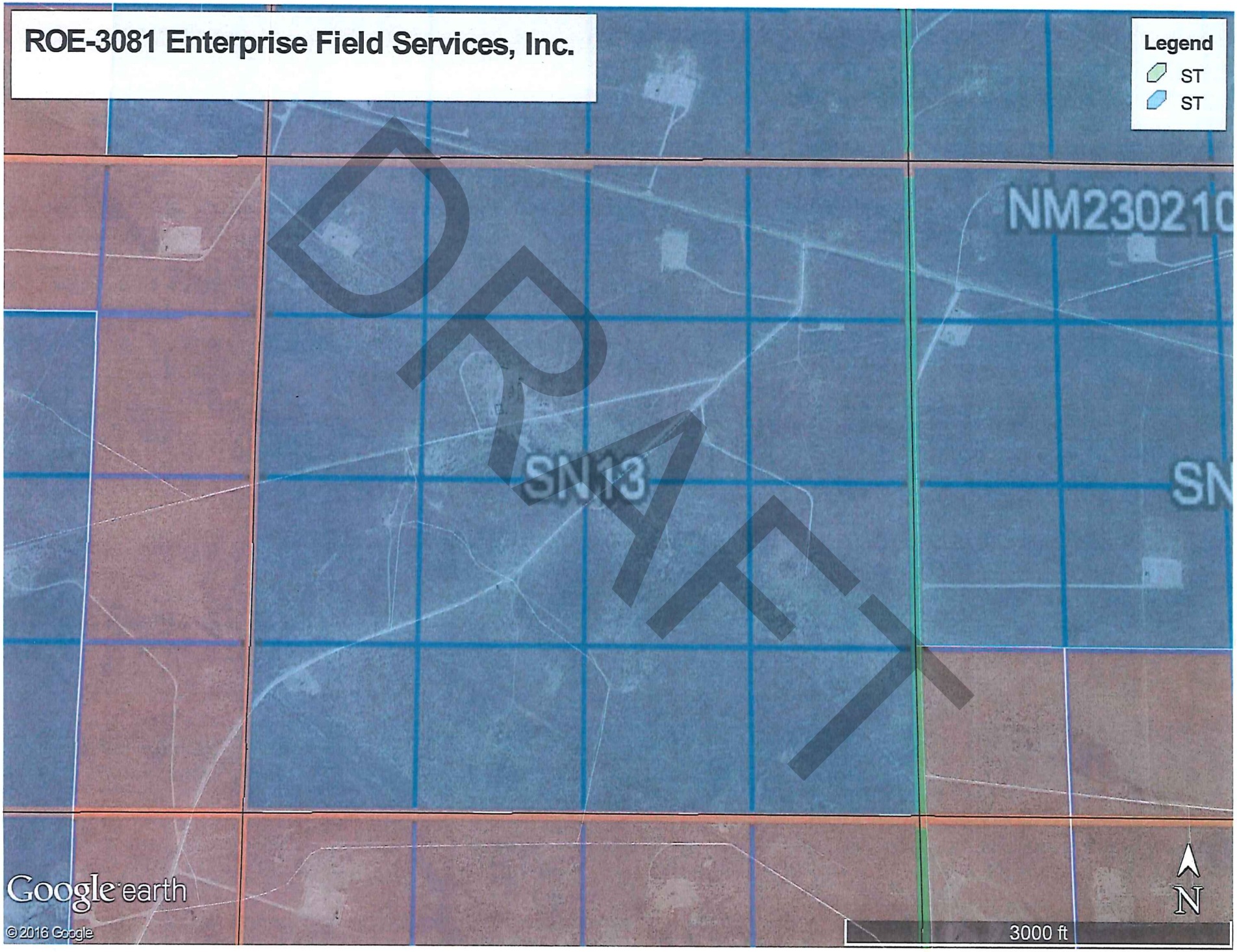
SHIVER JEAN NOLAN
Notary Public, State of Texas
My Commission Expires
August 26, 2017

DATE: 3/29/2017

COMMISSIONER OF PUBLIC LANDS
AUBREY DUNN

**ROE- 3081**

2017 MAR 23 AM 8:28


ROE-3081 Enterprise Field Services, Inc.
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Google earth
© 2016 Google
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# APPENDIX G

## Disposal Documentation

# 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 Water Cons

**NON-HAZARDOUS WASTE MANIFEST** NO 118026 | 1. PAGE ___ OF ___ | 2. TRAILER NO. 25

**GENERATOR**

3. COMPANY NAME: Enterprise Field Services LLC
4. ADDRESS: P.O BOX 1508
5. PICK-UP DATE: 5/10/2017
PHONE NO.: (575) 885-7236
CITY: Carlsbad STATE: NM ZIP: 88221
6. TNRCC I.D. NO.:

| 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 | | | |
| b. | | | | | |
| c. WT: | | | | | |
| d. 46,520 53,860 | | | | | |

12. COMMENTS OR SPECIAL INSTRUCTIONS: 1008 R.O.W. T@ 100,380
13. WASTE PROFILE NO.:

**TRANSPORTER**

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

**TRANSPORTERS**

16. **TRANSPORTER (1)**
NAME: NEW MEXICO RENTALS
TEXAS I.D. NO.:
IN CASE OF EMERGENCY CONTACT: ALLEN WALKER
EMERGENCY PHONE: (575) 942-1257

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 Jose Soto
SIGNATURE [signature] DATE 5/10/2017

19. **TRANSPORTER (2):** Acknowledgment of receipt of material
PRINTED/TYPED NAME
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: Santos Gonzalez | CELL NO. | DATE 5/10/2017 | TIME 11:50

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

## LEA LAND, LLC

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

CS+M

**NON-HAZARDOUS WASTE MANIFEST** NO 118027 | 1. PAGE __OF__ | 2. TRAILER NO. 9

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | 5. PICK-UP DATE |
|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | 5/10/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad STATE NM ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. | | | | | |
| c. | | | | | |
| d. WT: 47,620 50,840 | | | | | |

| 12. COMMENTS OR SPECIAL INSTRUCTIONS: | 13. WASTE PROFILE NO. |
|---|---|
| 1009 R.O.W. To 98,460 | |

**TO**

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

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

**GENERATOR**

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME Robert Ingram | PRINTED/TYPED NAME |
| SIGNATURE DATE 5/10/2017 | 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 | TIME |
|---|---|---|---|
| Santos Gonzalez | — | 5/10/2017 | 11:55 |

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

## LEA LAND, LLC

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

MeC

**NON-HAZARDOUS WASTE MANIFEST** NO 118028 | 1. PAGE ___ OF ___ | 2. TRAILER NO. S4

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | 5. PICK-UP DATE |
|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | 5/10/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad STATE NM ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. | | | | | |
| c. WT: | | | | | |
| d. 44,380 48,780 | | | | | |

| 12. COMMENTS OR SPECIAL INSTRUCTIONS: | 13. WASTE PROFILE NO. |
|---|---|
| 1009 R.O.W. TO 93,160 | |

**TRANSPORTER**

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

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

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME: CARL M. LARSEN | PRINTED/TYPED NAME: |
| SIGNATURE: [signature] DATE: 5/10/2017 | SIGNATURE: DATE: |

**DISPOSAL FACILITY**

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

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

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 | TIME |
|---|---|---|---|
| Santos Gonzalez | | 5/10/2017 | 12:25 |

GENERATOR: COPIES 1 & 6 | DISPOSAL SITE: COPIES 2 & 3 | TRANSPORTERS: COPIES 4 & 5

COPY 1

# LEA LAND DISPOSAL SITE NEW MEXICO

MILE MARKER #64 U.S. 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

CS&M

**NON-HAZARDOUS WASTE MANIFEST** NO 118031 | 1. PAGE ___ OF ___ | 2. TRAILER NO. 9

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | 5. PICK-UP DATE |
|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | 5/11/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad STATE NM ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. 48,220 | | | | | |
| c. | | | | | |
| d. WT ① 53,220 ② 47,420 ③ 52,880 | | | | | |

| 12. COMMENTS OR SPECIAL INSTRUCTIONS: | 13. WASTE PROFILE NO. |
|---|---|
| 1009 R.O.W. To 201,140 | |

**TOR**

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

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME Robert Trujillo | PRINTED/TYPED NAME |
| SIGNATURE Robert Trujillo DATE 5/11/2017 | 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 | TIME |
|---|---|---|---|
| Santos Gonzalez | | 5/11/2017 | 9.30 |

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

## LEA LAND, LLC

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

**NON-HAZARDOUS WASTE MANIFEST** NO 118032 | 1. PAGE ___ OF ___ | 2. TRAILER NO. 10

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | | | 5. PICK-UP DATE |
|---|---|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | | | 5/11/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad | STATE NM | ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. @ 55,360 | | | | | |
| c. | | | | | |
| d. WT ① 52,060 ② 54,620 ③ 54,820 | | | | | |

| 12. COMMENTS OR SPECIAL INSTRUCTIONS: | 13. WASTE PROFILE NO. |
|---|---|
| 1009 R.O.W. T@ 220,860 | |

**GENERATOR**

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

**GENERATOR**

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME Richard Palacios | PRINTED/TYPED NAME |
| SIGNATURE [signature] DATE 5/11/2017 | 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 | TIME |
|---|---|---|---|
| Santos Gonzalez | | 5/11/2017 | 9:35 |

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

## LEA LAND, LLC

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

MEC

**NON-HAZARDOUS WASTE MANIFEST** NO 118052 | 1. PAGE ___ OF ___ | 2. TRAILER NO. S4

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | 5. PICK-UP DATE |
|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | 5/11/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad STATE NM ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. | | | | | |
| c. WT: | | | | | |
| d. 47,380 | | | | | |

| 12. COMMENTS OR SPECIAL INSTRUCTIONS: | 13. WASTE PROFILE NO. |
|---|---|
| 1009 R.O.W. | |

**TRANSPORTER**

14. IN CASE OF EMERGENCY OR SPILL, CONTACT

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

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME CARL LARSEN | PRINTED/TYPED NAME |
| SIGNATURE [signature] DATE 5/11/2017 | SIGNATURE DATE |

**DISPOSAL FACILITY**

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

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

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 | TIME |
|---|---|---|---|
| Santos Gonzalez | | 5/11/2017 | 2:35 |

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

## LEA LAND, LLC

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

**NON-HAZARDOUS WASTE MANIFEST** NO 118054 | 1. PAGE ___ OF ___ | 2. TRAILER NO. 11

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | 5. PICK-UP DATE |
|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | 5/12/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad STATE NM ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. ④ 45,520 | | | | | |
| c. | | | | | |
| d. WS ① 55,380 ③ 41,120 ② 41,380 | | | | | |

12. COMMENTS OR SPECIAL INSTRUCTIONS: 1009 R.O.W. To 188,400

13. WASTE PROFILE NO.

**TREATOR**

14. IN CASE OF EMERGENCY OR SPILL, CONTACT

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

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME Josa Soto | PRINTED/TYPED NAME |
| SIGNATURE [signature] DATE 5/12/2017 | SIGNATURE DATE |

**DISPOSAL FACILITY**

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

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

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 | TIME |
|---|---|---|---|
| Santos Gonzalez | / | 5/12/2017 | 9:00 |

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

## LEA LAND, LLC

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

**NON-HAZARDOUS WASTE MANIFEST** NO 118055 | 1. PAGE ___ OF ___ | 2. TRAILER NO. # 10

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | 5. PICK-UP DATE |
|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | 5/12/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad STATE NM ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. @ 47,080 | | | | | |
| c. | | | | | |
| d. WT ① 57,200 ② 43,740 ③ 45,780 | | | | | |

| 12. COMMENTS OR SPECIAL INSTRUCTIONS: | 13. WASTE PROFILE NO. |
|---|---|
| 1009 R.O.W. To 193,800 | |

**TRANSPORTER**

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

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

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME Richard Palen | PRINTED/TYPED NAME |
| SIGNATURE DATE 5/12/2017 | 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 | TIME |
|---|---|---|---|
| Santos Gonzalez | | 5/12/2017 | 9:10 |

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

## LEA LAND, LLC

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

**NON-HAZARDOUS WASTE MANIFEST** NO 118070 | 1. PAGE ___ OF ___ | 2. TRAILER NO. S4

**GENERATOR**

| 3. COMPANY NAME | 4. ADDRESS | 5. PICK-UP DATE |
|---|---|---|
| Enterprise Field Services LLC | P.O BOX 1508 | 5/12/2017 |
| PHONE NO. (575) 885-7236 | CITY Carlsbad STATE NM ZIP 88221 | 6. TNRCC I.D. NO. |

| 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 | | | |
| b. | | | | | |
| c. | | | | | |
| d. Wt 45,440 @ 46,180 41,800 | | | | | |

| 12. COMMENTS OR SPECIAL INSTRUCTIONS: | 13. WASTE PROFILE NO. |
|---|---|
| 1009 R.O.W. To 133,420 | |

**TRANSPORTER**

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

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

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 |
|---|---|---|
| | | |

**TRANSPORTERS**

| 16. TRANSPORTER (1) | 17. TRANSPORTER (2) |
|---|---|
| NAME: NEW MEXICO RENTALS | NAME: |
| TEXAS I.D. NO. | TEXAS I.D. NO. |
| IN CASE OF EMERGENCY CONTACT: ALLEN WALKER | IN CASE OF EMERGENCY CONTACT: |
| EMERGENCY PHONE: (575) 942-1257 | EMERGENCY PHONE: |
| 18. **TRANSPORTER (1):** Acknowledgment of receipt of material | 19. **TRANSPORTER (2):** Acknowledgment of receipt of material |
| PRINTED/TYPED NAME [signature] | PRINTED/TYPED NAME |
| SIGNATURE CARL M. LARSEN DATE 5/12/2017 | SIGNATURE DATE |

**DISPOSAL FACILITY**

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

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

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 | TIME |
|---|---|---|---|
| Santos Gonzalez | | 5/12/2017 | 11:00 |

GENERATOR: COPIES 1 & 6 DISPOSAL SITE: COPIES 2 & 3 TRANSPORTERS: COPIES 4 & 5

COPY 1

**District I**
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
**District II**
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
**District III**
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
**District IV**
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 206632

## CONDITIONS

| | |
|---|---|
| Operator:<br>ENTERPRISE FIELD SERVICES L.L.C.<br>P.O. Box 4324<br>Houston, TX 772104324 | OGRID:<br>151618 |
| | Action Number:<br>206632 |
| | Action Type:<br>[IM-SD] Incident File Support Doc (ENV) (IM-BNF) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| amaxwell | None | 4/20/2023 |