



## **CORRECTIVE ACTION REPORT**

Property:

**A-6 Lateral Tank Release  
32.155717, -104.297528  
NW ¼ SE ¼, S4 T25S R26E  
Eddy County, New Mexico  
2RP-3232**

December 2015  
Apex Project No. 7250715079

Prepared for:

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

Prepared by:

A handwritten signature in blue ink, appearing to read 'Karolanne'.

---

Karolanne Toby  
Project Geologist

A handwritten signature in blue ink, appearing to read 'Liz Scaggs'.

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Liz Scaggs, P.G.  
Division Manager

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## **CORRECTIVE ACTION REPORT**

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Eddy County, New Mexico  
2RP-3232

**Apex Project No. 7250715079**

### **1.0 INTRODUCTION**

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

The A-6 Lateral Tank Release site is located south of the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of the southeast (SE) ¼ of Section 4 in Township 25 South and Range 26 East in rural Eddy County, New Mexico (32.155717N, 104.297528W), referred to hereinafter as the "Site" or "subject Site". The Site is surrounded by native rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise A-6 Lateral natural gas gathering pipeline (A-6 Lateral line). The pipeline traverses the site from southeast to northwest. The release occurred as a result of a leak from a tanker truck, stationed south of the A-6 Lateral line.

On August 17, 2015, Enterprise reported a release from a tanker truck, located south of the A-6 Lateral pipeline ROW. The tanker truck contained water used to produce drilling mud as part of the ongoing construction activities surrounding the A-6 Lateral line. Once the tanker truck was emptied, the construction crew on-Site discovered a ruptured pipe located underneath the truck. Approximately eight (8) barrels (bbls) of stagnant water and drilling mud were released from the tanker truck onto the ground surface. Enterprise initiated excavation activities at the Site in an effort to remediate any environmental impacts associated with the leak from the tanker truck.

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

#### **1.2 Project Objective**

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



## 2.0 SITE RANKING

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

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	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 at the Site.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site.
- The distance to the nearest surface water body is greater than 1,000 feet.

Based on a Total Ranking Score of "20", cleanup goals for soils remaining in place include: 10 milligrams per kilogram (mg/Kg) for benzene, 50 mg/Kg for total benzene, toluene, ethylbenzene and xylene (BTEX), 100 mg/Kg for total petroleum hydrocarbons (TPH) and 250 mg/Kg for chloride.

## 3.0 RESPONSE ACTIONS

### 3.1 Soil Excavation Activities

On August 17, 2015, Enterprise reported a leak from a tanker truck at the Site. The leak was subsequently identified and repaired. Approximately eight (8) bbls of stagnant water and drilling mud were released from the tanker truck onto the ground surface.

The initial excavation was carried out on August 26, 2015. During the corrective action activities, Talon LPE (Talon) provided heavy equipment and labor support. Ms. Georgiana McSwane, an Apex environmental professional, provided environmental support.

The excavation dimensions measured approximately thirty (30) feet long by thirty (30) feet wide, with a total depth of approximately one (1) foot below ground surface (bgs).

Talon transported the stockpiled material from the excavation to the Lea Land Disposal Facility (Lea Land) in Carlsbad, NM. The excavation was backfilled with clean fill material purchased from Lea Land. The area was returned to original surface grade. Copies of the waste disposal tickets are provided as an attachment in Appendix F.

### 3.2 Soil Sampling Program

On August 26, 2015, Apex collected seven (7) confirmation soil samples (CS-1, CS-2, CS-3, CS-4, CS-5, CS-6, and CS-7) from the resulting excavation.

Soil samples were collected and delivered under chain of custody control to Xenco Laboratories in Odessa, Texas for analysis of BTEX utilizing EPA SW-846 Method #8021B, TPH gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015, and chloride utilizing EPA Method 300.

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

Figure 3 is Site Map that indicates the approximate location of the excavated area in relation to pertinent land features (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 NMAC 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, BTEX, TPH and chloride concentrations, or reporting limits, associated with the confirmation soil samples (CS-1, CS-2, CS-3, CS-4, CS-5, CS-6, and CS-7) collected from the excavated area to the OCD *Recommended Remediation Action Levels* (RRALs) for sites having a total ranking score of "20".

The laboratory analyses of the confirmation soil samples (CS-1, CS-2, CS-3, CS-4, CS-5, CS-6, and CS-7) collected from the Site indicate benzene concentrations below the laboratory reporting limits, which are below the OCD RRAL limits of 10 mg/Kg. The laboratory analyses of the confirmation soil samples (CS-1, CS-2, CS-3, CS-4, CS-5, CS-6, and CS-7) collected from the Site indicate total BTEX concentrations below the laboratory reporting limits, which are below the OCD RRAL limits of 50 mg/Kg.

The laboratory analyses of the confirmation soil samples (CS-1, CS-2, CS-3, CS-4, CS-5, CS-6, and CS-7) collected from the Site indicate combined TPH GRO/DRO concentrations below the laboratory reporting limits, which are below the OCD RRAL limits of 100 mg/Kg.

The laboratory analyses of the confirmation soil samples (CS-1, CS-2, CS-3, CS-4, CS-5, CS-6, and CS-7) collected from the Site indicate chloride concentrations ranging from below the laboratory reporting limits to 86.5 mg/Kg, which are below the OCD RRAL limits of 250 mg/Kg.

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

## 5.0 FINDINGS AND RECOMMENDATIONS

The A-6 Lateral Tank Release site is located south of the Enterprise pipeline ROW in the NW ¼ of the SE ¼ of Section 4 in Township 25 South and Range 26 East in rural Eddy County, New Mexico (32.155717N, 104.297528W). The Site is surrounded by native rangeland periodically interrupted with oil and gas production and gathering facilities, including the Enterprise A-6 Lateral line. The pipeline traverses the site from southeast to northwest.

On August 17, 2015, Enterprise reported a release from a tanker truck, located south of the A-6 Lateral pipeline ROW. The tanker truck contained water used to produce drilling mud as part of the ongoing construction activities surrounding the A-6 Lateral line. Once the tanker truck was emptied, the construction crew on-Site discovered a ruptured pipe located underneath the truck. Approximately eight (8) bbls of stagnant water and drilling mud were released from the tanker truck onto the ground surface. Enterprise initiated excavation activities at the Site in an effort to remediate any environmental impacts associated with the leak from the tanker truck.

- The primary objective of the corrective actions was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD *RALs* using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.
- The Site was scraped utilizing heavy equipment to remove surface soils affected by the release. The excavation dimensions measured approximately thirty (30) feet long by thirty (30) feet wide, with a total depth of approximately one (1) foot bgs.
- A total of seven (7) confirmation soil samples (CS-1, CS-2, CS-3, CS-4, CS-5, CS-6, and CS-7) were collected from the resulting excavation and submitted for laboratory analyses. Based on analytical results, soils remaining exhibit COC concentrations below the OCD *Remediation Action Levels* for a Site ranking of "20".
- The stockpiled material was transported from the excavation to the Lea Land Disposal Facility. The excavation was backfilled with clean imported fill from Lea Land and contoured to surrounding grade. The surface soils at the Site were returned to approximate original grade.

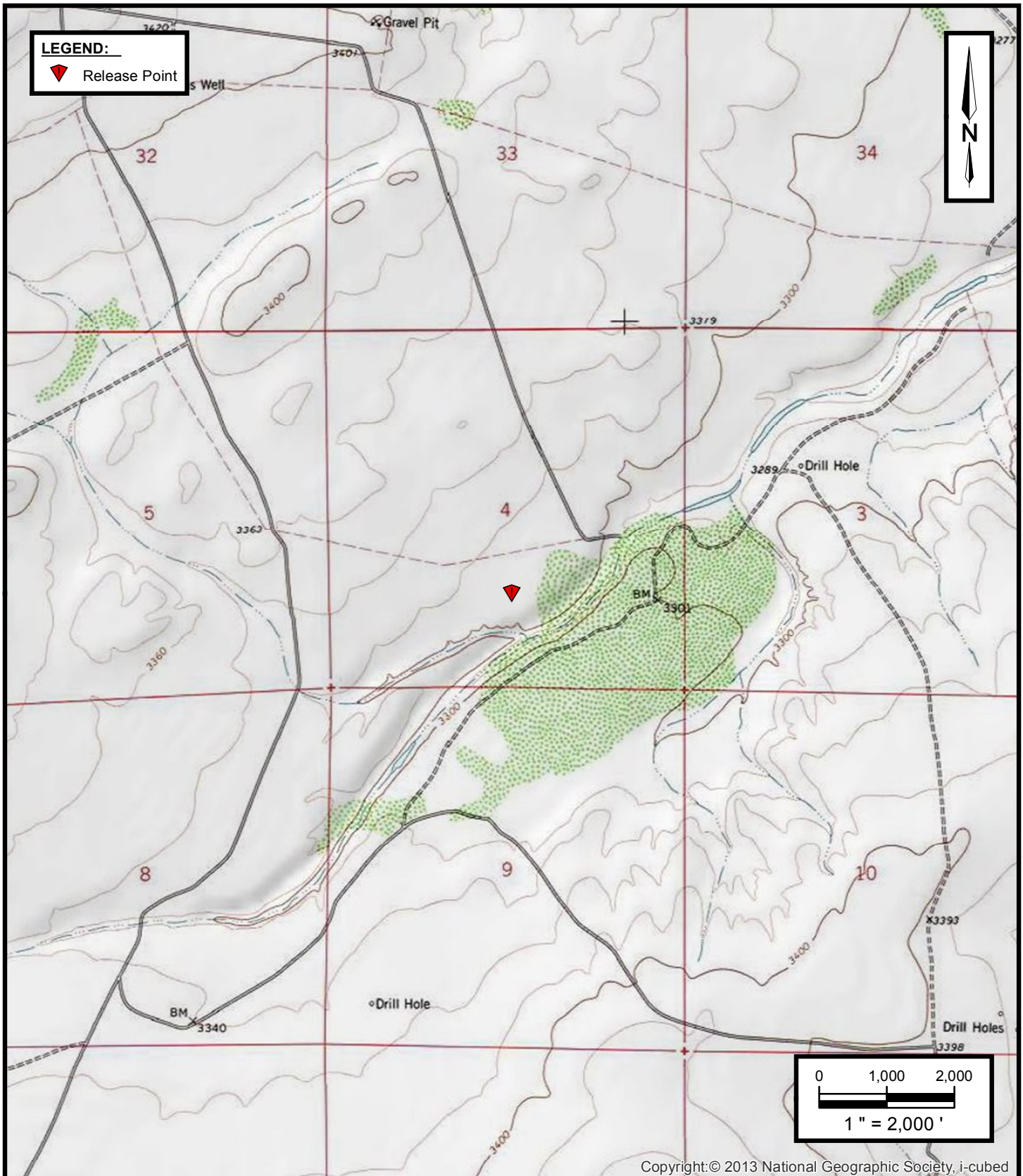
**Based on field observations and laboratory analytical results, no additional investigation or corrective action appears warranted at this time.**



## APPENDIX A

### Figures





**Enterprise Field Services, LLC**  
**A-6 Lateral Tank Release**  
 Eddy County, New Mexico  
 32.155717 N, 104.297528 W

Project No. 7250715079



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

## FIGURE 1

### Topographic Map

Black River Village  
 New Mexico Quadrangle  
 1979



**LEGEND:**

Release Point



0 250 500  
1" = 500'

Google

Google 2015

**Enterprise Field Services, LLC**  
**A-6 Lateral Tank Release**  
Eddy County, New Mexico  
32.155717 N, 104.297528 W



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*A Subsidiary of Apex Companies, LLC*

**FIGURE 2**







**Site Vicinity Map**

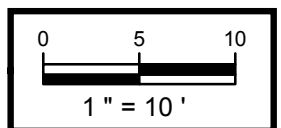
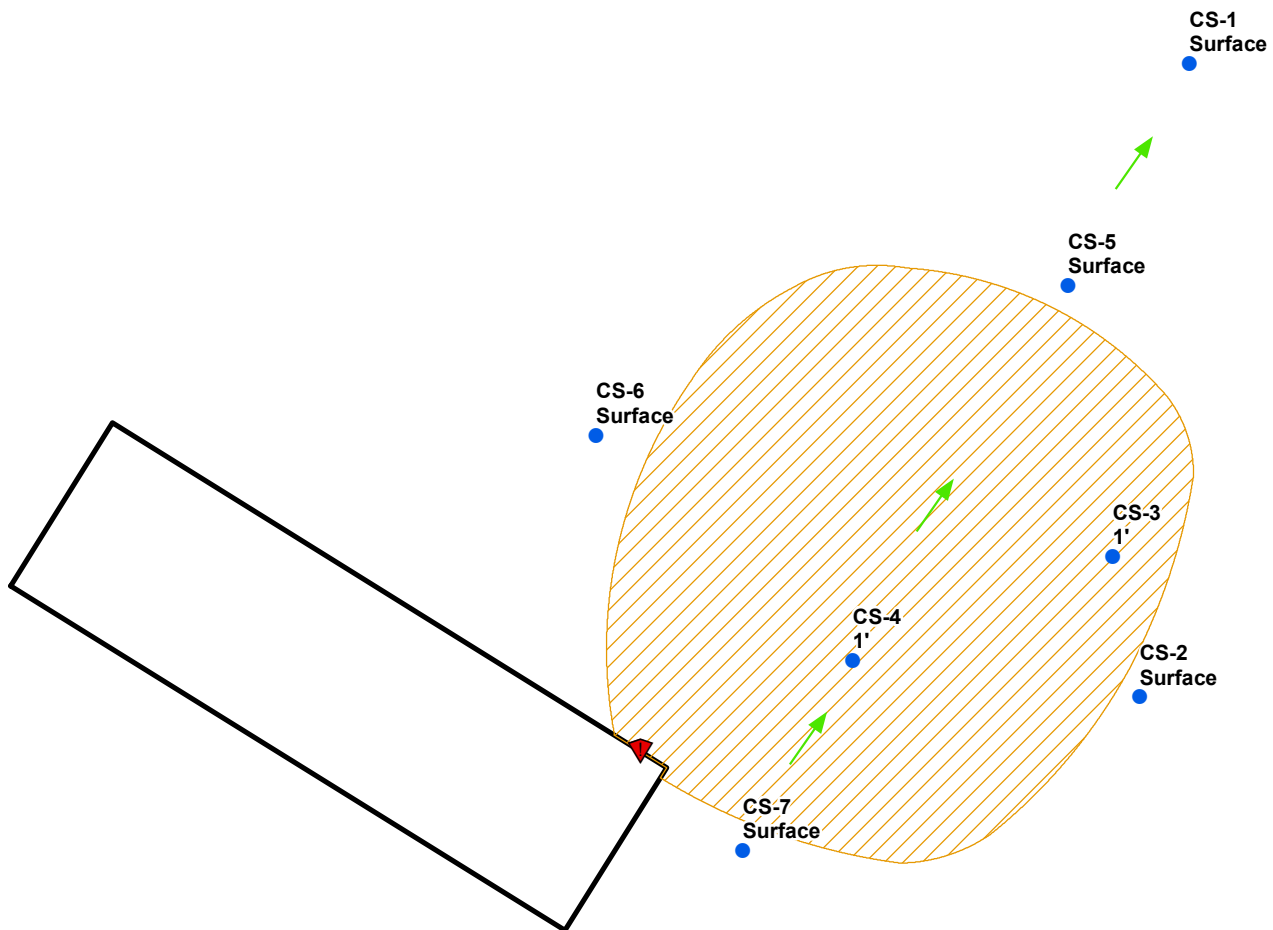
Aerial Photograph April 2013

Project No. 7250715079



**LEGEND:**

-  Topographic Gradient/Surface Flow Direction
-  Confirmation Sample Location
-  Release Point
-  A-6 Lateral Underground Pipeline
-  Extent of Excavation
-  Mobile Frac Tank Location



**Enterprise Field Services, LLC**  
**A-6 Lateral Tank Release**  
Eddy County, New Mexico  
32.155717 N, 104.297528 W

Project No. 7250715079



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



## APPENDIX B

### Photographic Documentation



Initial finding of the release point from the bottom of the tanker truck.



View of initial release in the vicinity of the A-6 lateral pipeline construction.



View of release prior to excavation activities.



View of initial excavation activities.



View facing southwest of initial excavation activities.



View facing southwest of final excavation.



## APPENDIX C

### Analytical Tables

**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
**A-6 Lateral Leak**

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 GRO/DRO (mg/Kg)	Chloride (mg/Kg)
New Mexico Oil Conservation Division (NMOCD) Recommended Remediation Action Levels (RRALs) (Total Ranking Score: 20)											
New Mexico Oil Conservation Division (NMOCD) Recommended Remediation Action Level			10	NE	NE	NE	50	NE	NE	100	250
CONFIRMATION SOIL SAMPLE ANALYTICAL RESULTS											
CS-1	8/26/2015	0 - 0.25	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	17.1
CS-2	8/26/2015	0 - 0.25	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<14.9	<14.9	<14.9	5.77
CS-3	8/26/2015	1 - 1.25	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	<2.00
CS-4	8/26/2015	1 - 1.25	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	12.4
CS-5	8/26/2015	0 - 0.25	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	86.5
CS-6	8/26/2015	0 - 0.25	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	6.16
CS-7	8/26/2015	0 - 0.25	<0.00100	<0.00200	<0.00100	<0.00100	<0.00100	<15.0	<15.0	<15.0	18.2

mg/Kg- milligrams per Kilogram

NE - Not Established



## APPENDIX D

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



# **Analytical Report 514317**

**for  
APEX/Titan**

**Project Manager: Karolanne Toby**

**A-6 LATERAL**

**7250715079**

**31-AUG-15**

Collected By: Client



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

Xenco-Houston (EPA Lab code: TX00122):

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

Xenco-Atlanta (EPA Lab Code: GA00046):

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

Xenco-Lakeland: Florida (E84098)

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

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

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

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

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



31-AUG-15

Project Manager: **Karolanne Toby**

**APEX/Titan**

505 N. Big Spring Ste. 301 A

Midland, TX 79701

Reference: XENCO Report No(s): **514317**

**A-6 LATERAL**

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) 514317. 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. 514317 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

---

**Kelsey Brooks**

Project Manager

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

*Certified and approved by numerous States and Agencies.*

*A Small Business and Minority Status Company that delivers SERVICE and QUALITY*

Houston - Dallas - Odessa - San Antonio - Tampa - Lakeland - Atlanta - Phoenix - Oklahoma - Latin America

## APEX/Titan, Midland, TX

## A-6 LATERAL

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
CS-1	S	08-26-15 10:10		514317-001
CS-2	S	08-26-15 11:35		514317-002
CS-3	S	08-26-15 11:38	- 1 ft	514317-003
CS-4	S	08-26-15 11:41	- 1 ft	514317-004
CS-5	S	08-26-15 11:44		514317-005
CS-6	S	08-26-15 11:47		514317-006
CS-7	S	08-26-15 11:50		514317-007



## CASE NARRATIVE



*Client Name: APEX/Titan*

*Project Name: A-6 LATERAL*

Project ID: 7250715079  
Work Order Number(s): 514317

Report Date: 31-AUG-15  
Date Received: 08/26/2015

---

### **Sample receipt non conformances and comments:**

---

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

None

#### **Analytical non conformances and comments:**

Batch: LBA-975728 TPH By SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 514317-001,514317-004,514317-005,514317-006.

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 514317-006.

# Certificate of Analysis Summary 514317

APEX/Titan, Midland, TX

Project Name: A-6 LATERAL



Project Id: 7250715079

Contact: Karolanne Toby

Date Received in Lab: Wed Aug-26-15 04:35 pm

Report Date: 31-AUG-15

Project Location:

Project Manager: Kelsey Brooks

<i>Analysis Requested</i>	<i>Lab Id:</i>	514317-001	514317-002	514317-003	514317-004	514317-005	514317-006
	<i>Field Id:</i>	CS-1	CS-2	CS-3	CS-4	CS-5	CS-6
	<i>Depth:</i>			1 ft	1 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-26-15 10:10	Aug-26-15 11:35	Aug-26-15 11:38	Aug-26-15 11:41	Aug-26-15 11:44	Aug-26-15 11:47
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Aug-27-15 18:00	Aug-27-15 18:00	Aug-27-15 18:00	Aug-27-15 18:00	Aug-27-15 18:00	Aug-27-15 18:00
	<i>Analyzed:</i>	Aug-28-15 01:52	Aug-28-15 02:09	Aug-28-15 02:26	Aug-28-15 23:09	Aug-28-15 03:00	Aug-28-15 03:16
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Toluene		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
Ethylbenzene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
m_p-Xylenes		ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200	ND 0.00200
o-Xylene		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total Xylenes		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
Total BTEX		ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100	ND 0.00100
<b>Inorganic Anions by EPA 300/300.1</b>	<i>Extracted:</i>	Aug-26-15 17:00	Aug-26-15 17:00	Aug-26-15 17:00	Aug-26-15 17:00	Aug-26-15 17:00	Aug-26-15 17:00
	<i>Analyzed:</i>	Aug-28-15 00:36	Aug-28-15 00:59	Aug-28-15 01:22	Aug-28-15 01:44	Aug-28-15 02:07	Aug-28-15 02:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		17.1 10.0	5.77 2.00	ND 2.00	12.4 2.00	86.5 20.0	6.16 2.00
<b>TPH By SW8015 Mod</b>	<i>Extracted:</i>	Aug-27-15 20:00	Aug-27-15 20:00	Aug-27-15 20:00	Aug-27-15 20:00	Aug-27-15 20:00	Aug-27-15 20:00
	<i>Analyzed:</i>	Aug-28-15 17:12	Aug-28-15 18:14	Aug-28-15 19:19	Aug-28-15 19:56	Aug-28-15 20:37	Aug-28-15 21:17
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
C6-C12 Gasoline Range Hydrocarbons		ND 15.0	ND 14.9	ND 15.0	ND 15.0	ND 15.0	ND 15.0
C12-C28 Diesel Range Hydrocarbons		ND 15.0	ND 14.9	ND 15.0	ND 15.0	ND 15.0	ND 15.0
C28-C35 Oil Range Hydrocarbons		ND 15.0	ND 14.9	ND 15.0	ND 15.0	ND 15.0	ND 15.0
Total TPH		ND 15.0	ND 14.9	ND 15.0	ND 15.0	ND 15.0	ND 15.0

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

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



Kelsey Brooks  
Project Manager

**Project Id:** 7250715079

**Contact:** Karolanne Toby

**Date Received in Lab:** Wed Aug-26-15 04:35 pm

**Report Date:** 31-AUG-15

**Project Location:**

**Project Manager:** Kelsey Brooks

<b>Analysis Requested</b>	<b>Lab Id:</b> 514317-007 <b>Field Id:</b> CS-7 <b>Depth:</b> <b>Matrix:</b> SOIL <b>Sampled:</b> Aug-26-15 11:50					
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b> Aug-27-15 18:00 <b>Analyzed:</b> Aug-28-15 03:33 <b>Units/RL:</b> mg/kg RL					
Benzene	ND 0.00100					
Toluene	ND 0.00200					
Ethylbenzene	ND 0.00100					
m_p-Xylenes	ND 0.00200					
o-Xylene	ND 0.00100					
Total Xylenes	ND 0.00100					
Total BTEX	ND 0.00100					
<b>Inorganic Anions by EPA 300/300.1</b>	<b>Extracted:</b> Aug-26-15 17:00 <b>Analyzed:</b> Aug-28-15 03:15 <b>Units/RL:</b> mg/kg RL					
Chloride	18.2 2.00					
<b>TPH By SW8015 Mod</b>	<b>Extracted:</b> Aug-27-15 20:00 <b>Analyzed:</b> Aug-28-15 21:44 <b>Units/RL:</b> mg/kg RL					
C6-C12 Gasoline Range Hydrocarbons	ND 15.0					
C12-C28 Diesel Range Hydrocarbons	ND 15.0					
C28-C35 Oil Range Hydrocarbons	ND 15.0					
Total TPH	ND 15.0					

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

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Kelsey Brooks  
Project Manager

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

\*\* Surrogate recovered outside laboratory control limit.

**BRL** Below Reporting Limit.

**RL** Reporting Limit

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

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

**DL** Method Detection Limit

**NC** Non-Calculable

+ NELAC certification not offered for this compound.

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

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(602) 437-0330	





## Form 2 - Surrogate Recoveries

Project Name: A-6 LATERAL

Work Orders : 514317,

Lab Batch #: 975723

Sample: 514317-001 / SMP

Project ID: 7250715079

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 01:52

### 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	0.0302	0.0300	101	80-120	

Lab Batch #: 975723

Sample: 514317-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 02:09

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0283	0.0300	94	80-120	
4-Bromofluorobenzene	0.0302	0.0300	101	80-120	

Lab Batch #: 975723

Sample: 514317-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 02:26

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0270	0.0300	90	80-120	
4-Bromofluorobenzene	0.0288	0.0300	96	80-120	

Lab Batch #: 975723

Sample: 514317-005 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 03:00

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0276	0.0300	92	80-120	
4-Bromofluorobenzene	0.0290	0.0300	97	80-120	

Lab Batch #: 975723

Sample: 514317-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 03:16

### 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	0.0292	0.0300	97	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: A-6 LATERAL

Work Orders : 514317,

Lab Batch #: 975723

Sample: 514317-007 / SMP

Project ID: 7250715079

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 03:33

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1,4-Difluorobenzene	0.0290	0.0300	97	80-120	
4-Bromofluorobenzene	0.0310	0.0300	103	80-120	

Lab Batch #: 975728

Sample: 514317-001 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 17:12

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	149	99.9	149	70-135	**
o-Terphenyl	67.4	50.0	135	70-135	

Lab Batch #: 975728

Sample: 514317-002 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 18:14

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	122	99.6	122	70-135	
o-Terphenyl	54.2	49.8	109	70-135	

Lab Batch #: 975728

Sample: 514317-003 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 19:19

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	135	99.8	135	70-135	
o-Terphenyl	60.4	49.9	121	70-135	

Lab Batch #: 975728

Sample: 514317-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 19:56

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
Analytes					
1-Chlorooctane	148	99.9	148	70-135	**
o-Terphenyl	66.4	50.0	133	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: A-6 LATERAL

Work Orders : 514317,

Lab Batch #: 975728

Sample: 514317-005 / SMP

Project ID: 7250715079

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 20:37

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	145	99.7	145	70-135	**
o-Terphenyl	66.8	49.9	134	70-135	

Lab Batch #: 975728

Sample: 514317-006 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 21:17

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	158	99.8	158	70-135	**
o-Terphenyl	70.1	49.9	140	70-135	**

Lab Batch #: 975728

Sample: 514317-007 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 21:44

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	88.6	99.9	89	70-135	
o-Terphenyl	40.4	50.0	81	70-135	

Lab Batch #: 975723

Sample: 514317-004 / SMP

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 23:09

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0298	0.0300	99	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 975723

Sample: 697385-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/28/15 01:35

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0260	0.0300	87	80-120	
4-Bromofluorobenzene	0.0278	0.0300	93	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: A-6 LATERAL

Work Orders : 514317,

Project ID: 7250715079

Lab Batch #: 975728

Sample: 697391-1-BLK / BLK

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/29/15 10:59

### 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	58.7	50.0	117	70-135	

Lab Batch #: 975728

Sample: 697385-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/28/15 07:11

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0330	0.0300	110	80-120	
4-Bromofluorobenzene	0.0348	0.0300	116	80-120	

Lab Batch #: 975728

Sample: 697391-1-BKS / BKS

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/29/15 11:21

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	116	100	116	70-135	
o-Terphenyl	49.9	50.0	100	70-135	

Lab Batch #: 975723

Sample: 697385-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/28/15 07:28

### SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0311	0.0300	104	80-120	
4-Bromofluorobenzene	0.0346	0.0300	115	80-120	

Lab Batch #: 975728

Sample: 697391-1-BSD / BSD

Batch: 1 Matrix: Solid

Units: mg/kg

Date Analyzed: 08/29/15 11:44

### SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	108	100	108	70-135	
o-Terphenyl	45.3	50.0	91	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: A-6 LATERAL

Work Orders : 514317,

Lab Batch #: 975723

Sample: 514404-001 S / MS

Project ID: 7250715079

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 00:44

## SURROGATE RECOVERY STUDY

BTEX by EPA 8021B Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,4-Difluorobenzene	0.0273	0.0300	91	80-120	
4-Bromofluorobenzene	0.0312	0.0300	104	80-120	

Lab Batch #: 975728

Sample: 514404-001 S / MS

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/28/15 23:54

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	100	99.8	100	70-135	
o-Terphenyl	40.5	49.9	81	70-135	

Lab Batch #: 975728

Sample: 514404-001 SD / MSD

Batch: 1 Matrix: Soil

Units: mg/kg

Date Analyzed: 08/29/15 00:20

## SURROGATE RECOVERY STUDY

TPH By SW8015 Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	105	100	105	70-135	
o-Terphenyl	44.2	50.0	88	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.

**Project Name: A-6 LATERAL**

**Work Order #: 514317**

**Project ID: 7250715079**

**Analyst: PJB**

**Date Prepared: 08/27/2015**

**Date Analyzed: 08/28/2015**

**Lab Batch ID: 975723**

**Sample: 697385-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

<b>BTEX by EPA 8021B</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Benzene	<0.00100	0.100	0.0801	80	0.100	0.0801	80	0	70-130	35	
Toluene	<0.00200	0.100	0.0868	87	0.100	0.0867	87	0	70-130	35	
Ethylbenzene	<0.00100	0.100	0.0986	99	0.100	0.100	100	1	71-129	35	
m_p-Xylenes	<0.00200	0.200	0.203	102	0.200	0.204	102	0	70-135	35	
o-Xylene	<0.00100	0.100	0.102	102	0.100	0.104	104	2	71-133	35	

**Analyst: JUM**

**Date Prepared: 08/26/2015**

**Date Analyzed: 08/27/2015**

**Lab Batch ID: 975659**

**Sample: 697223-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

<b>Inorganic Anions by EPA 300/300.1</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
Chloride	<2.00	50.0	50.3	101	50.0	54.2	108	7	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: A-6 LATERAL**

**Work Order #: 514317**

**Project ID: 7250715079**

**Analyst: PJB**

**Date Prepared: 08/27/2015**

**Date Analyzed: 08/29/2015**

**Lab Batch ID: 975728**

**Sample: 697391-1-BKS**

**Batch #: 1**

**Matrix: Solid**

**Units: mg/kg**

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

<b>TPH By SW8015 Mod</b>	<b>Blank Sample Result [A]</b>	<b>Spike Added [B]</b>	<b>Blank Spike Result [C]</b>	<b>Blank Spike %R [D]</b>	<b>Spike Added [E]</b>	<b>Blank Spike Duplicate Result [F]</b>	<b>Blk. Spk Dup. %R [G]</b>	<b>RPD %</b>	<b>Control Limits %R</b>	<b>Control Limits %RPD</b>	<b>Flag</b>
<b>Analytes</b>											
C6-C12 Gasoline Range Hydrocarbons	<15.0	1000	866	87	1000	826	83	5	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	1000	838	84	1000	752	75	11	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 Recoveries

Project Name: A-6 LATERAL



Work Order #: 514317

Lab Batch #: 975723

Date Analyzed: 08/28/2015

QC- Sample ID: 514404-001 S

Reporting Units: mg/kg

Date Prepared: 08/27/2015

Batch #: 1

Project ID: 7250715079

Analyst: PJB

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
BTEX by EPA 8021B	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Benzene	0.0274	0.100	0.0655	38	70-130	X
Toluene	0.0762	0.100	0.0942	18	70-130	X
Ethylbenzene	0.0125	0.100	0.0807	68	71-129	X
m_p-Xylenes	0.146	0.200	0.265	60	70-135	X
o-Xylene	0.0380	0.100	0.113	75	71-133	

Lab Batch #: 975659

Date Analyzed: 08/27/2015

QC- Sample ID: 513742-013 S

Reporting Units: mg/kg

Date Prepared: 08/26/2015

Batch #: 1

Analyst: JUM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	1780	2660	4840	115	80-120	

Lab Batch #: 975659

Date Analyzed: 08/28/2015

QC- Sample ID: 514317-005 S

Reporting Units: mg/kg

Date Prepared: 08/26/2015

Batch #: 1

Analyst: JUM

Matrix: Soil

MATRIX / MATRIX SPIKE RECOVERY STUDY						
Inorganic Anions by EPA 300	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Analytes						
Chloride	86.5	500	631	109	80-120	

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

Relative Percent Difference [E] =  $200 \times (C-A)/(C+B)$

All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit



# Form 3 - MS / MSD Recoveries



Project Name: A-6 LATERAL

Work Order # : 514317

Project ID: 7250715079

Lab Batch ID: 975728

QC- Sample ID: 514404-001 S

Batch #: 1 Matrix: Soil

Date Analyzed: 08/28/2015

Date Prepared: 08/27/2015

Analyst: PJB

Reporting Units: mg/kg

## MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015 Mod 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-C12 Gasoline Range Hydrocarbons	16.3	998	781	77	1000	760	74	3	70-135	35	
C12-C28 Diesel Range Hydrocarbons	<15.0	998	813	81	1000	889	89	9	70-135	35	

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.



**APEX**

Office Location Midland, TX

Laboratory: XENCO  
Address: Midland, TX

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

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

PO/ISO #: \_\_\_\_\_

Project Manager Karolanne Tody

Sampler's Signature \_\_\_\_\_

Proj. No. 7250715079

Project Name A-10 Lateral

No/Type of Containers 7

Matrix	Date	Time	C o m p	G r a b	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 Lt.	250 ml	Glass Jar	P/O
--------	------	------	------------------	------------------	--------------------------------	----------------	--------------	-----	--------------	-----------	--------------	-----

S 8/24/15 10:10 ✓ CS-1 0' ✓ BTEX 802/B

11:35 ✓ CS-2 0' ✓ TPH DRO/GRO

11:38 ✓ CS-3 1' ✓ Chloride

11:41 ✓ CS-4 1' ✓

11:44 ✓ CS-5 0' ✓

11:47 ✓ CS-6 0' ✓

S 8/24/15 11:50 ✓ CS-7 0' ✓

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

Relinquished by (Signature) Georgiana McSwane Date: 8/24/15 Time: 16:35 Received by (Signature) \_\_\_\_\_ Date: 8/26/15 Time: 16:35

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: \_\_\_\_\_

Matrix Container WW - Wastewater VOA - 40 ml vial W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - sludge O - Oil

ANALYSIS REQUESTED

BTEX 802/B  
TPH DRO/GRO  
Chloride

Lab Sample ID (Lab Use Only)

Lab use only  
Due Date: 5/14/317

Temp. of coolers when received (C°): 25°

Page 1 of 1

\* 24 hour rush  
\* NM samples



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In



Client: APEX/Titan

Date/ Time Received: 08/26/2015 04:35:00 PM

Work Order #: 514317

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Caroline Dugan

Date: 08/26/2015

Checklist reviewed by:

Kelsey Brooks

Date: 08/28/2015



APPENDIX E

NMOCD C-141

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

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

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 <b>Enterprise Field Services LLC</b>	Contact <b>Dina Ferguson</b>	
Address <b>PO Box 4324, Houston TX 77210</b>	Telephone No. <b>210-528-3824</b>	
Facility Name <b>Pipeline ROW, A-6 Gathering Lateral</b>	Facility Type <b>Gas Gathering Pipeline</b>	
Surface Owner <b>Private Landowner</b>	Mineral Owner <b>NA - Pipeline</b>	API No. <b>NA</b>

#### LOCATION OF RELEASE


Unit Letter <b>J</b>	Section <b>4</b>	Township <b>25S</b>	Range <b>26E</b>	Feet from the <b>349</b>	North/South Line <b>South</b>	Feet from the <b>362</b>	East/West Line <b>West</b>	County <b>Eddy</b>
-------------------------	---------------------	------------------------	---------------------	-----------------------------	----------------------------------	-----------------------------	-------------------------------	-----------------------

Latitude **N 32.156519** Longitude **W -104.296675**

#### NATURE OF RELEASE

Type of Release <b>Natural Gas</b>	Volume of Release <b>8 bbls</b> <b>Water/drilling mud</b>	Volume Recovered <b>NA</b>
Source of Release <b>Tanker Truck</b>	Date and Hour of Occurrence <b>8/17/2015 @ 17:00 MDT</b>	Date and Hour of Discovery <b>8/17/2015 @ 17:00 MDT</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.*  <b>The landing gear of a tanker truck settled into the soil due to its weight. The tanker truck was full of water, which was used to produce drilling mud as part of the ongoing construction activities at the pipeline. After the tanker truck was empty, the construction crew leveled the truck and discovered that a pipe at the bottom of the truck ruptured and released approximately 8 bbls of a mixture of stagnate water and old drilling mud.</b>		
Describe Area Affected and Cleanup Action Taken.*  <b>Enterprise will be excavating the contaminated soil and performing soil sampling in accordance with NMOCD remediation guidelines and Enterprise's General Release Notification, Response, and remediation Plan (dated March 9, 2015). A final C-141 form will be submitted with analytical data to demonstrate cleanup is complete.</b>		

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

Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: <b>Jon Fields</b>	Approved by	
Title: <b>Director, Field Environmental</b>	Approval Date:	Expiration Date:
E-mail Address: <b>Snolan@eprod.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>8-28-2015</b> Phone: <b>713-381-6684</b>		

\* Attach Additional Sheets If Necessary



## APPENDIX F

### Waste Disposal Tickets



# LEA LAND DISPOSAL SITE NEW MEXICO

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

## LEA LAND, LLC

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

Talon

### NON-HAZARDOUS WASTE MANIFEST

NO 110424

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

2. TRAILER NO. 18D901

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3. COMPANY NAME  
Enterprise Products

PHONE NO.  
(432) 230-1414

4. ADDRESS  
2162 Commerce

CITY STATE ZIP  
Midland TX 79703

5. PICK-UP DATE  
8/26/2015

6. TNRCC I.D. NO.

7. NAME OR DESCRIPTION OF WASTE SHIPPED:

a. Non-Regulated, Non Hazardous Waste

b.

c.

d. WT: 26,000

8. CONTAINERS  
No. Type

1

CM

9. TOTAL  
QUANTITY

10. UNIT  
Wt/Vol.

11. TEXAS  
WASTE ID #

12. COMMENTS OR SPECIAL INSTRUCTIONS:  
A-6 LATTER job: 70034827101

13. WASTE PROFILE NO.  
708582

#### 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

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#### 16. TRANSPORTER (1)

NAME: TALON LPE

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT: KEN

EMERGENCY PHONE: (575) 602-1311

#### 17. TRANSPORTER (2)

NAME:

TEXAS I.D. NO.

IN CASE OF EMERGENCY CONTACT:

EMERGENCY PHONE:

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

PRINTED/TYPED NAME Jose M Garcia

SIGNATURE Jose M Garcia DATE 8/26/2015

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

PRINTED/TYPED NAME

SIGNATURE DATE

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Lea Land, LLC

ADDRESS:

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

PHONE:

575-887-4048

PERMIT NO.

WM-01-035 - New Mexico

20. COMMENTS

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

AUTHORIZED SIGNATURE

CELL NO.

DATE 8/26/2015

TIME

1:10