

**3R-1011**

**Release Report/ General  
Correspondence**

**Enterprise SJ**

**Date: Oct-Dec 2017**

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 April 3, 2017

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>Thomas Long</b>
Address <b>614 Reilly Ave, Farmington, NM 87401</b>	Telephone No. <b>505-599-2286</b>
Facility Name <b>Lateral 2B-24</b>	Facility Type <b>Natural Gas Gathering Pipeline</b>

Surface Owner <b>BLM</b>	Mineral Owner <b>BLM</b>	API No. <b>141</b>
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LOCATION OF RELEASE

Unit Letter <b>F</b>	Section <b>22</b>	Township <b>28N</b>	Range <b>10W</b>	Feet from the <b>2023</b>	<b>North</b> South Line	Feet from the <b>1500</b>	<b>East</b> West Line	County <b>San Juan</b>
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Latitude 36.649366 Longitude -107.886875 NAD83

NATURE OF RELEASE

Type of Release <b>Natural Gas and Natural Gas Liquids</b>	Volume of Release: <b>14.22 MCF Gas; 10-15 BBLS Condensate</b>	Volume Recovered <b>None</b>
Source of Release <b>Internal Corrosion</b>	Date and Hour of Occurrence <b>7/21/2017 @ 2:30 p.m.</b>	Date and Hour of Discovery <b>7/21/2017 @ 2:30 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : <b>Courtesy Notification Vanessa Fields - NMOCD Whitney Smith - BLM</b>	
By Whom? <b>Runell Seale</b>	Date and Hour <b>July 27, 2017 @ 1:42 p.m.</b>	
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.\* On July 21, 2017, Enterprise responded to a possible natural gas leak on the Lateral 2B-24 pipeline. Enterprise technician verified the leak and initiated notification procedures to Gas Control, local management, safety and environmental. The pipeline was isolated, depressurized, LOTO was implemented. This is a class 1 non-jurisdictional pipeline. An area around the release of ground surface of approximately 60 feet long by 18 inches wide was affected by fluids released.

Describe Area Affected and Cleanup Action Taken.\* Repairs and remediation were completed on August 2, 2017. The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 27 feet long by 18 feet wide by 9.5 feet deep. Approximately 216 cubic yards of hydrocarbon impacted soil was excavated and transported to New Mexico Oil Conservation Division approved land farm facility. A third party corrective action report will be included with the "Final." C-141.

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: 		OIL CONSERVATION DIVISION	
Printed Name: <b>Jon E. Fields</b>		Approved by Environmental Specialist: 	
Title: <b>Director, Environmental</b>		Approval Date: <b>11/27/17</b>	Expiration Date:
E-mail Address: <b>jefields@eprod.com</b>		Conditions of Approval:	
Date: <b>10-19-2017</b>	Phone: (713) 381-6684	Attached <input type="checkbox"/>	

\* Attach Additional Sheets If Necessary

NVF1725729285



## **CORRECTIVE ACTION REPORT**

Property:

**Lateral 2B-24 Pipeline Release  
NW 1/4, S22 T28N R10W  
San Juan County, New Mexico**

September 21, 2017  
Apex Project No. 725040112318

Prepared for:

**Enterprise Field Services, LLC  
614 Reilly Avenue  
Farmington, NM 87401  
Attn: Mr. Thomas Long**

Prepared by:

A handwritten signature in blue ink, appearing to read 'Chad D'Aponti', written over a horizontal line.

Chad D'Aponti  
Project Scientist

A handwritten signature in blue ink, appearing to read 'Kyle Summers', written over a horizontal line.

Kyle Summers, CPG  
Branch Manager / Senior Geologist

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## **CORRECTIVE ACTION REPORT**

### **Lateral 2B-24 Pipeline Release**

NW 1/4, S22 T28N R10W  
San Juan County, New Mexico

**Apex Project No. 725040112318**

## **1.0 INTRODUCTION**

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

The 2B-24 Pipeline Release Site is located in the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 22, Township 28 North, Range 10 West, in rural San Juan County, New Mexico (36.64936N, 107.88687W), referred to hereinafter as the "Site". The Site is located on land managed by the Bureau of Land Management (BLM). The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including one (1) Enterprise natural gas pipeline which traverses the area from approximately northwest to southeast.

On July 21, 2017, Enterprise personnel identified a release on the Lateral 2B-24 pipeline. The surface expression of the release was characterized by soil discoloration at the ground surface and evidence of a pipeline liquids flow path that traveled northwest from the point of release. On July 26, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential petroleum hydrocarbon impact resulting from the release. The pipeline was subsequently repaired and returned to service.

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 action was to reduce constituent of concern (COC) concentrations in the on-Site soils to below the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) *Remediation Action Levels (RALs)* 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 utilized the general site characteristics obtained during the implementation of corrective action activities and information available from the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table.



Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	0
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area • <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	20
	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 earn a maximum Total Ranking Score of "20". This ranking is based on the following:

- One (1) water well (SJ 04072) was identified within a mile of the Site on the OSE website with a depth to water of 470 feet below grade surface (bgs). Based on this information and the absence of any identified water wells within 1,000 feet of the site, groundwater is estimated to be present at over 100 feet bgs, resulting in a ranking score of "0" for depth to groundwater.
- No water sources (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. These proximities result in a wellhead protection area ranking score of "0".
- The Site is located adjacent to an unnamed ephemeral wash, identified as a "blue line" on the United States Geological Survey topographic map. The wash is located 90 feet from the pipeline release. This information supports a distance to surface water ranking score of "20".

### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On July 21, 2017, Enterprise personnel identified a release on the Lateral 2B-24 pipeline. The surface expression of the release was characterized by soil discoloration at the ground surface and evidence of a pipeline liquids flow path that traveled northwest from the point of release. On July 26, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and returned to service. During the pipeline repair and corrective action activities, Industrial Mechanical Inc. (IMI), provided heavy equipment and labor support, and Apex provided environmental support.

Enterprise performed remediation excavation activities between July 26, 2017 and August 2, 2017. A total of five (5) confirmation composite soil samples (S-1 through S-5) were collected from the sidewalls and floor of the final excavation for laboratory analysis. Additionally, one (1) composite flow path soil sample (FP-1) was collected for laboratory analyses from the hand-excavated path of the surface release.

The overall final excavation measured approximately 27 feet long by 18 feet wide, with a total maximum depth of approximately 9.5 feet bgs. The hand-excavated portion of the flow path measured approximately 60 feet long, and was approximately three (3) feet wide near the point of release, narrowing to approximately one (1) foot wide at the down-gradient extent. The total depth of the flow path excavation was approximately six (6) inches bgs.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand underlain by weathered shale.

A total of approximately 216 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. Additionally, approximately 276 barrels (bbls) of rainwater runoff that accumulated in the excavation were taken to the Envirotech landfarm. The executed C-138 solid waste acceptance form is provided in **Appendix B**.

The excavation was backfilled with clean imported fill and contoured to surrounding grade.

**Figure 3** is a map with soil sample locations that depicts the approximate location of the excavated area in relation to the pipeline (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

### 3.2 Soil Sampling Program

Apex field screened soil samples from the flow path and excavations utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp and a calibrated Dextsil PetroFLAG<sup>®</sup> hydrocarbon analyzer system to guide excavation extents.

Apex's soil sampling program included the collection of one (1) composite flow path soil sample (FP-1) and five (5) confirmation composite soil samples (S-1 through S-5) from the pipeline ROW and flow path excavation for laboratory analysis. **Figure 3** depicts the approximate location of the excavated area and flow path, and identifies the approximate sample locations in relation to the final excavation dimensions (**Appendix A**).

The samples were collected and placed in laboratory prepared glassware and stored on ice in a cooler. The soil samples were relinquished to the courier for Hall Environmental Analysis Laboratory of Albuquerque, New Mexico, under proper chain-of-custody procedures.

### 3.3 Laboratory Analytical Methods

The composite soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) utilizing EPA SW-846 Method #8021, and total petroleum hydrocarbon (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015.

Laboratory results are summarized in **Table 1**, included in **Appendix D**. The executed chain-of-custody form and laboratory data sheets are provided in **Appendix E**.

## 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 New Mexico EMNRD OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These

guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation composite soil samples (S-1 through S-5, and FP-1) that were collected from the excavated area and flow path to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "20".

- The laboratory analyses of confirmation composite soil samples collected from soils remaining in place do not indicate benzene concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation composite soil samples collected from soils remaining in place do not indicate total BTEX concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation composite soil samples collected from soils remaining in place indicate combined TPH GRO/DRO/MRO concentrations ranging from below the PQLs to 14 mg/kg (S-4), which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "20"

The stockpiled soils resulting from the excavations were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation.

Confirmation composite soil sample analytical results are provided in **Table 1** in **Appendix D**.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2B-24 Pipeline Release Site is located in the Enterprise pipeline ROW in the NW ¼ of Section 22, Township 28 North, Range 10 West, in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including one (1) Enterprise natural gas pipeline which traverses the area from approximately northwest to southeast.

On July 21, 2017, Enterprise personnel identified a release on the Lateral 2B-24 pipeline. The surface expression of the release was characterized by soil discoloration at the ground surface and evidence of a pipeline liquids flow path that traveled northwest from the point of release. On July 26, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and returned to service.

- The primary objective of the corrective action was to reduce COC concentrations 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 lithology encountered during the completion of corrective action activities consisted primarily of silty sand and weathered shale.
- The final pipeline ROW excavation measured approximately 27 feet long by 18 feet wide, with a total maximum depth of approximately 9.5 feet bgs.



- The hand-excavated portion of the flow path measured approximately 60 feet long, and was approximately three (3) feet wide near the point of release, narrowing to approximately one (1) foot wide at the down-gradient extent. The total depth of the flow path excavation was approximately six (6) inches bgs.
- Prior to backfilling, five (5) composite excavation soil samples, and one (1) composite flow path soil sample were collected for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit BTEX or TPH GRO/DRO/MRO concentrations above the New Mexico EMNRD OCD RALs for a site ranking of "20".
- A total of approximately 216 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. Additionally, approximately 276 bbls of rainwater runoff that accumulated in the excavation were transported to the Envirotech landfarm. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

**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.

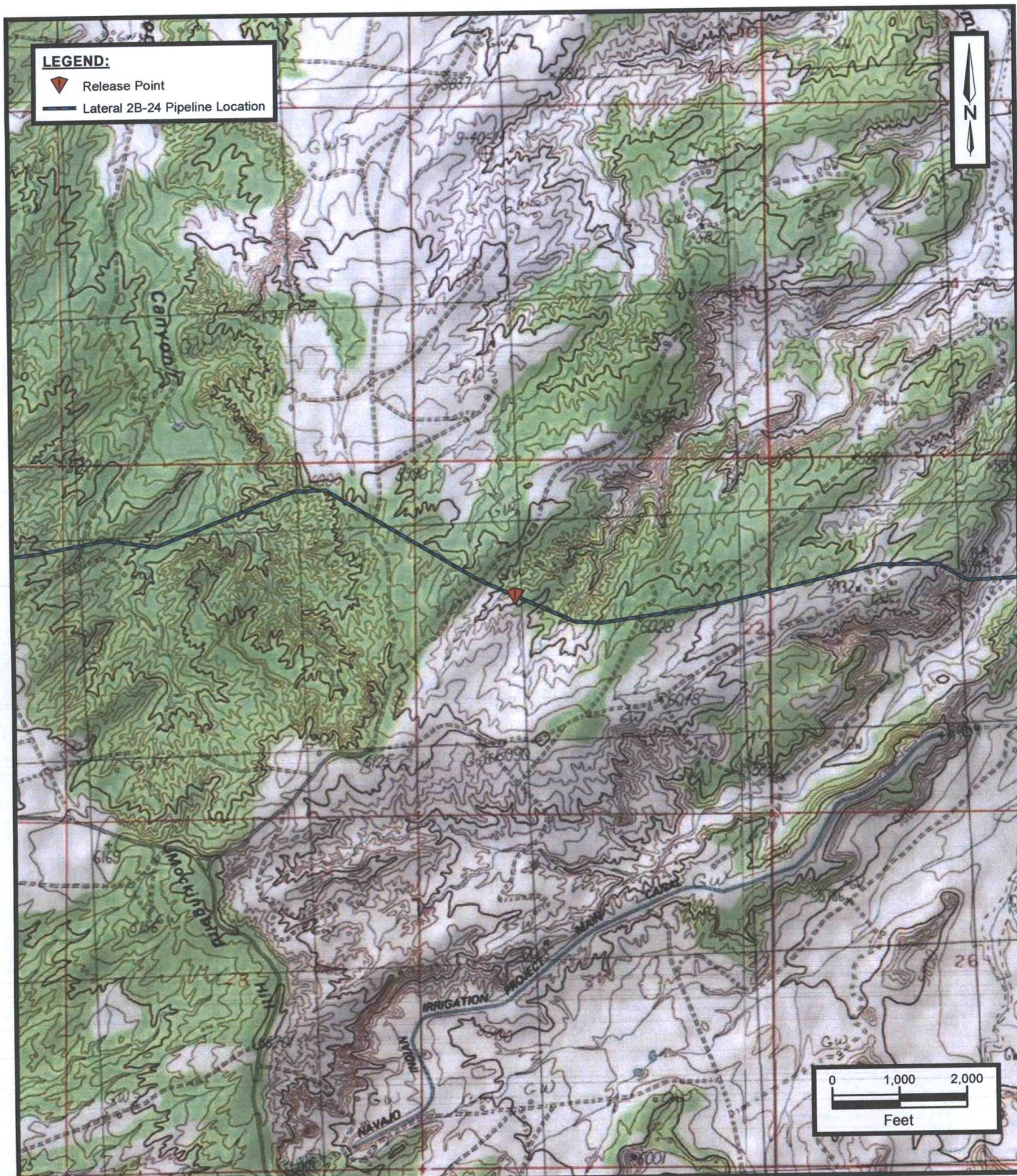
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence 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

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**Lateral 2B-24**  
 NW1/4 S22 T28N R10W  
 San Juan County, New Mexico  
 36.64936 N, 107.88687 W

Project No. 725040112318



**Apex TITAN, Inc.**  
 606 South Rio Grande, Suite A  
 Aztec, New Mexico 87410  
 Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
 A Subsidiary of Apex Companies, LLC

**FIGURE 1**  
**Topographic Map**

Service Layer Credits:  
 Copyright: © 2013 National Geographic Society, i-cubed,  
 Bloomfield and Blanco New Mexico 7.5-Minute Quadrangles 1985

**LEGEND:**



Release Point



Lateral 2B-24 Pipeline Location



Google

Imagery ©2017, DigitalGlobe, NMRGIS, U.S. Geological Survey, USDA Farm Service Agency

**Lateral 2B-24**  
NW1/4 S22 T28N R10W  
San Juan County, New Mexico  
36.64936 N, 107.88687 W



**Apex TITAN, Inc.**  
606 South Rio Grande, Suite A  
Aztec, New Mexico 87410  
Phone: (505) 334-5200  
[www.apexcscos.com](http://www.apexcscos.com)  
A Subsidiary of Apex Companies, LLC

**FIGURE 2**







**Site Vicinity Map**

Service Layer Credits:

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Aerial Photograph March 2015

Project No. 725040112318

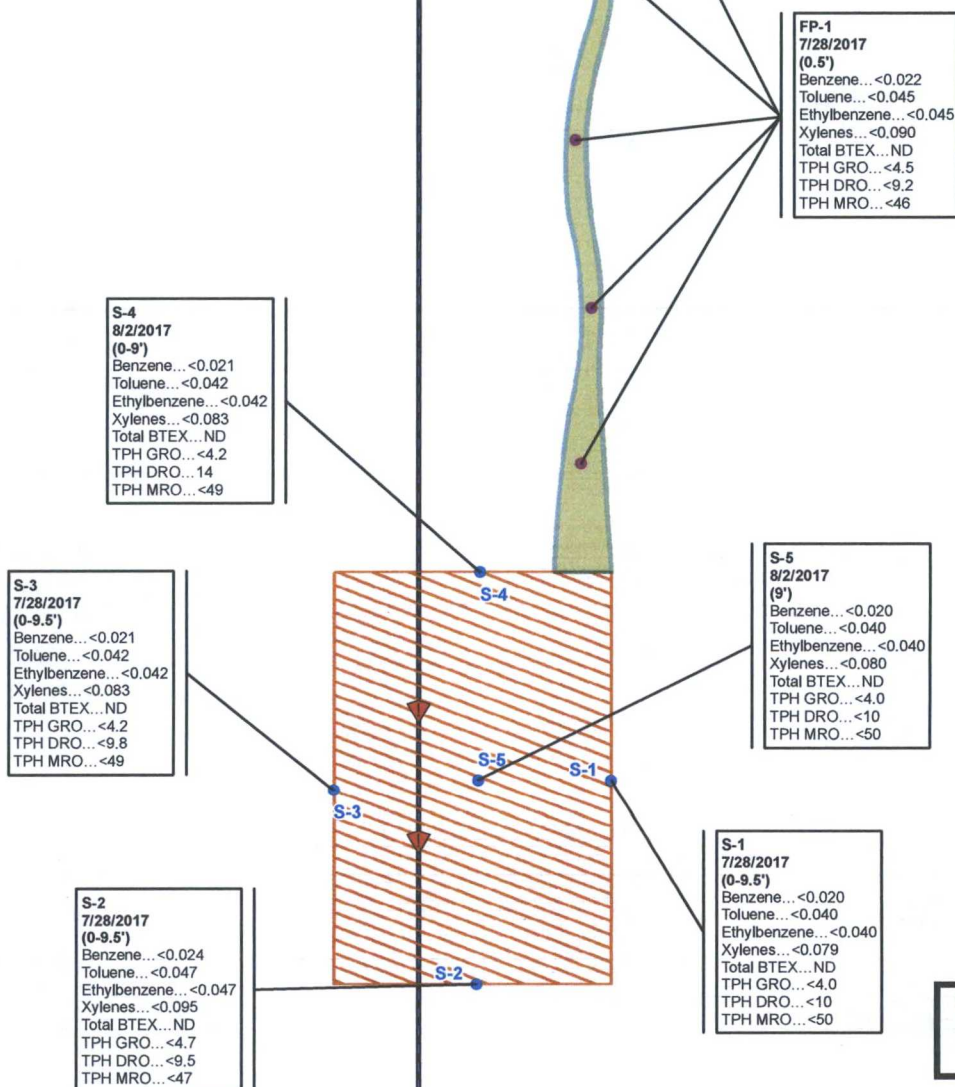
**LEGEND:**

-  Release Point
-  Excavation Confirmation Soil Sample Location
-  Flow Path Confirmation Soil Sample Location
-  Flow Path
-  Extent of Excavation
-  Lateral 2B-24 Pipeline Location

**NOTE:**

All Concentrations are Listed in mg/Kg.

All Depths are Listed in Feet BGS.

**Lateral 2B-24**

NW1/4 S22 T28N R10W  
San Juan County, New Mexico  
36.64936 N, 107.88687 W

**Apex TITAN, Inc.**

606 South Rio Grande, Suite A  
Aztec, New Mexico 87410  
Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

**FIGURE 3****Site Map with Soil Analytical Results**

Project No. 725040112318



## APPENDIX B

### Executed C-138 Solid Waste Acceptance Form

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 97057-0853  
Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-138  
Revised August 1, 2011

\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. Originating Site: Lateral 2B-24 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter F, Section 22, T28N, R10W; 36.649366, -107.886875 July / August 2017
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.
5. Estimated Volume 50 yd <sup>3</sup> / bbls Known Volume (to be entered by the operator at the end of the haul) 216/276 yd <sup>3</sup> / bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Runell Seale</u> representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby PRINT & SIGN NAME COMPANY NAME certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. Operator Use Only: Waste Acceptance Frequency <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load <input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) <input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, <u>Runell Seale</u> 7-27-17, representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to Generator Signature complete the required testing/sign the Generator Waste Testing Certification. I, <u>Jim C</u> , representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
6. Transporter: <u>Envirotech Flying M, HBL, IMI</u>

### OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM 01-0011  
Address of Facility: Hilltop, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager

DATE: 7/31/17

SIGNATURE: Jim C

TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

## APPENDIX C

### Photographic Documentation

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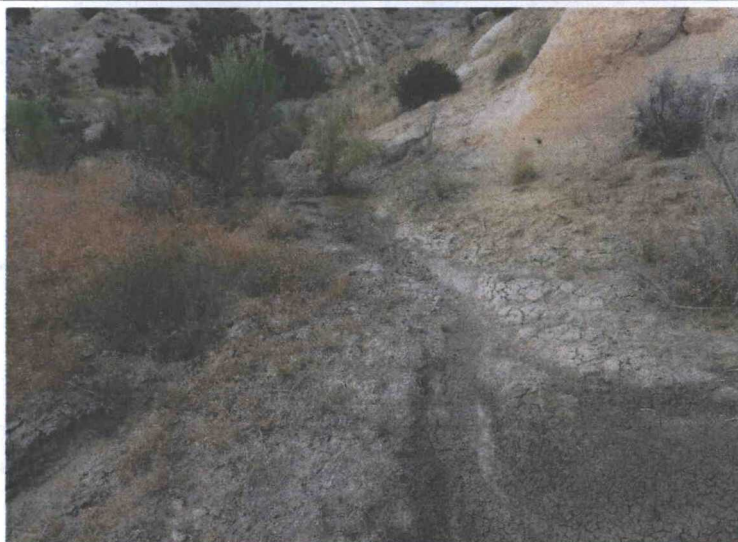
**Photograph 1**

Point of release.



**Photograph 2**

View of the flow path.



**Photograph 3**

Beginning of excavation activities.



## Photograph 4

View of in-process excavation activities.



## Photograph 5

View of the excavation, facing southeast.



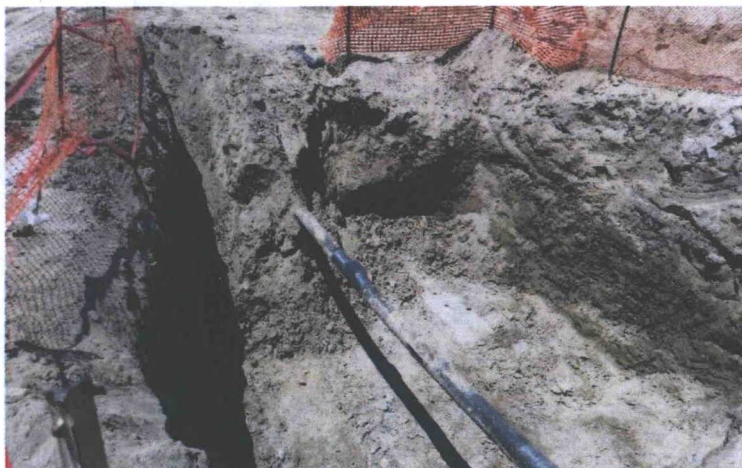
## Photograph 6

View of the final excavation, facing north.



**Photograph 7**

View of the final excavation.



**Photograph 8**

View of the hand-excavated flow path, facing east.



**Photograph 9**

View of the hand-excavated flow path.



## APPENDIX D

### Table

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**TABLE 1**  
**Lateral 2B-24 Pipeline Release**  
**SOIL ANALYTICAL SUMMARY**

Sample I.D.	Date	Sample Depth (feet)	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 MRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100		
Flowpath Confirmation Soil Samples										
FP-1	7.28.17	0.5	<0.022	<0.045	<0.045	<0.090	ND	<4.5	<9.2	<46
Excavation Confirmation Soil Samples										
S-1	7.28.17	0 to 9.5	<0.020	<0.040	<0.040	<0.079	ND	<4.0	<10	<50
S-2	7.28.17	0 to 9.5	<0.024	<0.047	<0.047	<0.095	ND	<4.7	<9.5	<47
S-3	7.28.17	0 to 9.5	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<9.8	<49
S-4	8.02.17	0 to 9	<0.021	<0.042	<0.042	<0.083	ND	<4.2	14	<49
S-5	8.02.17	9	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<10	<50

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram

## Appendix E

### Laboratory Data Sheets & Chain of Custody Documentation

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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

August 01, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Lateral 2B-24

OrderNo.: 1707E87

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 4 sample(s) on 7/29/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1707E87

Date Reported: 8/1/2017

CLIENT: APEX TITAN

Client Sample ID: S-1

Project: Lateral 2B-24

Collection Date: 7/28/2017 1:30:00 PM

Lab ID: 1707E87-001

Matrix: MEOH (SOIL)

Received Date: 7/29/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/31/2017 10:40:02 AM	33085
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/31/2017 10:40:02 AM	33085
Surr: DNOP	97.8	70-130		%Rec	1	7/31/2017 10:40:02 AM	33085
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	7/31/2017 10:22:00 AM	G44614
Surr: BFB	102	54-150		%Rec	1	7/31/2017 10:22:00 AM	G44614
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	7/31/2017 10:22:00 AM	B44614
Toluene	ND	0.040		mg/Kg	1	7/31/2017 10:22:00 AM	B44614
Ethylbenzene	ND	0.040		mg/Kg	1	7/31/2017 10:22:00 AM	B44614
Xylenes, Total	ND	0.079		mg/Kg	1	7/31/2017 10:22:00 AM	B44614
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	7/31/2017 10:22:00 AM	B44614

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1707E87

Date Reported: 8/1/2017

**CLIENT:** APEX TITAN**Client Sample ID:** S-2**Project:** Lateral 2B-24**Collection Date:** 7/28/2017 1:35:00 PM**Lab ID:** 1707E87-002**Matrix:** MEOH (SOIL)**Received Date:** 7/29/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/31/2017 11:08:05 AM	33085
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/31/2017 11:08:05 AM	33085
Surr: DNOP	98.5	70-130		%Rec	1	7/31/2017 11:08:05 AM	33085
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	7/31/2017 10:45:43 AM	G44614
Surr: BFB	101	54-150		%Rec	1	7/31/2017 10:45:43 AM	G44614
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Toluene	ND	0.047		mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Ethylbenzene	ND	0.047		mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Xylenes, Total	ND	0.095		mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	7/31/2017 10:45:43 AM	B44614

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1707E87

Date Reported: 8/1/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-3

Project: Lateral 2B-24

Collection Date: 7/28/2017 1:40:00 PM

Lab ID: 1707E87-003

Matrix: MEOH (SOIL)

Received Date: 7/29/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/31/2017 11:36:22 AM	33085
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/31/2017 11:36:22 AM	33085
Surr: DNOP	102	70-130		%Rec	1	7/31/2017 11:36:22 AM	33085
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	7/31/2017 11:09:30 AM	G44614
Surr: BFB	102	54-150		%Rec	1	7/31/2017 11:09:30 AM	G44614
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Toluene	ND	0.042		mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Ethylbenzene	ND	0.042		mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Xylenes, Total	ND	0.083		mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	7/31/2017 11:09:30 AM	B44614

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1707E87

Date Reported: 8/1/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: FP-1

Project: Lateral 2B-24

Collection Date: 7/28/2017 1:45:00 PM

Lab ID: 1707E87-004

Matrix: MEOH (SOIL)

Received Date: 7/29/2017 9:35:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	7/31/2017 12:04:40 PM	33085
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	7/31/2017 12:04:40 PM	33085
Surr: DNOP	86.8	70-130		%Rec	1	7/31/2017 12:04:40 PM	33085
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	7/31/2017 11:33:19 AM	G44614
Surr: BFB	103	54-150		%Rec	1	7/31/2017 11:33:19 AM	G44614
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.022		mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Toluene	ND	0.045		mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Ethylbenzene	ND	0.045		mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Xylenes, Total	ND	0.090		mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	7/31/2017 11:33:19 AM	B44614

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E87

01-Aug-17

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	LCS-33075		SampType:	LCS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	LCSS		Batch ID:	33075		RunNo:	44604				
Prep Date:	7/28/2017		Analysis Date:	7/31/2017		SeqNo:	1410830		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	4.4		5.000		87.2	70	130				

Sample ID	MB-33075		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	33075		RunNo:	44604				
Prep Date:	7/28/2017		Analysis Date:	7/31/2017		SeqNo:	1410831		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	8.5		10.00		85.3	70	130				

## Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E87

01-Aug-17

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410728	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410729	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	76.4	125			
Surr: BFB	1100		1000		113	54	150			

Sample ID	1707E87-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-1	Batch ID:	G44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410730	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.0	19.76	0	99.3	77.8	128			
Surr: BFB	910		790.5		115	54	150			

Sample ID	1707E87-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-1	Batch ID:	G44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410731	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	4.0	19.76	0	99.7	77.8	128	0.362	20	
Surr: BFB	910		790.5		116	54	150	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E87

01-Aug-17

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410736	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410737	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.3	80	120			
Toluene	0.90	0.050	1.000	0	90.0	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.0	80	120			
Xylenes, Total	2.8	0.10	3.000	0	93.6	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		120	66.6	132			

Sample ID	1707E87-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-2	Batch ID:	B44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410738	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.024	0.9461	0	95.4	80.9	132			
Toluene	0.87	0.047	0.9461	0	92.3	79.8	136			
Ethylbenzene	0.91	0.047	0.9461	0	96.2	79.4	140			
Xylenes, Total	2.7	0.095	2.838	0	96.1	78.5	142			
Surr: 4-Bromofluorobenzene	1.1		0.9461		121	66.6	132			

Sample ID	1707E87-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-2	Batch ID:	B44614	RunNo:	44614					
Prep Date:		Analysis Date:	7/31/2017	SeqNo:	1410739	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.024	0.9461	0	93.2	80.9	132	2.36	20	
Toluene	0.86	0.047	0.9461	0	90.4	79.8	136	2.06	20	
Ethylbenzene	0.89	0.047	0.9461	0	94.4	79.4	140	1.87	20	
Xylenes, Total	2.7	0.095	2.838	0	95.5	78.5	142	0.605	20	
Surr: 4-Bromofluorobenzene	1.1		0.9461		121	66.6	132	0	0	

### Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1707E87

RcptNo: 1

Received By: Ashley Gallegos

7/29/2017 9:35:00 AM

*AG*

Completed By: Ashley Gallegos

7/30/2017 2:45:57 PM

*AG*

Reviewed By: *IO*

7/31/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒


Person Notified:		Date	
By Whom:		Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:			
Client Instructions:			

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>606 S. Rio Grande</u> <u>Suite A</u> <u>Aztec N.M.</u> Project Manager <u>R Summers</u> Sampler's Name <u>Chad DApont</u>		Laboratory: <u>Hall Environmental Lab</u> Address: <u>4501 Hankins Ave</u> <u>Albuquerque N.M. 87109</u> Contact: <u>A Fireman</u> Phone: <u>505-315-3779</u> PO/SO #: <u>725040112318</u>		ANALYSIS REQUESTED <u>BTEX SO21</u> <u>TPH GRO/NO/MP/SON</u>		Lab use only Due Date: Temp. of coolers <u>3.5</u> when received (C°): <u>+0.20</u> 1 2 3 4 5 Page <u>1</u> of <u>1</u>									
		Project No. <u>725040112318</u> Project Name <u>Lateral 213-24</u> No/Type of Containers		3 3											
Matrix	Date	Time	COED	G	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G	1/L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)	
S	7/28/17	1330	P		S-1	0	9.5					1		X X	1707E87-001
S	7/28/17	1335	P		S-2	0	9.5					1		X X	-002
S	7/28/17	1340	P		S-3	0	9.5					1		X X	-003
S	7/28/17	1345	P		FP-1		.5					1		X X	-004
NFS															
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush															
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:	NOTES: <u>Bill to Tom Long E Prod</u> <u>AFE N 31400</u> <u>same day</u>							
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  
 A/G - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
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TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

August 04, 2017

Kyle Summers

APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Lateral 2B-24

OrderNo.: 1708192

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

**Analytical Report**

Lab Order 1708192

Date Reported: 8/4/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** S-4**Project:** Lateral 2B-24**Collection Date:** 8/2/2017 10:00:00 AM**Lab ID:** 1708192-001**Matrix:** SOIL**Received Date:** 8/3/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	14	9.8		mg/Kg	1	8/3/2017 10:53:09 AM	33151
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	8/3/2017 10:53:09 AM	33151
Surr: DNOP	93.6	70-130		%Rec	1	8/3/2017 10:53:09 AM	33151
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	8/3/2017 9:24:37 AM	G44704
Surr: BFB	90.1	54-150		%Rec	1	8/3/2017 9:24:37 AM	G44704
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	8/3/2017 9:24:37 AM	B44704
Toluene	ND	0.042		mg/Kg	1	8/3/2017 9:24:37 AM	B44704
Ethylbenzene	ND	0.042		mg/Kg	1	8/3/2017 9:24:37 AM	B44704
Xylenes, Total	ND	0.083		mg/Kg	1	8/3/2017 9:24:37 AM	B44704
Surr: 4-Bromofluorobenzene	111	66.6-132		%Rec	1	8/3/2017 9:24:37 AM	B44704

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1708192

Date Reported: 8/4/2017

CLIENT: APEX TITAN

Client Sample ID: S-5

Project: Lateral 2B-24

Collection Date: 8/2/2017 10:05:00 AM

Lab ID: 1708192-002

Matrix: SOIL

Received Date: 8/3/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/3/2017 11:21:11 AM	33151
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	8/3/2017 11:21:11 AM	33151
Surr: DNOP	97.0	70-130		%Rec	1	8/3/2017 11:21:11 AM	33151
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	8/3/2017 9:48:31 AM	G44704
Surr: BFB	91.1	54-150		%Rec	1	8/3/2017 9:48:31 AM	G44704
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	8/3/2017 9:48:31 AM	B44704
Toluene	ND	0.040		mg/Kg	1	8/3/2017 9:48:31 AM	B44704
Ethylbenzene	ND	0.040		mg/Kg	1	8/3/2017 9:48:31 AM	B44704
Xylenes, Total	ND	0.080		mg/Kg	1	8/3/2017 9:48:31 AM	B44704
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	8/3/2017 9:48:31 AM	B44704

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1708192

04-Aug-17

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	LCS-33151		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 33151		RunNo: 44701					
Prep Date:	8/3/2017		Analysis Date: 8/3/2017		SeqNo: 1413701		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	93.3	73.2	114			
Surr: DNOP	4.6		5.000		92.0	70	130			

Sample ID	MB-33151	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	33151		RunNo:	44701				
Prep Date:	8/3/2017	Analysis Date:	8/3/2017		SeqNo:	1413702	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.3	70	130			

Sample ID	1708192-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	S-4		Batch ID: 33151		RunNo: 44701					
Prep Date:	8/3/2017		Analysis Date: 8/3/2017		SeqNo: 1413856		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	9.9	49.26	13.98	93.5	55.8	122			
Surr: DNOP	4.8		4.926		98.2	70	130			

Sample ID	1708192-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	S-4		Batch ID:	33151		RunNo:	44701				
Prep Date:	8/3/2017		Analysis Date:	8/3/2017		SeqNo:	1413857		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	52	9.3	46.55	13.98	80.7	55.8	122	15.2	20		
Surr: DNOP	4.6		4.655		99.5	70	130	0	0		

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1708192

04-Aug-17

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414005	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		88.3	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414006	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	76.4	125			
Surr: BFB	990		1000		99.2	54	150			

Sample ID	1708192-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-4	Batch ID:	G44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414007	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.2	20.78	0	98.8	77.8	128			
Surr: BFB	820		831.3		98.3	54	150			

Sample ID	1708192-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-4	Batch ID:	G44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414008	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.2	20.78	0	89.1	77.8	128	10.3	20	
Surr: BFB	830		831.3		100	54	150	0	0	

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E Value above quantitation range  
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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1708192

04-Aug-17

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414011	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414012	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	98.8	80	120			
Toluene	0.99	0.050	1.000	0	99.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.9	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

Sample ID	1708192-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-5	Batch ID:	B44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414013	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.020	0.7981	0	100	80.9	132			
Toluene	0.82	0.040	0.7981	0.008620	101	79.8	136			
Ethylbenzene	0.81	0.040	0.7981	0	102	79.4	140			
Xylenes, Total	2.5	0.080	2.394	0.02730	103	78.5	142			
Surr: 4-Bromofluorobenzene	0.90		0.7981		113	66.6	132			

Sample ID	1708192-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-5	Batch ID:	B44704	RunNo:	44704					
Prep Date:		Analysis Date:	8/3/2017	SeqNo:	1414014	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.020	0.7981	0	98.8	80.9	132	1.38	20	
Toluene	0.79	0.040	0.7981	0.008620	98.1	79.8	136	3.04	20	
Ethylbenzene	0.80	0.040	0.7981	0	100	79.4	140	1.21	20	
Xylenes, Total	2.5	0.080	2.394	0.02730	102	78.5	142	1.18	20	
Surr: 4-Bromofluorobenzene	0.92		0.7981		116	66.6	132	0	0	

### Qualifiers:

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RL Reporting Detection Limit  
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## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1708192

RcptNo: 1

Received By: Anne Thorne

8/3/2017 7:10:00 AM

*Anne Thorne*

Completed By: Anne Thorne

8/3/2017 7:39:59 AM

*Anne Thorne*

Reviewed By: *JS 8-3-17 0800*

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

[illegible]

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		

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 April 3, 2017

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>Thomas Long</b>
Address <b>614 Reilly Ave, Farmington, NM 87401</b>	Telephone No. <b>505-599-2286</b>
Facility Name <b>Val Verde Plant</b>	Facility Type <b>Natural Gas Gathering Pipeline</b>

Surface Owner <b>Private</b>	Mineral Owner <b>Federal</b>	Serial Number: <b>N/A</b>
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### LOCATION OF RELEASE

Unit Letter <b>A</b>	Section <b>14</b>	Township <b>29N</b>	Range <b>11W</b>	Feet from the <b>715</b>	<u>North</u> / South Line	Feet from the <b>1173</b>	<u>East</u> / West Line	County <b>San Juan</b>
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Latitude 36.730987 Longitude -107.955912 NAD83

### NATURE OF RELEASE

Type of Release <b>50% Water, 50% Amine Solution</b>	Volume of Release <b>5-7 BBLs</b>	Volume Recovered <b>None</b>
Source of Release: <b>Pump</b>	Date and Hour of Occurrence <b>3/11/2017 @ 5:00 p.m.</b>	Date and Hour of Discovery <b>3/11/2017 @ 5:00 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	<b>OIL CONS. DIV DIST. 3</b>
By Whom?	Date and Hour	<b>NOV 20 2017</b>
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.\* On March 11, 2017, Enterprise technicians discovered a release of a 50% Water, 50% Amine solution from open valve on the Train 7 Amine Cooler. Approximately 5-7 barrels of the Amine solution was released and flowed approximately 50 feet south with in the facility.

Describe Area Affected and Cleanup Action Taken.\* Enterprise initiated remediation utilizing hand tools. The impacted soil was removed as much as practical from around the operating equipment. Approximately 40 cubic yards of impacted soil was removed and properly disposed of at a NMOCD approved land farm facility. Supporting documentation is included with this "Final" C-141.

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 E. Fields</b>	Approved by Environmental Specialist: 	
Title: <b>Director, Environmental</b>	Approval Date: <b>11/27/17</b>	Expiration Date:
E-mail Address: <b>jefields@eprod.com</b>	Conditions of Approval:	
Date: <b>11/15/2017</b> Phone: (713) 381-6684	Attached <input type="checkbox"/> NMOCD	

\* Attach Additional Sheets If Necessary

**NRF1708726143**

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-138  
Revised August 1, 2011  
97057-0851  
\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**  
Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. **Originating Site:**  
Val Verde Soil Box
3. **Location of Material (Street Address, City, State or ULSTR):**  
Unit B Sec 14 T 29N R 11W; 36.73073, -107.955920
4. **Source and Description of Waste:** Waste Soil from Soil Box; Hydrocarbon (Amine, Lube Oil or Condensate) Impacted Soils
5. **Estimated Volume** 5 yd<sup>3</sup>/bbls **Known Volume (to be entered by the operator at the end of the haul)** 40 yd<sup>3</sup>/bbls

August 2017

### 5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long* representative or authorized agent for Enterprise Field Services, LLC do hereby  
PRINT & SIGN NAME COMPANY NAME  
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988  
regulatory determination, the above described waste is: (Check the appropriate classification)

☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☒ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☒ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

### GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long* 8-15-17, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to  
Generator Signature  
complete the required testing/sign the Generator Waste Testing Certification.

I, Greg Crabtree *Greg Crabtree* representative for Envirotech, Inc. do hereby certify that  
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples  
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results  
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of  
19.15.36 NMAC.

6. **Transporter:** Envirotech, Inc.

### OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM 01-0011

Address of Facility: Hilltop, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager DATE: 8/21/17

SIGNATURE: Greg Crabtree  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615



# Bill of Lading

MANIFEST # **57386**  
GENERATOR Enterprise  
POINT OF ORIGIN Val Verde Plant  
TRANSPORTER E Tech  
DATE 8-21-17 JOB # 97057-0951

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

LOAD NO.	COMPLETE DESCRIPTION OF SHIPMENT					TRANSPORTING COMPANY			
	DESTINATION	MATERIAL	GRID	YDS	BBLS	TKT#	TRK#	TIME	DRIVER SIGNATURE
1	LF II-5	Cont Soil	H-19	2	2		686	1330	<i>[Signature]</i>
2	LF II-5	" "	H19	14	-		559	1330	<i>[Signature]</i>
3	LF II-5	" "	H19	12	-		559	1459	<i>[Signature]</i>
4	LF II-5	" "	H19	12	-		559	1636	<i>[Signature]</i>
				<u>40</u>					
RESULTS		LANDFARM EMPLOYEE		<i>Gary Robinson</i> <b>EL</b>		NOTES			
<b>&lt; 299</b>	CHLORIDE TEST	1							
	PAINT FILTER TEST	1	Certification of above receipt & placement						

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

Generator Onsite Contact \_\_\_\_\_ Phone \_\_\_\_\_

Signatures required prior to distribution of the legal document. DISTRIBUTION: White - Company Records, Yellow - Billing, Pink - Customer, Goldenrod - LF Copy

BOL# 57386

## CHLORIDE TESTING / PAINT FILTER TESTING

DATE 8-21-17TIME 13:30

Attach test strip here

CUSTOMER EnterpriseSITE Val Verde Gas PlantDRIVER Kory PeireSAMPLE Soil ☒ Straight ☐ With Dirt ☐CHLORIDE TEST 298 mg/KgACCEPTED YES ☒ NO ☐PAINT FILTER TEST Time started 1330 Time completed 1341PASS YES ☒ NO ☐SAMPLER/ANALYST Gary Robinson

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 April 3, 2017

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

Rec 9/22/17 OCO

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company <b>Enterprise Field Services, LLC</b>	Contact <b>Thomas Long</b>	
Address <b>614 Reilly Ave, Farmington, NM 87401</b>	Telephone No. <b>505-599-2286</b>	
Facility Name : <b>Trunk 10A Pipeline</b>	Facility Type <b>Natural Gas Gathering Pipeline</b>	
Surface Owner <b>Navajo Tribal</b>	Mineral Owner <b>BIA</b>	API No. <b>NA</b>

LOCATION OF RELEASE

Unit Letter <b>M</b>	Section <b>15</b>	Township <b>25N</b>	Range <b>11W</b>	Feet from the <b>328</b>	North/South Line <b>South</b>	Feet from the <b>387</b>	East/West Line <b>West</b>	County <b>San Juan</b>
-------------------------	----------------------	------------------------	---------------------	--------------------------------	-------------------------------------	--------------------------------	----------------------------------	---------------------------

Latitude 36.3954413 Longitude -107.9990745 NAD83

NATURE OF RELEASE

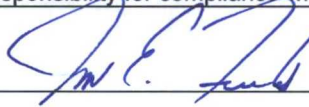

Type of Release <b>Natural Gas and Natural Gas Liquids</b>	Volume of Release <b>9.70 MCF Gas ; 7-10 BBLS of Condensate</b>	Volume Recovered <b>None</b>
Source of Release <b>Internal Corrosion</b>	Date and Hour of Occurrence <b>7/12/2017 @ 6:20 p.m.</b>	Date and Hour of Discovery <b>7/12/2017 @ 6:20 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Courtesy Notification Vanessa Fields – NMOCD; Steve Austin - NNEPA	
By Whom? <b>Thomas Long</b>	Date and Hour <b>July 13, 2017 @ 12:52 p.m.</b>	
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.\* Describe Cause of Problem and Remedial Action: On July 12, 2017, Enterprise responded to a natural gas release on the Trunk 10A pipeline. The pipeline was isolated, depressurized, locked out and tagged out. An area around the release of ground surface of approximately 20 feet long by 15 feet wide was affected by fluids released. Fluids also flowed to the north along an erosional feature approximately 300 feet. Repairs and remediation were completed on July 21, 2017.

Describe Area Affected and Cleanup Action Taken.\* The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 17 feet long by 12 feet wide by 7 feet deep. The flow path excavation measured approximately 291 feet ranging from 3 to 15 feet wide by 0.75 feet deep. Approximately 200 cubic yards of hydrocarbon impacted soil was excavated and transported to New Mexico Oil Conservation Division approved land farm facility. A third party corrective action report is included with this "Final." C-141.

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 E. Fields</b>	Approved by Environmental Specialist 	
Title: <b>Director, Environmental</b>	Approval Date: <b>10/16/2017</b>	Expiration Date:
E-mail Address: <b>jefields@eprod.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>9/25/2017</b>	Phone: <b>(713) 381-6684</b>	

\* Attach Additional Sheets If Necessary

NVF1726538484

38



**CORRECTIVE ACTION REPORT**

**OIL CONS. DIV DIST. 3**  
**SEP 29 2017**

Property:

**Trunk 10A Pipeline Release (July 2017)**  
**SW 1/4, S15 T25N R11W**  
**San Juan County, New Mexico**

September 12, 2017  
Apex Project No. 725040112314

Prepared for:

**Enterprise Field Services LLC**  
**614 Reilly Avenue**  
**Farmington, NM 87401**  
**Attn: Mr. Thomas Long**

Prepared by:

A blue ink signature of Chad D'Aponti, written over a horizontal line.

Chad D'Aponti  
Project Scientist

A blue ink signature of Kyle Summers, written over a horizontal line.

Kyle Summers, CPG  
Branch Manager / Senior Project  
Manager

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	Figure 2	Site Vicinity Map
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## CORRECTIVE ACTION REPORT

Trunk 10A Pipeline Release (July 2017)  
SW 1/4, S15 T25N R11W  
San Juan County, New Mexico

Apex Project No. 725040112314

### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Trunk 10A pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 15, Township 25 North, Range 11 West, in San Juan County, New Mexico (36.39544N, 107.99907W), referred to hereinafter as the "Site". The Site is located on Navajo Nation Trust Land. The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas pipeline which traverses the area from northwest to southeast.

On July 12, 2017, Enterprise personnel identified a release on the Trunk 10A pipeline. The surface expression of the release was characterized by soil discoloration at the ground surface and evidence of a pipeline liquids flow path that traveled northeast from the point of release. On July 19, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential petroleum hydrocarbon impacts resulting from the release. The pipeline was subsequently repaired and placed back into service.

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 constituent of concern (COC) concentrations in the on-Site soils to below the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) *Remediation Action Levels* (RALs) using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.

### 2.0 SITE RANKING

The Site is subject to regulatory oversight by the Navajo Nation Environmental Protection Agency (NNEPA) and the New Mexico EMNRD OCD. In the absence of published/finalized NNEPA regulatory guidance, Apex TITAN, Inc. (Apex) referenced the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*. Apex utilized the general site characteristics obtained during the implementation of corrective action activities and information available from the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	0
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area • <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	10
	200 to 1,000 feet	10	
	>1,000 feet	0	
<b>Total Ranking Score</b>			<b>10</b>

Based on Apex's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 10 this ranking is based on the following:

- No water wells were identified within a mile of the Site on the OSE website. There does not appear to be any water wells within 1,000 feet of the Site. Groundwater is anticipated to be greater than 100 feet below grade surface (bgs), resulting in a ranking score of "0" for depth to groundwater.
- 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. These proximities result in a wellhead protection area ranking score of "0".
- The Site is located approximately 665 feet east of an unnamed ephemeral wash which is identified as a "blue line" on the United States Geological Survey topographic map. This information supports a distance to surface water ranking score of "10".

### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On July 12, 2017, Enterprise personnel identified a release on the Trunk 10A pipeline. The surface expression of the release was characterized by soil discoloration at the ground surface and evidence of a pipeline liquids flow path that traveled northwest from the point of release. On July 19, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential petroleum hydrocarbon impacts resulting from the release. The pipeline was subsequently repaired and placed back into service. During the pipeline repair and corrective action activities, OFT Construction, Inc., provided heavy equipment and labor support, and Apex provided environmental support.

Enterprise performed remediation excavation activities between July 19, 2017 and July 21, 2017. A total of five (5) composite final confirmation soil samples (S-1 through S-5) were collected from the sidewalls and floor of the final excavation for laboratory analysis. Additionally, four (4) composite flow path soil samples (FP-1 through FP-4), were collected for laboratory analyses from the excavated path of the surface release.

The overall final excavation measured approximately 17 feet long by 12 feet wide, with a total maximum depth of approximately seven (7) feet bgs. The final flow path excavation measured approximately 291 feet long by three (3) feet to 15 feet wide, with an average depth of eight (8) inches bgs.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand.

A total of approximately 200 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm (Envirotech) near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

**Figure 3A** is a map with soil sample locations that depicts the approximate location of the excavated area in relation to the Site pipelines (**Appendix A**). **Figure 3B** is a map that indicates the approximate location of the flow path in relation to the Site pipelines and pertinent land features (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

### 3.2 Soil Sampling Program

Apex field screened soil samples from the excavation utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp and a calibrated Dextil PetroFLAG<sup>®</sup> hydrocarbon analyzer system to guide excavation extents.

Apex's soil sampling program included the collection of five (5) confirmation composite soil samples (S-1 through S-5) from the repair excavation, and four (4) confirmation composite flow path soil samples (FP-1 through FP-4).

The soil samples were collected and placed in laboratory prepared glassware and stored on ice in a cooler. The samples were relinquished to the courier for Hall Environmental Analysis Laboratory of Albuquerque, New Mexico under proper chain-of-custody procedures.

### 3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) using EPA SW-846 Method #8021, and total petroleum hydrocarbons (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015.

Laboratory results are summarized in **Table 1**, included in **Appendix D**. The executed chain-of-custody forms and laboratory data sheets are provided in **Appendix E**.

## 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the NNEPA and the New Mexico EMNRD OCD. In the absence of published/finalized NNEPA regulatory guidance, Apex referenced the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the New Mexico EMNRD OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation composite soil samples (S-1 through S-5 and FP-1 through FP-4) to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "10"

- The laboratory analyses of confirmation composite soil samples collected from soils remaining in place do not indicate benzene concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation composite soil samples from soils remaining in place do not indicate total BTEX concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation composite soil samples from soils remaining in place indicate combined TPH GRO/DRO/MRO concentrations ranging from below PQLs to 363 mg/kg (S-1), which are below the New Mexico EMNRD OCD RAL of 1,000 mg/kg.

Confirmation composite soil sample laboratory analytical results are provided in **Table 1** in **Appendix D**.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Trunk 10A pipeline release Site is located within the Enterprise pipeline ROW in the SW  $\frac{1}{4}$  of Section 15, Township 25 North, Range 11 West, in San Juan County, New Mexico. The Site is located on Navajo Nation Trust Land. The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas pipeline which traverses the area from northwest to southeast.

On July 12, 2017, Enterprise personnel identified a release on the Trunk 10A. The surface expression of the release was characterized by soil discoloration at the ground surface and evidence of a pipeline liquids flow path that traveled northeast from the point of release. On July 19, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential petroleum hydrocarbon impact resulting from the release. The pipeline was subsequently repaired and placed back into service.

- The primary objective of the corrective actions was to reduce COC concentrations 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 lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand.
- The primary excavation measured approximately 17 feet long by 12 feet wide at the maximum extents. The depth of the excavation averaged seven (7) feet bgs. The final flow path excavation measured approximately 291 feet long by three (3) feet to 15 feet wide, with an average depth of eight (8) inches bgs.



- Prior to backfilling, five (5) excavation composite soil samples, and four (4) flow path composite soil samples were collected for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit BTEX or TPH GRO/DRO/MRO concentrations above the New Mexico EMNRD OCD RALs for a site ranking of "10".
- A total of approximately 200 cubic yards of soil were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and then contoured to the approximate surrounding grade.

**Based on field observations and laboratory analytical results, no additional corrective action with respect to soil impact 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 or described herein. 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.

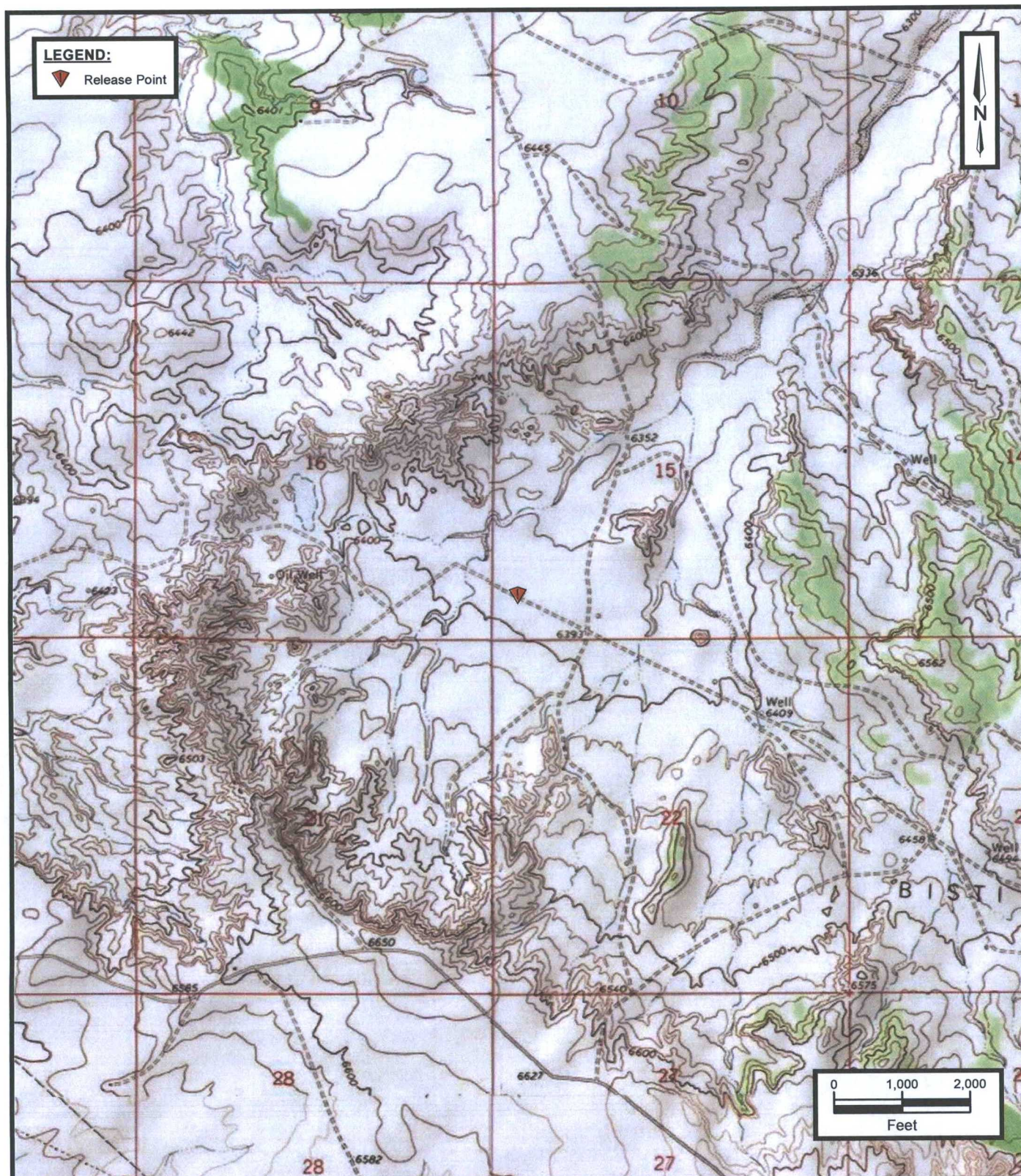
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence 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

---



Trunk 10A  
 SW1/4 S15 T25N R11W  
 San Juan County, New Mexico  
 36.39544 N, 107.99907 W



**Apex TITAN, Inc.**  
 606 South Rio Grande, Suite A  
 Aztec, New Mexico 87410  
 Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
 A Subsidiary of Apex Companies, LLC

Project No. 725040112314

**FIGURE 1**

**Topographic Map**

Service Layer Credits:  
 Copyright © 2013 National Geographic Society, i-cubed, Huerfano  
 Trading Post NW, Carson Trading Post, Alamo Mesa East, and  
 Huerfano Trading Post SW New Mexico 7.5-Minute Quadrangles  
 1978



**Trunk 10A**  
 SW1/4 S15 T25N R11W  
 San Juan County, New Mexico  
 36.39544 N, 107.99907 W

Project No. 725040112314



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**FIGURE 2**  
**Site Vicinity Map**

Service Layer Credits:  
 Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Aerial Photograph March 2015

**LEGEND:**

- Excavation Confirmation Soil Sample Location
- Trunk 10A Pipeline Location
- 10A-1 Well Tie Pipeline Location
- Flow Path
- Extent of Excavation

**NOTE:**

All Concentrations are Listed in mg/Kg.

All Depths are Listed in Feet BGS.

**S-2**  
7/21/2017  
(0-7")  
Benzene...<0.020  
Toluene...<0.040  
Ethylbenzene...<0.040  
Xylenes...<0.080  
Total BTEX...ND  
TPH GRO...<4.0  
TPH DRO...<9.8  
TPH MRO...<49

**S-3**  
7/21/2017  
(0-7")  
Benzene...<0.018  
Toluene...<0.036  
Ethylbenzene...<0.036  
Xylenes...<0.072  
Total BTEX...ND  
TPH GRO...<3.6  
TPH DRO...<9.4  
TPH MRO...<47

**S-1**  
7/21/2017  
(0-7")  
Benzene...<0.021  
Toluene...<0.041  
Ethylbenzene...<0.041  
Xylenes...<0.083  
Total BTEX...ND  
TPH GRO...<4.1  
TPH DRO...93  
TPH MRO...270

**S-5**  
7/21/2017  
(7")  
Benzene...<0.019  
Toluene...<0.039  
Ethylbenzene...<0.039  
Xylenes...<0.077  
Total BTEX...ND  
TPH GRO...<3.9  
TPH DRO...38  
TPH MRO...100

**S-4**  
7/21/2017  
(0-7")  
Benzene...<0.017  
Toluene...<0.034  
Ethylbenzene...<0.034  
Xylenes...<0.068  
Total BTEX...ND  
TPH GRO...<3.4  
TPH DRO...<10  
TPH MRO...<50

**Trunk 10A**  
SW1/4 S15 T25N R11W  
San Juan County, New Mexico  
36.39544 N, 107.99907 W

**Apex TITAN, Inc.**

606 South Rio Grande, Suite A  
Aztec, New Mexico 87410  
Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

**FIGURE 3A****Excavation Area Site Map  
with Soil Analytical Results**

Project No. 725040112314

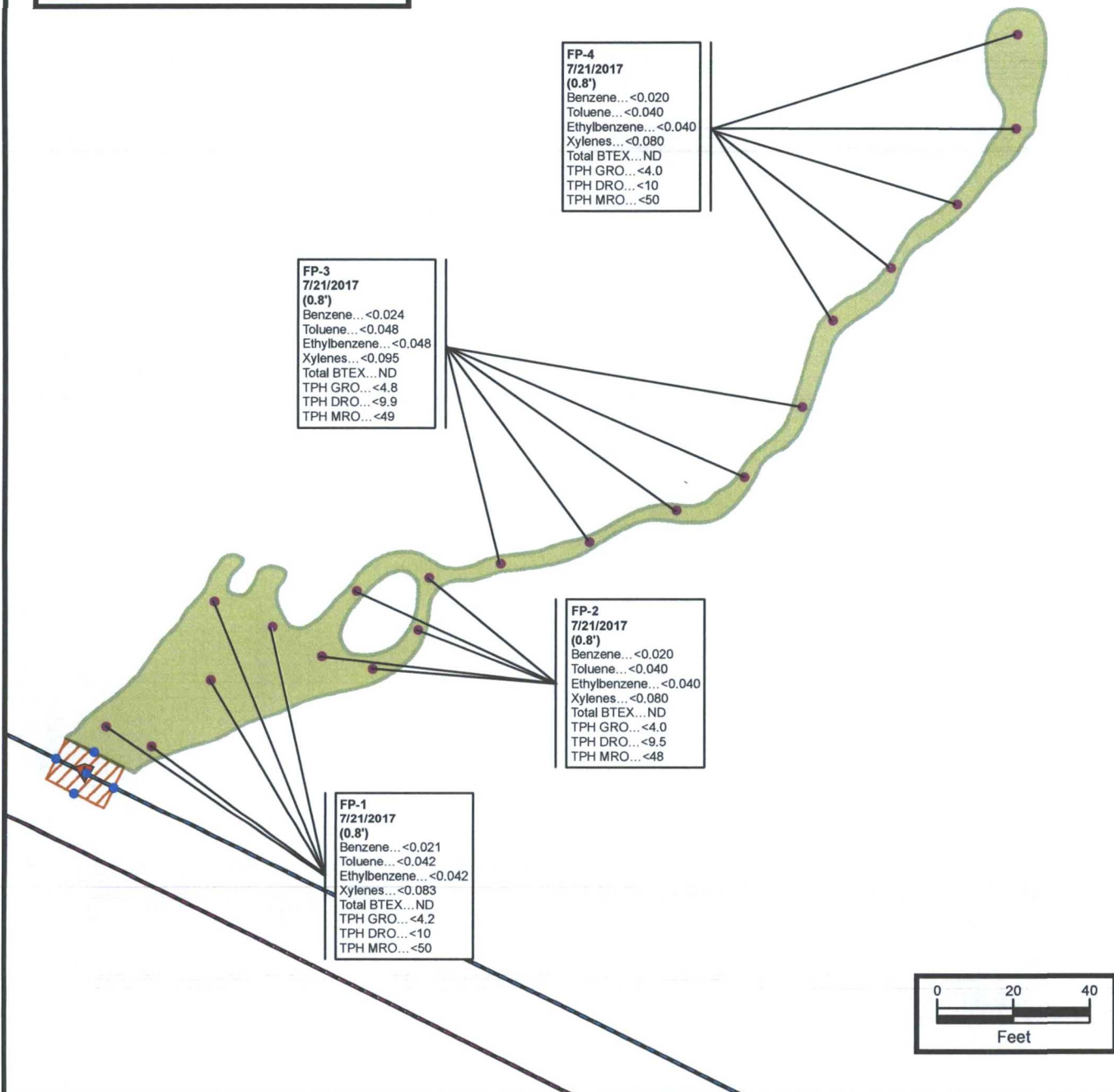
**LEGEND:**

- Excavation Confirmation Soil Sample Location
- Flow Path Confirmation Soil Sample Location
- ▼ Release Point
- Trunk 10A Pipeline Location
- 10A-1 Well Tie Pipeline Location
- Flow Path
- Extent of Excavation

**NOTE:**

All Concentrations are Listed in mg/Kg.

All Depths are Listed in Feet BGS.



**Trunk 10A**  
SW1/4 S15 T25N R11W  
San Juan County, New Mexico  
36.39544 N, 107.99907 W



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**FIGURE 3B**

**Flow Path Site Map  
with Soil Analytical Results**

Project No. 725040112314

## APPENDIX B

### Executed C-138 Solid Waste Acceptance Form

---

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

97057-0852 Form C-138  
Revised 08/01/11  
\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Trunk 10A Pipeline
3. Location of Material (Street Address, City, State or ULSTR): UL M Section 15 T25N R11W; 36.3954413, -107.9990745 July 2017
4. Source and Description of Waste: Source: Hydrocarbon impacted soil associated with a natural gas pipeline leak Description: Hydrocarbon impacted soil associated with a natural gas pipeline leak remediation activities. Estimated Volume <u>50</u> yd <sup>3</sup> /bbls Known Volume (to be entered by the operator at the end of the haul) <u>200</u> yd <sup>3</sup> /bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, Thomas Long <i>Thomas Long</i> , representative or authorized agent for Enterprise Products Operating do hereby Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load <input type="checkbox"/> RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) <input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, Thomas Long <i>Thomas Long</i> 7-19-17, representative for Enterprise Products Operating authorize <u>Envirotech, Inc.</u> to complete Generator Signature the required testing/sign the Generator Waste Testing Certification. I, <i>Michael</i> , representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: <del>OET and subcontractors</del> <u>Stan Horn, Ternco, Baileys</u>

### OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM01-0011

Address of Facility: Hill Top, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ APPROVED

☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager

DATE: 7/20/17

SIGNATURE: *Greg Crabtree*

TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

## APPENDIX C

### Photographic Documentation

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**Photograph 1**

View of the flow path, facing south-west.



**Photograph 2**

Initiation of excavation activities.



**Photograph 3**

View of in-process excavation activities.



**Photograph 4**

View of the final excavation.

**Photograph 5**

View of the flow path excavation.



## APPENDIX D

### Table

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**TABLE 1**  
**Trunk 10A Pipeline Release**  
**SOIL ANALYTICAL SUMMARY**

Sample I.D.	Date	Sample Depth (feet)	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 MRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	1000		
Flow Path Confirmation Soil Samples										
FP-1	7.21.17	0.8	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<10	<50
FP-2	7.21.17	0.8	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.5	<48
FP-3	7.21.17	0.8	<0.024	<0.048	<0.048	<0.095	ND	<4.8	<9.9	<49
FP-4	7.21.17	0.8	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<10	<50
Excavation Confirmation Soil Samples										
S-1	7.21.17	0 to 7	<0.021	<0.041	<0.041	<0.083	ND	<4.1	93	270
S-2	7.21.17	0 to 7	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.8	<49
S-3	7.21.17	0 to 7	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.4	<47
S-4	7.21.17	0 to 7	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<10	<50
S-5	7.21.17	7	<0.019	<0.039	<0.039	<0.077	ND	<3.9	38	100

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram

Appendix E

Laboratory Data Sheets  
& Chain of Custody Documentation

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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

July 26, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Trunk 10A

OrderNo.: 1707B81

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/22/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1707B81

Date Reported: 7/26/2017

CLIENT: APEX TITAN

Client Sample ID: S-1

Project: Trunk 10A

Collection Date: 7/21/2017 10:30:00 AM

Lab ID: 1707B81-001

Matrix: MEOH (SOIL)

Received Date: 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	93	10		mg/Kg	1	7/24/2017 11:38:15 AM	32963
Motor Oil Range Organics (MRO)	270	50		mg/Kg	1	7/24/2017 11:38:15 AM	32963
Surr: DNOP	99.2	70-130		%Rec	1	7/24/2017 11:38:15 AM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	7/24/2017 9:37:12 AM	32944
Surr: BFB	84.2	54-150		%Rec	1	7/24/2017 9:37:12 AM	32944
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	7/24/2017 9:37:12 AM	32944
Toluene	ND	0.041		mg/Kg	1	7/24/2017 9:37:12 AM	32944
Ethylbenzene	ND	0.041		mg/Kg	1	7/24/2017 9:37:12 AM	32944
Xylenes, Total	ND	0.083		mg/Kg	1	7/24/2017 9:37:12 AM	32944
Surr: 4-Bromofluorobenzene	99.8	66.6-132		%Rec	1	7/24/2017 9:37:12 AM	32944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1707B81

Date Reported: 7/26/2017

**CLIENT:** APEX TITAN**Client Sample ID:** S-2**Project:** Trunk 10A**Collection Date:** 7/21/2017 10:35:00 AM**Lab ID:** 1707B81-002**Matrix:** MEOH (SOIL)**Received Date:** 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/24/2017 12:06:19 PM	32963
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/24/2017 12:06:19 PM	32963
Surr: DNOP	94.7	70-130		%Rec	1	7/24/2017 12:06:19 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	7/24/2017 10:01:13 AM	32944
Surr: BFB	83.5	54-150		%Rec	1	7/24/2017 10:01:13 AM	32944
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	7/24/2017 10:01:13 AM	32944
Toluene	ND	0.040		mg/Kg	1	7/24/2017 10:01:13 AM	32944
Ethylbenzene	ND	0.040		mg/Kg	1	7/24/2017 10:01:13 AM	32944
Xylenes, Total	ND	0.080		mg/Kg	1	7/24/2017 10:01:13 AM	32944
Surr: 4-Bromofluorobenzene	97.3	66.6-132		%Rec	1	7/24/2017 10:01:13 AM	32944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1707B81

Date Reported: 7/26/2017

CLIENT: APEX TITAN

Client Sample ID: S-3

Project: Trunk 10A

Collection Date: 7/21/2017 10:40:00 AM

Lab ID: 1707B81-003

Matrix: MEOH (SOIL)

Received Date: 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	7/24/2017 12:34:27 PM	32963
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	7/24/2017 12:34:27 PM	32963
Surr: DNOP	96.0	70-130		%Rec	1	7/24/2017 12:34:27 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	7/24/2017 10:25:12 AM	32944
Surr: BFB	86.1	54-150		%Rec	1	7/24/2017 10:25:12 AM	32944
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.018		mg/Kg	1	7/24/2017 10:25:12 AM	32944
Toluene	ND	0.036		mg/Kg	1	7/24/2017 10:25:12 AM	32944
Ethylbenzene	ND	0.036		mg/Kg	1	7/24/2017 10:25:12 AM	32944
Xylenes, Total	ND	0.072		mg/Kg	1	7/24/2017 10:25:12 AM	32944
Surr: 4-Bromofluorobenzene	101	66.6-132		%Rec	1	7/24/2017 10:25:12 AM	32944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1707B81

Date Reported: 7/26/2017

CLIENT: APEX TITAN

Client Sample ID: S-4

Project: Trunk 10A

Collection Date: 7/21/2017 10:45:00 AM

Lab ID: 1707B81-004

Matrix: MEOH (SOIL)

Received Date: 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/24/2017 1:02:47 PM	32963
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/24/2017 1:02:47 PM	32963
Surr: DNOP	99.0	70-130		%Rec	1	7/24/2017 1:02:47 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	7/24/2017 10:49:14 AM	32944
Surr: BFB	82.9	54-150		%Rec	1	7/24/2017 10:49:14 AM	32944
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	7/24/2017 10:49:14 AM	32944
Toluene	ND	0.034		mg/Kg	1	7/24/2017 10:49:14 AM	32944
Ethylbenzene	ND	0.034		mg/Kg	1	7/24/2017 10:49:14 AM	32944
Xylenes, Total	ND	0.068		mg/Kg	1	7/24/2017 10:49:14 AM	32944
Surr: 4-Bromofluorobenzene	98.0	66.6-132		%Rec	1	7/24/2017 10:49:14 AM	32944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1707B81

Date Reported: 7/26/2017

CLIENT: APEX TITAN

Client Sample ID: S-5

Project: Trunk 10A

Collection Date: 7/21/2017 10:50:00 AM

Lab ID: 1707B81-005

Matrix: MEOH (SOIL)

Received Date: 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	38	9.1		mg/Kg	1	7/24/2017 1:31:09 PM	32963
Motor Oil Range Organics (MRO)	100	46		mg/Kg	1	7/24/2017 1:31:09 PM	32963
Surr: DNOP	91.6	70-130		%Rec	1	7/24/2017 1:31:09 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	7/24/2017 11:13:13 AM	32944
Surr: BFB	84.6	54-150		%Rec	1	7/24/2017 11:13:13 AM	32944
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.019		mg/Kg	1	7/24/2017 11:13:13 AM	32944
Toluene	ND	0.039		mg/Kg	1	7/24/2017 11:13:13 AM	32944
Ethylbenzene	ND	0.039		mg/Kg	1	7/24/2017 11:13:13 AM	32944
Xylenes, Total	ND	0.077		mg/Kg	1	7/24/2017 11:13:13 AM	32944
Surr: 4-Bromofluorobenzene	97.7	66.6-132		%Rec	1	7/24/2017 11:13:13 AM	32944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1707B81

Date Reported: 7/26/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: FP-1

Project: Trunk 10A

Collection Date: 7/21/2017 10:55:00 AM

Lab ID: 1707B81-006

Matrix: MEOH (SOIL)

Received Date: 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/24/2017 1:59:31 PM	32963
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/24/2017 1:59:31 PM	32963
Surr: DNOP	87.6	70-130		%Rec	1	7/24/2017 1:59:31 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	7/24/2017 11:37:15 AM	32944
Surr: BFB	83.8	54-150		%Rec	1	7/24/2017 11:37:15 AM	32944
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	7/24/2017 11:37:15 AM	32944
Toluene	ND	0.042		mg/Kg	1	7/24/2017 11:37:15 AM	32944
Ethylbenzene	ND	0.042		mg/Kg	1	7/24/2017 11:37:15 AM	32944
Xylenes, Total	ND	0.083		mg/Kg	1	7/24/2017 11:37:15 AM	32944
Surr: 4-Bromofluorobenzene	98.3	66.6-132		%Rec	1	7/24/2017 11:37:15 AM	32944

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1707B81

Date Reported: 7/26/2017

CLIENT: APEX TITAN

Client Sample ID: FP-2

Project: Trunk 10A

Collection Date: 7/21/2017 11:00:00 AM

Lab ID: 1707B81-007

Matrix: MEOH (SOIL)

Received Date: 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	7/24/2017 2:28:06 PM	32963
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	7/24/2017 2:28:06 PM	32963
Surr: DNOP	88.0	70-130		%Rec	1	7/24/2017 2:28:06 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	7/24/2017 9:43:00 AM	A44437
Surr: BFB	97.4	54-150		%Rec	1	7/24/2017 9:43:00 AM	A44437
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	7/24/2017 9:43:00 AM	C44437
Toluene	ND	0.040		mg/Kg	1	7/24/2017 9:43:00 AM	C44437
Ethylbenzene	ND	0.040		mg/Kg	1	7/24/2017 9:43:00 AM	C44437
Xylenes, Total	ND	0.080		mg/Kg	1	7/24/2017 9:43:00 AM	C44437
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	7/24/2017 9:43:00 AM	C44437

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **1707B81**

Date Reported: 7/26/2017

**CLIENT:** APEX TITAN**Client Sample ID:** FP-3**Project:** Trunk 10A**Collection Date:** 7/21/2017 11:05:00 AM**Lab ID:** 1707B81-008**Matrix:** MEOH (SOIL)**Received Date:** 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/24/2017 2:56:42 PM	32963
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	7/24/2017 2:56:42 PM	32963
Surr: DNOP	89.2	70-130		%Rec	1	7/24/2017 2:56:42 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/24/2017 10:06:43 AM	A44437
Surr: BFB	98.1	54-150		%Rec	1	7/24/2017 10:06:43 AM	A44437
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	7/24/2017 10:06:43 AM	C44437
Toluene	ND	0.048		mg/Kg	1	7/24/2017 10:06:43 AM	C44437
Ethylbenzene	ND	0.048		mg/Kg	1	7/24/2017 10:06:43 AM	C44437
Xylenes, Total	ND	0.095		mg/Kg	1	7/24/2017 10:06:43 AM	C44437
Surr: 4-Bromofluorobenzene	108	66.6-132		%Rec	1	7/24/2017 10:06:43 AM	C44437

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**Lab Order **1707B81**

Date Reported: 7/26/2017

**CLIENT:** APEX TITAN**Client Sample ID:** FP-4**Project:** Trunk 10A**Collection Date:** 7/21/2017 11:10:00 AM**Lab ID:** 1707B81-009**Matrix:** MEOH (SOIL)**Received Date:** 7/22/2017 11:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/24/2017 3:25:17 PM	32963
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	7/24/2017 3:25:17 PM	32963
Surr: DNOP	89.9	70-130		%Rec	1	7/24/2017 3:25:17 PM	32963
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	7/24/2017 10:30:22 AM	A44437
Surr: BFB	97.5	54-150		%Rec	1	7/24/2017 10:30:22 AM	A44437
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Toluene	ND	0.040		mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Ethylbenzene	ND	0.040		mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Xylenes, Total	ND	0.080		mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Surr: 4-Bromofluorobenzene	106	66.6-132		%Rec	1	7/24/2017 10:30:22 AM	C44437

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707B81

26-Jul-17

Client: APEX TITAN

Project: Trunk 10A

Sample ID	LCS-32963		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 32963		RunNo: 44432					
Prep Date:	7/24/2017		Analysis Date: 7/24/2017		SeqNo: 1404484		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	102	73.2	114			
Surr: DNOP	4.7		5.000		93.1	70	130			

Sample ID	MB-32963	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 32963			RunNo: 44432					
Prep Date:	7/24/2017	Analysis Date: 7/24/2017			SeqNo: 1404485		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		92.7	70	130			

Sample ID	1707B81-001AMS			SampType:	MS		TestCode:	EPA Method 8015M/D: Diesel Range Organics			
Client ID:	S-1		Batch ID:	32963		RunNo:	44432				
Prep Date:	7/24/2017		Analysis Date:	7/24/2017		SeqNo:	1405208		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	130	10	49.85	92.65	81.6	55.8	122				
Surr: DNOP	5.2		4.985		104	70	130				

Sample ID	1707B81-001AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	S-1		Batch ID: 32963		RunNo: 44432					
Prep Date:	7/24/2017		Analysis Date: 7/24/2017		SeqNo: 1405209		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	130	9.9	49.26	92.65	72.4	55.8	122	3.80	20	
Surr: DNOP	5.2		4.926		106	70	130	0	0	

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| PQL Practical Quantitative Limit                        | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707B81

26-Jul-17

Client: APEX TITAN

Project: Trunk 10A

Sample ID	MB-32944		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	32944		RunNo:	44436				
Prep Date:	7/21/2017		Analysis Date:	7/24/2017		SeqNo:	1405041		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	810		1000		81.4	54	150				

Sample ID	LCS-32944		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 32944		RunNo: 44436					
Prep Date:	7/21/2017		Analysis Date: 7/24/2017		SeqNo: 1405042		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.2	76.4	125			
Surr: BFB	930		1000		92.9	54	150			

Sample ID	RB	SampType: MBLK				TestCode: EPA Method 8015D: Gasoline Range				
Client ID:	PBS	Batch ID: A44437				RunNo: 44437				
Prep Date:		Analysis Date: 7/24/2017				SeqNo: 1405073		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		100	54	150			

Sample ID	2.5UG GRO LCS		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: A44437		RunNo: 44437					
Prep Date:			Analysis Date: 7/24/2017		SeqNo: 1405074		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.2	76.4	125			
Surr: BFB	1100		1000		109	54	150			

Sample ID	1707B81-007AMS		SampType:	MS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	FP-2		Batch ID:	A44437		RunNo:	44437				
Prep Date:			Analysis Date:	7/24/2017		SeqNo:	1405075		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	20	4.0	20.07	0	97.3	77.8	128				
Surr: BFB	850		802.6		106	54	150				

Sample ID	1707B81-007AMSD			SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range			
Client ID:	FP-2			Batch ID:	A44437		RunNo:	44437			
Prep Date:				Analysis Date:	7/24/2017		SeqNo:	1405076		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| PQL Practical Quantitative Limit                        | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707B81

26-Jul-17

Client: APEX TITAN

Project: Trunk 10A

Sample ID	1707B81-007AMSD	SampType	MSD	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	FP-2	Batch ID	A44437	RunNo	44437					
Prep Date		Analysis Date	7/24/2017	SeqNo	1405076	Units	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	4.0	20.07	0	95.2	77.8	128	2.16	20	
Surr: BFB	850		802.6		106	54	150	0	0	

Sample ID	RB	SampType	MBLK	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	PBS	Batch ID	G44477	RunNo	44477					
Prep Date		Analysis Date	7/25/2017	SeqNo	1406642	Units	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	960		1000		96.3	54	150			

Sample ID	2.5UG GRO LCSB	SampType	LCS	TestCode	EPA Method 8015D: Gasoline Range					
Client ID	LCSS	Batch ID	G44477	RunNo	44477					
Prep Date		Analysis Date	7/25/2017	SeqNo	1406643	Units	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		104	54	150			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707B81

26-Jul-17

Client: APEX TITAN

Project: Trunk 10A

Sample ID	MB-32944		SampType: MBLK		TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS		Batch ID: 32944		RunNo: 44436					
Prep Date:	7/21/2017		Analysis Date: 7/24/2017		SeqNo: 1405062		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.4	66.6	132			

Sample ID	LCS-32944		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 32944		RunNo: 44436					
Prep Date:	7/21/2017		Analysis Date: 7/24/2017		SeqNo: 1405063		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.4	80	120			
Toluene	0.90	0.050	1.000	0	89.5	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.4	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.3	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.5	66.6	132			

Sample ID	RB	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: C44437			RunNo: 44437					
Prep Date:		Analysis Date: 7/24/2017			SeqNo: 1405087		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	66.6	132			

Sample ID	100NG BTEX LCS		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: C44437		RunNo: 44437					
Prep Date:			Analysis Date: 7/24/2017		SeqNo: 1405088		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	80	120			
Toluene	0.91	0.050	1.000	0	90.9	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.9	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		117	66.6	132			

## Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
PQL Practical Quantitative Limit	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1707B81

26-Jul-17

Client: APEX TITAN

Project: Trunk 10A

Sample ID	1707B81-008AMS			SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	FP-3		Batch ID:	C44437		RunNo:	44477				
Prep Date:				Analysis Date:	7/25/2017		SeqNo:	1406646		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.87	0.024	0.9506	0	91.7	80.9	132				
Toluene	0.87	0.048	0.9506	0	92.0	79.8	136				
Ethylbenzene	0.90	0.048	0.9506	0	94.8	79.4	140				
Xylenes, Total	2.7	0.095	2.852	0	95.6	78.5	142				
Surr: 4-Bromofluorobenzene	1.1		0.9506		113	66.6	132				

Sample ID	RB	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: B44477			RunNo: 44477					
Prep Date:		Analysis Date: 7/25/2017			SeqNo: 1406650		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		109	66.6	132			

Sample ID	100NG BTEX LCS		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: B44477		RunNo: 44477					
Prep Date:			Analysis Date: 7/25/2017		SeqNo: 1406651		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
PQL Practical Quantitative Limit  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1707B81

RcptNo: 1

Received By: Andy Freeman

7/22/2017 11:10:00 AM

Completed By: Ashley Gallegos

7/23/2017 1:22:25 PM

Reviewed By: SPE 07/24/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

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

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_



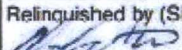
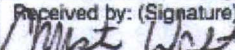
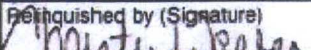
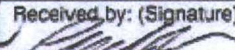
Client Instructions: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.7	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b>		Laboratory: <u>Hall Environmental Laboratory</u>		ANALYSIS REQUESTED <div style="transform: rotate(-90deg); transform-origin: center; font-size: small;">BTEX 8001 TPH DRO/GRO/MRO 8005</div>		Lab use only Due Date:													
		Address: <u>4901 Hawkins NE Albuquerque N.M. 87109</u>				Temp. of coolers when received (C°): <u>4, 7</u>													
Office Location: <u>606 S. Rio Grande Suite A Aztec NM 87410</u>		Contact: <u>A. Fickman</u>				Page <u>1</u> of <u>1</u>													
Project Manager: <u>K. Summers</u>		PO/SO #: <u>725040112314</u>																	
Sampler's Name: <u>Chad D'Aponte</u>		Sampler's Signature: 																	
Proj. No.: <u>725040112314</u>		Project Name: <u>TINK 10A</u>		No/Type of Containers															
Matrix	Date	Time	Coed	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)						
S	7/21/17	10:30	X		S-1	0	7'				1		X X	1707B81-001					
S	7/21/17	10:35	X		S-2	0	7'				1		X X	-002					
S	7/21/17	10:40	X		S-3	0	7'				1		X X	-003					
S	7/21/17	10:45	X		S-4	0	7'				1		X X	-004					
S	7/21/17	10:50	X		S-5	7'	7'				1		X X	-005					
S	7/21/17	10:55	X		FP-1	0	0.5				1		X X	-006					
S	7/21/17	11:00	X		FP-2	0	0.5				1		X X	-007					
S	7/21/17	11:05	X		FP-3	0	0.5				1		X X	-008					
S	7/21/17	11:10	X		FP-4	0	0.5				1		X X	-009					
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush <u>Same Day</u>																			
Relinquished by (Signature): 		Date: <u>7/21/17</u>		Time: <u>1253</u>		Received by (Signature): 		Date: <u>7/21/17</u>		Time: <u>1253</u>		NOTES: <u>Bill to Tom Long EPROD</u>							
Relinquished by (Signature): 		Date: <u>7/21/17</u>		Time: <u>1750</u>		Received by (Signature): 		Date: <u>7/22/17</u>		Time: <u>1110</u>									
Relinquished by (Signature):		Date:		Time:		Received by (Signature):		Date:		Time:									
Relinquished by (Signature):		Date:		Time:		Received by (Signature):		Date:		Time:									
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											

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.

*Rec 7/24/17/UCD*

**Release Notification and Corrective Action**

**OPERATOR**

☐ Initial Report ☒ Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long/Runell Seale
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: <b>MB-18 Pipeline</b>	Facility Type: <b>Natural Gas Gathering Pipeline</b>
Surface Owner: <b>Private</b>	Mineral Owner: <b>BLM</b>
API No. <b>NA</b>	

**LOCATION OF RELEASE**

Unit Letter <b>F</b>	Section <b>20</b>	Township <b>31N</b>	Range <b>8W</b>	Feet from the <b>1612</b>	North/South Line	Feet from the <b>1682</b>	East/West Line	County <b>San Juan</b>
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Latitude 36.886080 Longitude -107.701957

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>26.23 MCF Gas; 5-10 BBLS Condensate</b>	Volume Recovered: <b>None</b>
Source of Release: Internal corrosion	Date and Hour of Occurrence: <b>4/24/2017 @ 1:10 a.m.</b>	Date and Hour of Discovery: <b>4/24/2017 @ 1:10 a.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification: Vanessa Fields – NMOCD	
By Whom? Thomas Long	Date and Hour May 1, 2017 @ 12:35 p.m.	
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: On April 24, 2017, Enterprise responded to a natural gas release on the MB-18 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation were initiated on April 28, 2017 and Enterprise determined this release is reportable per NMOCD regulation on May 1, 2017, due to the volume of subsurface impacts. Repairs and remediation were completed on May 4, 2017.

Describe Area Affected and Cleanup Action Taken.\* The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 60 feet long by 10 feet wide by ranging from 7-12 feet deep. Approximately 198 cubic yards of hydrocarbon impacted soil was excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

Signature: <i>Jon E. Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date:	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>7/18/2017</i>	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

*NVF1713151792*

*57*



## CORRECTIVE ACTION REPORT

Property:

**MB-18 (April 2017) Pipeline Release  
NW 1/4, S20 T31N R8W  
San Juan County, New Mexico**

July 7, 2017

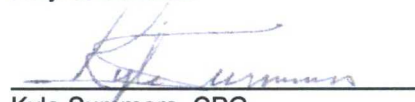
Apex Project No. 725040112284

Prepared for:

**Enterprise Field Services, LLC  
614 Reilly Avenue  
Farmington, NM 87401  
Attn: Mr. Thomas Long**

Prepared by:

  
Rane Deechilly  
Project Scientist

  
Kyle Summers, CPG  
Branch Manager / Senior Geologist

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<b>Appendix E:</b>	Laboratory Data Sheets & Chain of Custody Documentation
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## CORRECTIVE ACTION REPORT

### MB-18 (April 2017) Pipeline Release

NW 1/4, S20 T31N R8W  
San Juan County, New Mexico

Apex Project No. 725040112284

## 1.0 INTRODUCTION

### 1.1 Site Description & Background

The MB-18 (April 2017) pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 20, Township 31 North, Range 8 West, in San Juan County, New Mexico (36.886080N, 107.701957W), referred to hereinafter as the "Site". The Site is located on private land. The Site is surrounded by rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise MB-18 natural gas gathering pipeline which transects the area from approximately southwest to northeast.

On April 24, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On May 1, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and returned to service.

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 action 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* (RALs) using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.

## 2.0 SITE RANKING

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

Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	0
	50 to 99 feet	10	
	>100 feet	0	
Wellhead Protection Area • <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	20
	200 to 1,000 feet	10	
	>1,000 feet	0	
<b>Total Ranking Score</b>			<b>20</b>

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

- No water wells were identified on the OSE website within one mile of the Site. Based on the elevation of the Site with respect to the canyon floor, the depth to groundwater at Site is anticipated to be greater than 100 feet below grade surface (bgs). This information supports a ranking score of "0" for depth to groundwater.
- 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. These proximities result in a wellhead protection area ranking score of "0".
- The release point is located approximately 198 feet from an ephemeral wash that is identified as a "blue line" on the United States Geological Survey topographic map, resulting in a distance to surface water ranking score of "20".

### 3.0 CORRECTIVE ACTIONS

#### 3.1 Soil Excavation Activities

On April 24, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On May 1, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and returned to service. During the pipeline repair and corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support, and Apex provided environmental support.

On March 2, 2017, a total of eight (5) confirmation soil samples (CS-1 through CS-8) were collected from the sidewalls and floor of the repair excavation for laboratory analysis. Additionally, two (2) soil samples were collected from stockpiled soils to determine the potential to reuse the soils as backfill. Subsequent analytical results indicated soils associated with soil sample CS-4 exhibited hydrocarbon impact above OCD guidelines. On March 4, 2017, the floor on the southern end of the excavation was over-excavated and six (6) additional composite soil samples (CS-9 through CS-14) were collected from the floor and bottom portion of the sidewalls for laboratory analysis.

The final excavation measured approximately 60 feet long by 10 feet wide, with total depths ranging from approximately seven (7) feet bgs (north end) to 12 feet bgs (south end).

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand underlain by sandstone.

A total of approximately 198 cubic yards of hydrocarbon affected soils were transported to the Industrial Ecosystems, Inc. (IEI) landfarm on Crouch Mesa, near Aztec, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with clean imported fill and laboratory-confirmed stockpiled soils, and was subsequently contoured to surrounding grade.

**Figure 3** is a **Site Map** that indicates the approximate sample locations in relation to the excavation extents and the location of the pipeline (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

### 3.2 Soil Sampling Program

Apex field screened soil samples from the excavation utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp and a calibrated Dexsil PetroFLAG<sup>®</sup> hydrocarbon analyzer system to guide excavation extents.

Apex's soil sampling program included the collection of 14 confirmation soil samples (CS-1 through CS-14) from the excavation and two (2) stockpile soil samples (SP-1 and SP-2) for laboratory analysis. **Figure 3** depicts the approximate location of the excavated area and depicts the final confirmation sample locations in relation to the final excavation dimensions (**Appendix A**).

The samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels, and placed on ice in a cooler, which was secured with a custody seal. The sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory (HEAL) in Albuquerque, New Mexico, for analysis.

### 3.3 Laboratory Analytical Methods

The soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA SW-846 Method #8021, and total petroleum hydrocarbon (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015.

Laboratory results are summarized in **Table 1**, included in **Appendix D**. The executed chain-of-custody form and laboratory data sheets are provided in **Appendix E**.

## 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 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation samples (CS-1 through CS-14) to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "20". Soils associated with sample CS-4 were removed and transported to IEI landfarm for disposal/treatment and are not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place and the reused stockpiled soils do not indicate benzene concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place and the reused stockpiled soil do not indicate total BTEX concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- **The laboratory analysis of confirmation soil sample CS-9 indicates a combined TPH GRO/DRO/MRO concentration of 143 mg/kg, which exceeds the OCD RAL of 100 mg/kg.** The laboratory analyses of the confirmation samples CS-1 through CS-3, CS-5 through CS-8, CS-10 through CS-14, and stockpiled soil samples SP-1 and SP-2 do not indicate combined TPH GRO/DRO/MRO concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "20".

Soil sample results are provided in **Table 1** in **Appendix D**.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The MB-18 (April 2017) pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 20, Township 31 North, Range 8 West, in San Juan County, New Mexico. The Site is located on private land. The Site is surrounded by rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise MB-18 natural gas gathering pipeline which transects the area from approximately southwest to northeast.

On April 24, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On May 1, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and returned to service.

- The primary objective of the corrective action 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 lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated poorly sorted silty sand underlain by sandstone.
- The final excavation measured approximately 60 feet long by 10 feet wide, with total depths ranging of approximately seven (7) feet bgs (north end) to 12 feet bgs (south end).
- Prior to backfilling, 14 confirmation samples soil samples were collected from the final excavation for laboratory analyses. BTEX and combined TPH GRO/DRO/MRO

exceedances were not identified in confirmation soil samples CS-1 through CS-3, CS-5 through CS-8, and CS-10 through CS-14 and stockpile soil samples SP-1 and SP-2.

- **The laboratory analysis of confirmation soil sample CS-9 indicates a combined TPH GRO/DRO/MRO concentration of 143 mg/kg, which exceeds the New Mexico EMNRD OCD RAL of 100 mg/kg.**
- A total of approximately 198 cubic yards of hydrocarbon affected soils were transported to the IEI landfarm on Crouch Mesa, near Aztec, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and laboratory-confirmed stockpiled soils, and was subsequently contoured to surrounding grade.

Based on analytical results, only soils associated with CS-9 (excavation floor sample of moderately weathered sandstone) exhibit a combined TPH GRO/DRO/MRO concentration (most of which is within the MRO carbon range) above the New Mexico EMNRD OCD guidelines. Additionally, laboratory analytical results indicate that COC concentrations are decreasing with depth.

**Based on the laboratory analytical results, presence of sandstone, and TPH speciation of the single exceedance, Enterprise received approval from the New Mexico EMNRD OCD on May 8, 2017 to close the Site without further remediation activities.**

## **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.

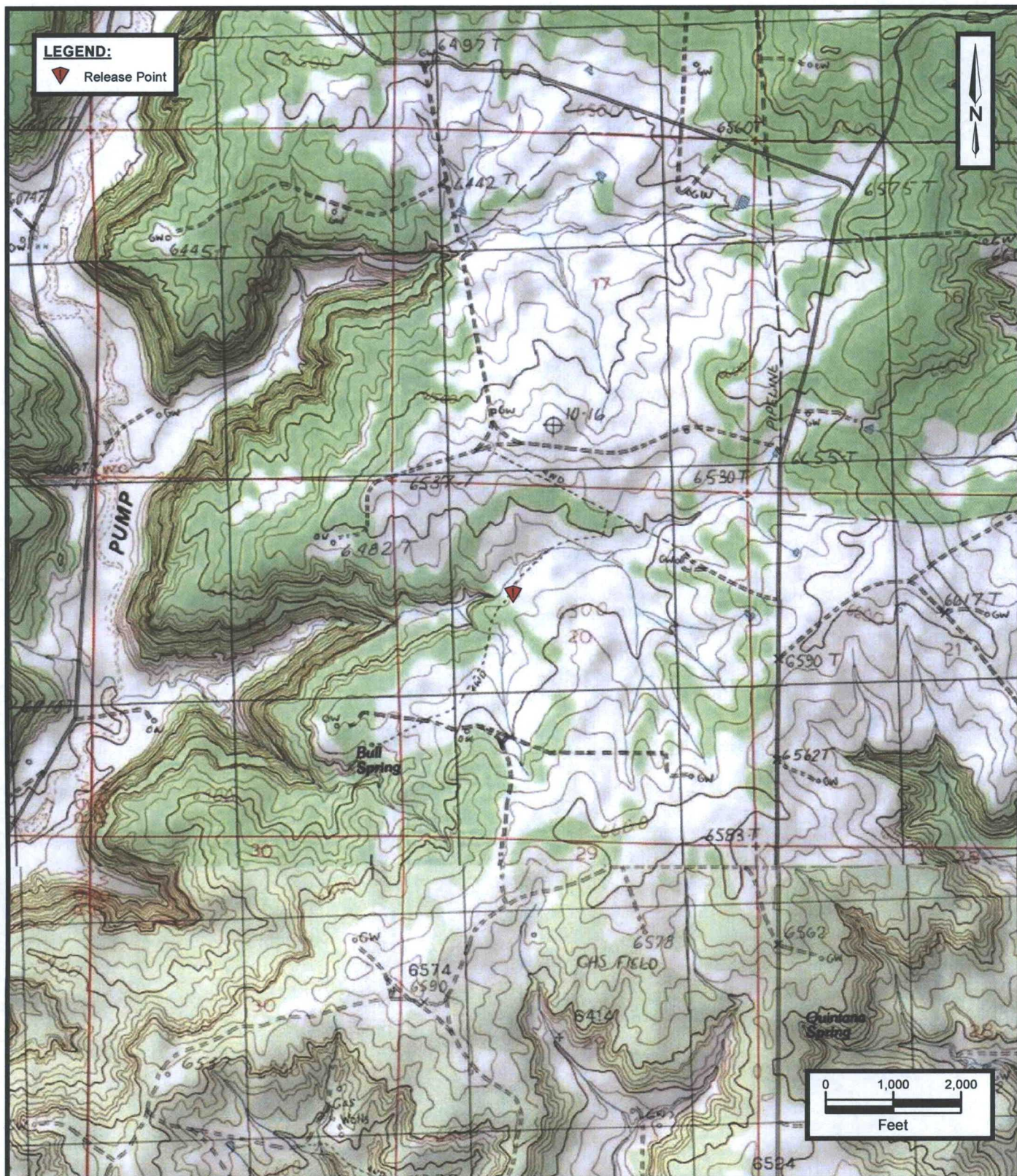
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence 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

---



**MB-18 (April 2017) Pipeline Release**  
 NW 1/4, S20 T31N R8W  
 San Juan County, New Mexico  
 36.886080 N, 107.701957 W



**Apex TITAN, Inc.**  
 606 South Rio Grande, Suite A  
 Aztec, New Mexico 87410  
 Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
 A Subsidiary of Apex Companies, LLC

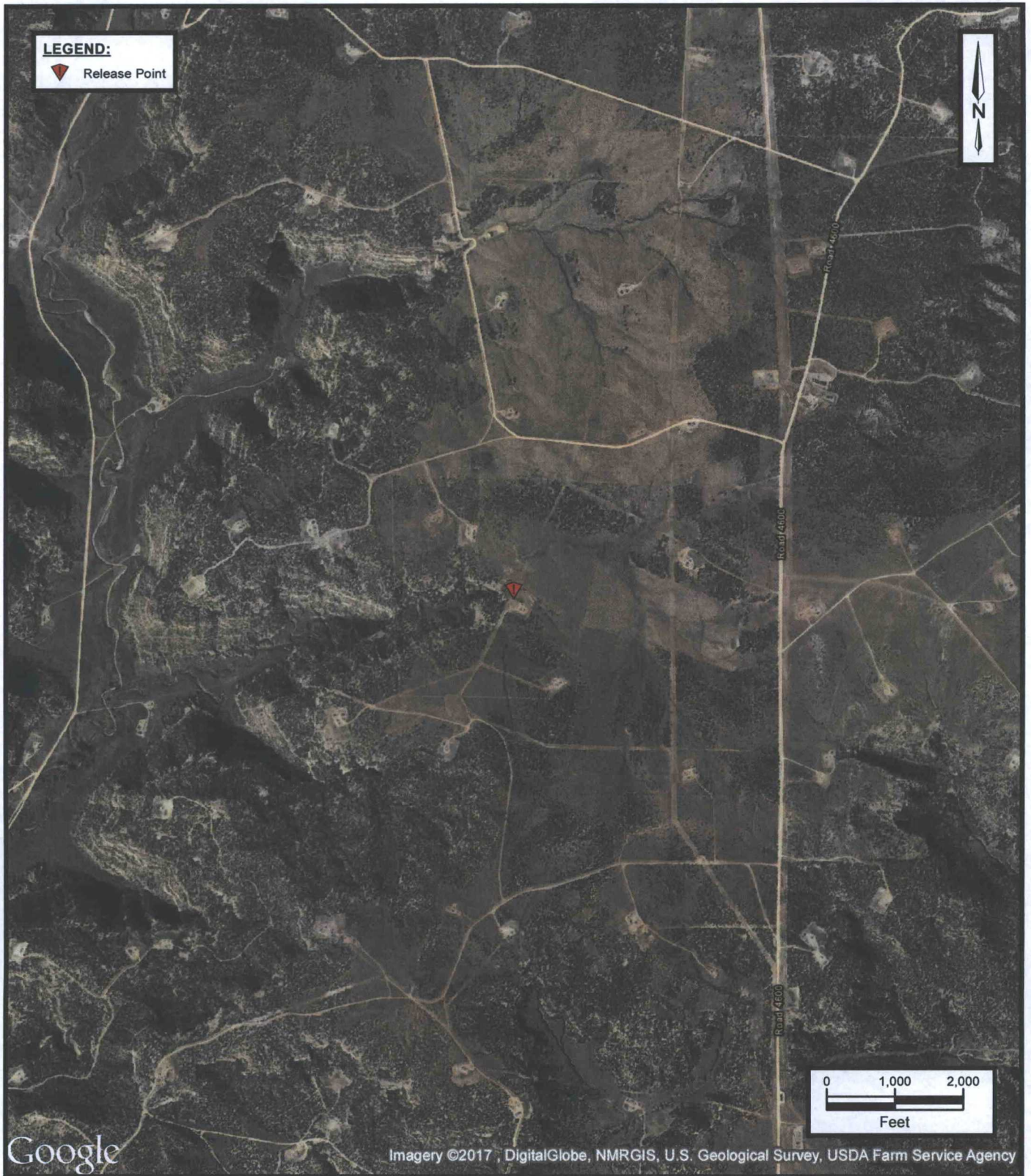
**FIGURE 1**

**Topographic Map**

Service Layer Credits:

Copyright © 2013 National Geographic Society, i-cubed, Anastacio Spring and Archuleta New Mexico 7.5-Minute Quadrangles 1985

Project No. 725040112284



Google

**MB-18 (April 2017) Pipeline Release**  
 NW 1/4, S20 T31N R8W  
 San Juan County, New Mexico  
 36.886080 N, 107.701957 W

Project No. 725040112284



**Apex TITAN, Inc.**  
 606 South Rio Grande, Suite A  
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[www.apexcos.com](http://www.apexcos.com)  
 A Subsidiary of Apex Companies, LLC

**FIGURE 2**  
**Site Vicinity Map**

Service Layer Credits:  
 Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Aerial Photograph October 2016

# LEGEND:

- Confirmation Soil Sample Location
- ☒ Confirmation Soil Sample Location (Removed by Over-Excavation)
- ▲ Release Point
- Enterprise MB-18 Pipeline Location
- ▨ Extent of Excavation
- ▩ Extent of Over-Excavation
- ▭ Soil Stockpile Location

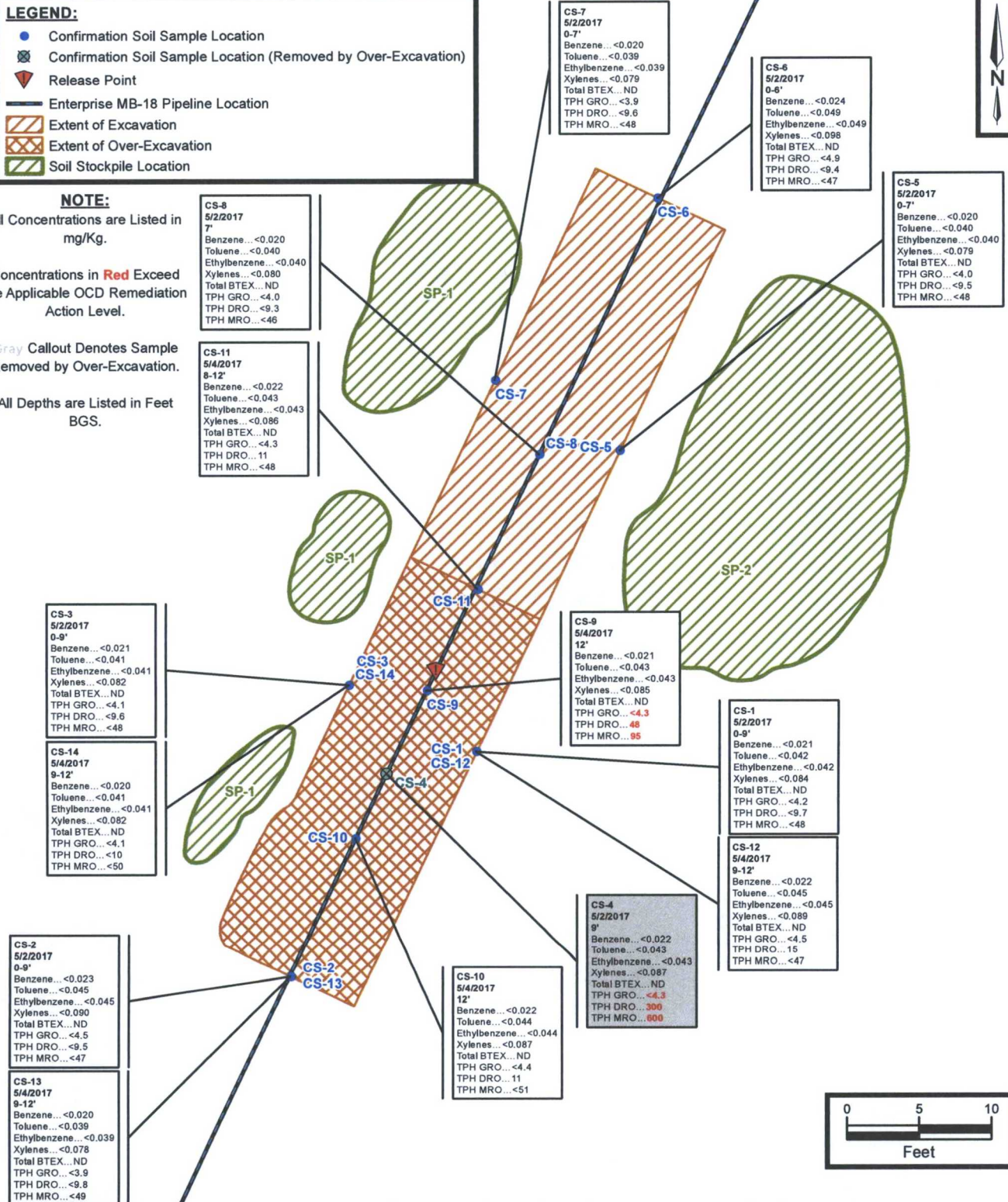
## NOTE:

All Concentrations are Listed in mg/Kg.

Concentrations in **Red** Exceed the Applicable OCD Remediation Action Level.

Gray Callout Denotes Sample Removed by Over-Excavation.

All Depths are Listed in Feet BGS.



**MB-18 (April 2017) Pipeline Release**  
NW 1/4, S20 T31N R8W  
San Juan County, New Mexico  
36.886080 N, 107.701957 W



**Apex TITAN, Inc.**

606 South Rio Grande, Suite A  
Aztec, New Mexico 87410  
Phone: (505) 334-5200

[www.apexcos.com](http://www.apexcos.com)

A Subsidiary of Apex Companies, LLC

**FIGURE 3**

**Site Map**

Project No. 725040112284

## APPENDIX B

### Executed C-138 Solid Waste Acceptance Form

---

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  
20 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-138  
Revised 08/01/11

\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

**REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

**1. Generator Name and Address:**

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

**2. Originating Site:**

MB-18 Pipeline

**3. Location of Material (Street Address, City, State or ULSTR):**

UL F Section 20 T31N R8W; 36.886080, -107.701957

**4. Source and Description of Waste:**

Source: Hydrocarbon impacted soils from a natural gas pipeline release.

Description: Soil impacted with Natural Gas Liquids (Condensate and Water)

Estimated Volume 50 yd<sup>3</sup>/bbls Known Volume (to be entered by the operator at the end of the haul) 108 yd<sup>3</sup>/bbls

5/24/17 - 3000 yd<sup>3</sup>  
5/31/17 - 6000 yd<sup>3</sup>  
108 yd<sup>3</sup>/bbls

**5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

**Generator Signature**

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with other waste. **Operator Use Only: Waste Acceptance Frequency** ☒ Monthly ☐ Weekly ☐ Per Load

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste as determined by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR 261.31, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description)

**GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS**

I, Thomas Long *Thomas Long*, representative for Enterprise Products Operating authorizes IEL, Inc. to complete

**Generator Signature**

the required testing/sign the Generator Waste Testing Certification.

I, *KWelling*, representative for IEL, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NM. The following documentation is attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

**5. Transporter: West States Energy Contractors**

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. \* Permit #: NM 01-0010B

Address of Facility: #49 CR 2150 Aztec, New Mexico

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

**Waste Acceptance Status:**

☒ **APPROVED**

☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: *KWelling*

TITLE: *Chief*

DATE: *5/2/17*

SIGNATURE: *KWelling*

TELEPHONE NO.: 505-632-1782

Surface Waste Management Facility Authorized Agent

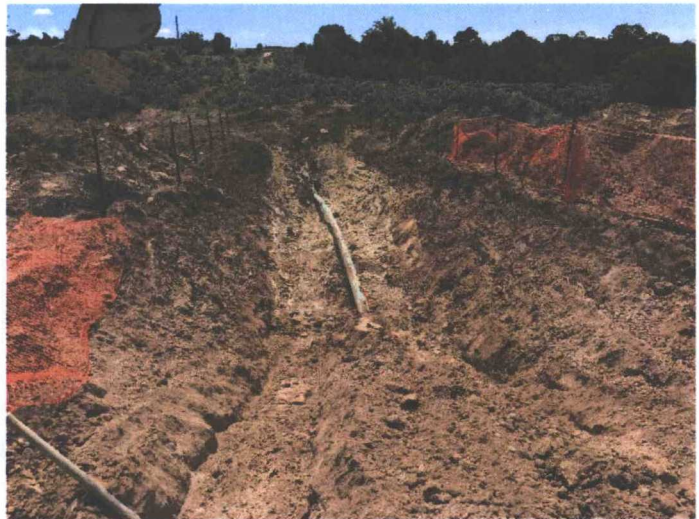
## APPENDIX C

### Photographic Documentation

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**Photograph 1**

View of the initial excavation, facing south.

**Photograph 2**

View of the in-process over-excavation activities, facing southwest.

**Photograph 3**

View of the final excavation, facing north.



## APPENDIX D

### Table

---

**TABLE 1**  
**MB-18 (April 2017) Pipeline Release**  
**SOIL ANALYTICAL SUMMARY**

Sample I.D.	Date	Sample Depth (feet)	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 MRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100		
Excavation Soil Samples Removed by Over-Excavation										
CS-4	5.02.17	9	<0.022	<0.043	<0.043	<0.087	ND	<4.3	300	600
Soil Samples Collected from Stockpiled Soils										
SP-1	5.02.17	Stockpile	<0.024	<0.048	<0.048	<0.095	ND	<4.8	<9.2	<46
SP-2	5.02.17	Stockpile	<0.017	<0.034	<0.034	<0.069	ND	<3.4	<9.7	<48
Excavation Soil Samples										
CS-1	5.02.17	0 to 9	<0.021	<0.042	<0.042	<0.084	ND	<4.2	<9.7	<48
CS-2	5.02.17	0 to 9	<0.023	<0.045	<0.045	<0.090	ND	<4.5	<9.5	<47
CS-3	5.02.17	0 to 9	<0.021	<0.041	<0.041	<0.082	ND	<4.1	<9.6	<48
CS-5	5.02.17	0 to 7	<0.020	<0.040	<0.040	<0.079	ND	<4.0	<9.5	<48
CS-6	5.02.17	0 to 6	<0.024	<0.049	<0.049	<0.098	ND	<4.9	<9.4	<47
CS-7	5.02.17	0 to 7	<0.020	<0.039	<0.039	<0.079	ND	<3.9	<9.6	<48
CS-8	5.02.17	7	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.3	<46
CS-9	5.04.17	12	<0.021	<0.043	<0.043	<0.085	ND	<4.3	48	95
CS-10	5.04.17	12	<0.022	<0.044	<0.044	<0.087	ND	<4.4	11	<51
CS-11	5.04.17	8 to 12	<0.022	<0.043	<0.043	<0.086	ND	<4.3	11	<48
CS-12	5.04.17	9 to12	<0.022	<0.045	<0.045	<0.089	ND	<4.5	15	<47
CS-13	5.04.17	9 to 12	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.8	<49
CS-14	5.04.17	9 to 12	<0.020	<0.041	<0.041	<0.082	ND	<4.1	<10	<50

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not Established

mg/kg = milligram per kilogram

## Appendix E

### Laboratory Data Sheets & Chain of Custody Documentation

---



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

May 04, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: MB 18

OrderNo.: 1705140

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705140

Date Reported: 5/4/2017

CLIENT: APEX TITAN

Client Sample ID: SP-1

Project: MB 18

Collection Date: 5/2/2017 1:15:00 PM

Lab ID: 1705140-001

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/3/2017 11:02:10 AM	31540
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/3/2017 11:02:10 AM	31540
Surr: DNOP	84.7	70-130		%Rec	1	5/3/2017 11:02:10 AM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	5/3/2017 9:38:44 AM	G42520
Surr: BFB	89.7	54-150		%Rec	1	5/3/2017 9:38:44 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/3/2017 9:38:44 AM	B42520
Toluene	ND	0.048		mg/Kg	1	5/3/2017 9:38:44 AM	B42520
Ethylbenzene	ND	0.048		mg/Kg	1	5/3/2017 9:38:44 AM	B42520
Xylenes, Total	ND	0.095		mg/Kg	1	5/3/2017 9:38:44 AM	B42520
Surr: 4-Bromofluorobenzene	102	66.6-132		%Rec	1	5/3/2017 9:38:44 AM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1705140

Date Reported: 5/4/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: SP-2

Project: MB 18

Collection Date: 5/2/2017 1:25:00 PM

Lab ID: 1705140-002

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/3/2017 11:29:54 AM	31540
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/3/2017 11:29:54 AM	31540
Surr: DNOP	84.6	70-130		%Rec	1	5/3/2017 11:29:54 AM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/3/2017 10:02:15 AM	G42520
Surr: BFB	89.8	54-150		%Rec	1	5/3/2017 10:02:15 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	5/3/2017 10:02:15 AM	B42520
Toluene	ND	0.034		mg/Kg	1	5/3/2017 10:02:15 AM	B42520
Ethylbenzene	ND	0.034		mg/Kg	1	5/3/2017 10:02:15 AM	B42520
Xylenes, Total	ND	0.069		mg/Kg	1	5/3/2017 10:02:15 AM	B42520
Surr: 4-Bromofluorobenzene	101	66.6-132		%Rec	1	5/3/2017 10:02:15 AM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

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	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705140

04-May-17

Client: APEX TITAN

Project: MB 18

Sample ID	LCS-31540		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31540		RunNo: 42506					
Prep Date:	5/3/2017		Analysis Date: 5/3/2017		SeqNo: 1336816		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.4	63.8	116			
Surr: DNOP	4.4		5.000		87.9	70	130			

Sample ID	MB-31540	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 31540			RunNo: 42506					
Prep Date:	5/3/2017	Analysis Date: 5/3/2017			SeqNo: 1336817		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.3	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705140

04-May-17

Client: APEX TITAN

Project: MB 18

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337269	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.9	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337274	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.2	76.4	125			
Surr: BFB	980		1000		97.6	54	150			

Sample ID	1705140-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SP-1	Batch ID:	G42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337276	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	23.83	0	95.1	61.3	150			
Surr: BFB	960		953.3		100	54	150			

Sample ID	1705140-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SP-1	Batch ID:	G42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337277	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	23.83	0	94.9	61.3	150	0.211	20	
Surr: BFB	960		953.3		101	54	150	0	0	

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705140

04-May-17

Client: APEX TITAN

Project: MB 18

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337283	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337284	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.3	80	120			
Toluene	0.87	0.050	1.000	0	87.0	80	120			
Ethylbenzene	0.90	0.050	1.000	0	89.9	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	66.6	132			

Sample ID	1705140-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SP-2	Batch ID:	B42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337285	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.65	0.017	0.6878	0	94.1	61.5	138			
Toluene	0.66	0.034	0.6878	0	95.4	71.4	127			
Ethylbenzene	0.66	0.034	0.6878	0	96.4	70.9	132			
Xylenes, Total	2.0	0.069	2.063	0	97.9	76.2	123			
Surr: 4-Bromofluorobenzene	0.74		0.6878		107	66.6	132			

Sample ID	1705140-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SP-2	Batch ID:	B42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337286	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.62	0.017	0.6878	0	89.6	61.5	138	4.90	20	
Toluene	0.64	0.034	0.6878	0	93.0	71.4	127	2.62	20	
Ethylbenzene	0.66	0.034	0.6878	0	96.0	70.9	132	0.372	20	
Xylenes, Total	2.0	0.069	2.063	0	98.0	76.2	123	0.121	20	
Surr: 4-Bromofluorobenzene	0.75		0.6878		109	66.6	132	0	0	

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1705140

RcptNo: 1

Received By: Ashley Gallegos

5/3/2017 7:30:00 AM

*Ag*

Completed By: Ashley Gallegos

5/3/2017 8:14:38 AM

*Ag*

Reviewed By: ENM

05/03/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

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

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_


Client Instructions: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No.	Seal Date	Signed By
1	2.2	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Aztec, NM</u>		Laboratory: <u>Hall</u> Address: <u>ABQ, NM</u> Contact: <u>A Freeman</u> Phone: _____ PO/SO #: _____		ANALYSIS REQUESTED <div style="transform: rotate(-45deg); display: inline-block; text-align: left;">             8021 BTEX              8015 TPH GAO/DEO/MEB           </div>										Lab use only Due Date: _____  Temp. of coolers when received (C°): <u>1-7+0.5 (F) 2.2</u> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">1</td> <td style="width:20%;">2</td> <td style="width:20%;">3</td> <td style="width:20%;">4</td> <td style="width:20%;">5</td> </tr> </table> Page <u>1</u> of <u>1</u>					1	2	3	4	5		
		1	2											3	4	5									
Project Manager <u>K. Summers</u>		Sampler's Name <u>Ranee Deechilly</u> Sampler's Signature <u>[Signature]</u>																							
Proj. No. _____		Project Name <u>MB-18</u>				No/Type of Containers _____																			
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)												
S	5/2/17	1315	X		SP-1						1		XX	<div style="display: flex; justify-content: space-between;"> <span>1705140-001</span> <span>-002</span> </div>											
S	↓	1325	X		SP-2						1		XX												
<del>NFS</del>																									
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush <u>SAME DAY</u>																									
Relinquished by (Signature)			Date: <u>5/2/17</u> Time: <u>1600</u>		Received by (Signature)			Date: <u>5/2/17</u> Time: <u>1600</u>		NOTES: <u>Bill to Tom Long (EPROD)</u>  <u>SAME DAY</u>															
Relinquished by (Signature)			Date: <u>5/2/17</u> Time: <u>1912</u>		Received by (Signature)			Date: <u>5/2/17</u> Time: <u>0730</u>																	
Relinquished by (Signature)			Date: _____ Time: _____		Received by (Signature)			Date: _____ Time: _____																	
Relinquished by (Signature)			Date: _____ Time: _____		Received by (Signature)			Date: _____ Time: _____																	
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													



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

May 04, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: MB-18

OrderNo.: 1705141

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 5/3/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1705141

Date Reported: 5/4/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** CS-1**Project:** MB-18**Collection Date:** 5/2/2017 11:45:00 AM**Lab ID:** 1705141-001**Matrix:** MEOH (SOIL)**Received Date:** 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/3/2017 12:04:08 PM	31540
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/3/2017 12:04:08 PM	31540
Surr: DNOP	97.6	70-130		%Rec	1	5/3/2017 12:04:08 PM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	5/3/2017 10:25:39 AM	G42520
Surr: BFB	90.5	54-150		%Rec	1	5/3/2017 10:25:39 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	5/3/2017 10:25:39 AM	B42520
Toluene	ND	0.042		mg/Kg	1	5/3/2017 10:25:39 AM	B42520
Ethylbenzene	ND	0.042		mg/Kg	1	5/3/2017 10:25:39 AM	B42520
Xylenes, Total	ND	0.084		mg/Kg	1	5/3/2017 10:25:39 AM	B42520
Surr: 4-Bromofluorobenzene	102	66.6-132		%Rec	1	5/3/2017 10:25:39 AM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705141

Date Reported: 5/4/2017

CLIENT: APEX TITAN

Client Sample ID: CS-2

Project: MB-18

Collection Date: 5/2/2017 11:55:00 AM

Lab ID: 1705141-002

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/3/2017 12:26:18 PM	31540
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/3/2017 12:26:18 PM	31540
Surr: DNOP	106	70-130		%Rec	1	5/3/2017 12:26:18 PM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	5/3/2017 10:49:09 AM	G42520
Surr: BFB	90.4	54-150		%Rec	1	5/3/2017 10:49:09 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	5/3/2017 10:49:09 AM	B42520
Toluene	ND	0.045		mg/Kg	1	5/3/2017 10:49:09 AM	B42520
Ethylbenzene	ND	0.045		mg/Kg	1	5/3/2017 10:49:09 AM	B42520
Xylenes, Total	ND	0.090		mg/Kg	1	5/3/2017 10:49:09 AM	B42520
Surr: 4-Bromofluorobenzene	101	66.6-132		%Rec	1	5/3/2017 10:49:09 AM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705141

Date Reported: 5/4/2017

CLIENT: APEX TITAN

Client Sample ID: CS-3

Project: MB-18

Collection Date: 5/2/2017 12:05:00 PM

Lab ID: 1705141-003

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/3/2017 12:48:25 PM	31540
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/3/2017 12:48:25 PM	31540
Surr: DNOP	105	70-130		%Rec	1	5/3/2017 12:48:25 PM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	5/3/2017 11:12:41 AM	G42520
Surr: BFB	90.0	54-150		%Rec	1	5/3/2017 11:12:41 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	5/3/2017 11:12:41 AM	B42520
Toluene	ND	0.041		mg/Kg	1	5/3/2017 11:12:41 AM	B42520
Ethylbenzene	ND	0.041		mg/Kg	1	5/3/2017 11:12:41 AM	B42520
Xylenes, Total	ND	0.082		mg/Kg	1	5/3/2017 11:12:41 AM	B42520
Surr: 4-Bromofluorobenzene	98.4	66.6-132		%Rec	1	5/3/2017 11:12:41 AM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705141

Date Reported: 5/4/2017

CLIENT: APEX TITAN

Client Sample ID: CS-4

Project: MB-18

Collection Date: 5/2/2017 12:15:00 PM

Lab ID: 1705141-004

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	300	9.4		mg/Kg	1	5/3/2017 1:10:35 PM	31540
Motor Oil Range Organics (MRO)	600	47		mg/Kg	1	5/3/2017 1:10:35 PM	31540
Surr: DNOP	127	70-130		%Rec	1	5/3/2017 1:10:35 PM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	5/3/2017 11:36:14 AM	G42520
Surr: BFB	90.3	54-150		%Rec	1	5/3/2017 11:36:14 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.022		mg/Kg	1	5/3/2017 11:36:14 AM	B42520
Toluene	ND	0.043		mg/Kg	1	5/3/2017 11:36:14 AM	B42520
Ethylbenzene	ND	0.043		mg/Kg	1	5/3/2017 11:36:14 AM	B42520
Xylenes, Total	ND	0.087		mg/Kg	1	5/3/2017 11:36:14 AM	B42520
Surr: 4-Bromofluorobenzene	97.7	66.6-132		%Rec	1	5/3/2017 11:36:14 AM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705141

Date Reported: 5/4/2017

CLIENT: APEX TITAN

Client Sample ID: CS-5

Project: MB-18

Collection Date: 5/2/2017 12:25:00 PM

Lab ID: 1705141-005

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/3/2017 1:54:40 PM	31540
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/3/2017 1:54:40 PM	31540
Surr: DNOP	107	70-130		%Rec	1	5/3/2017 1:54:40 PM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	5/3/2017 11:59:43 AM	G42520
Surr: BFB	90.2	54-150		%Rec	1	5/3/2017 11:59:43 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Toluene	ND	0.040		mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Ethylbenzene	ND	0.040		mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Xylenes, Total	ND	0.079		mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Surr: 4-Bromofluorobenzene	97.7	66.6-132		%Rec	1	5/3/2017 11:59:43 AM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705141

Date Reported: 5/4/2017

CLIENT: APEX TITAN

Client Sample ID: CS-6

Project: MB-18

Collection Date: 5/2/2017 12:35:00 PM

Lab ID: 1705141-006

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/3/2017 2:16:42 PM	31540
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/3/2017 2:16:42 PM	31540
Surr: DNOP	108	70-130		%Rec	1	5/3/2017 2:16:42 PM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	5/3/2017 12:23:19 PM	G42520
Surr: BFB	91.7	54-150		%Rec	1	5/3/2017 12:23:19 PM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Toluene	ND	0.049		mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Ethylbenzene	ND	0.049		mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Xylenes, Total	ND	0.098		mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Surr: 4-Bromofluorobenzene	100	66.6-132		%Rec	1	5/3/2017 12:23:19 PM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705141

Date Reported: 5/4/2017

**CLIENT:** APEX TITAN**Client Sample ID:** CS-7**Project:** MB-18**Collection Date:** 5/2/2017 12:45:00 PM**Lab ID:** 1705141-007**Matrix:** MEOH (SOIL)**Received Date:** 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/3/2017 12:25:30 PM	31540
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/3/2017 12:25:30 PM	31540
Surr: DNOP	90.9	70-130		%Rec	1	5/3/2017 12:25:30 PM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/3/2017 12:46:42 PM	G42520
Surr: BFB	91.6	54-150		%Rec	1	5/3/2017 12:46:42 PM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	5/3/2017 12:46:42 PM	B42520
Toluene	ND	0.039		mg/Kg	1	5/3/2017 12:46:42 PM	B42520
Ethylbenzene	ND	0.039		mg/Kg	1	5/3/2017 12:46:42 PM	B42520
Xylenes, Total	ND	0.079		mg/Kg	1	5/3/2017 12:46:42 PM	B42520
Surr: 4-Bromofluorobenzene	100	66.6-132		%Rec	1	5/3/2017 12:46:42 PM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705141

Date Reported: 5/4/2017

CLIENT: APEX TITAN

Client Sample ID: CS-8

Project: MB-18

Collection Date: 5/2/2017 12:55:00 PM

Lab ID: 1705141-008

Matrix: MEOH (SOIL)

Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/3/2017 11:57:46 AM	31540
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/3/2017 11:57:46 AM	31540
Surr: DNOP	88.5	70-130		%Rec	1	5/3/2017 11:57:46 AM	31540
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	5/3/2017 1:10:03 PM	G42520
Surr: BFB	91.2	54-150		%Rec	1	5/3/2017 1:10:03 PM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	5/3/2017 1:10:03 PM	B42520
Toluene	ND	0.040		mg/Kg	1	5/3/2017 1:10:03 PM	B42520
Ethylbenzene	ND	0.040		mg/Kg	1	5/3/2017 1:10:03 PM	B42520
Xylenes, Total	ND	0.080		mg/Kg	1	5/3/2017 1:10:03 PM	B42520
Surr: 4-Bromofluorobenzene	98.6	66.6-132		%Rec	1	5/3/2017 1:10:03 PM	B42520

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705141

04-May-17

Client: APEX TITAN

Project: MB-18

Sample ID	LCS-31540		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31540		RunNo: 42506					
Prep Date:	5/3/2017		Analysis Date: 5/3/2017		SeqNo: 1336816		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.4	63.8	116			
Surr: DNOP	4.4		5.000		87.9	70	130			

Sample ID	MB-31540	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	PBS	Batch ID: 31540		RunNo: 42506						
Prep Date:	5/3/2017	Analysis Date: 5/3/2017		SeqNo: 1336817			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.3	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705141

04-May-17

Client: APEX TITAN

Project: MB-18

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337269	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.9	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337274	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	25.00	0	87.2	76.4	125			
Surr: BFB	980		1000		97.6	54	150			

## Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | B Analyte detected in the associated Method Blank           |
| D Sample Diluted Due to Matrix                          | E Value above quantitation range                            |
| H Holding times for preparation or analysis exceeded    | J Analyte detected below quantitation limits                |
| ND Not Detected at the Reporting Limit                  | P Sample pH Not In Range                                    |
| R RPD outside accepted recovery limits                  | RL Reporting Detection Limit                                |
| S % Recovery outside of range due to dilution or matrix | W Sample container temperature is out of limit as specified |

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705141

04-May-17

Client: APEX TITAN

Project: MB-18

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337283	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		102	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B42520	RunNo:	42520					
Prep Date:		Analysis Date:	5/3/2017	SeqNo:	1337284	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.3	80	120			
Toluene	0.87	0.050	1.000	0	87.0	80	120			
Ethylbenzene	0.90	0.050	1.000	0	89.9	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	66.6	132			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1705141

RcptNo: 1

Received By: Ashley Gallegos

5/3/2017 7:30:00 AM

Completed By: Ashley Gallegos

5/3/2017 8:17:35 AM

Reviewed By: ENM

05/03/17

*AG*

*AG*

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

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

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_


Client Instructions: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No.	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.2	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Aztec, NM</u>		Laboratory: <u>Hall</u> Address: <u>ABQ NM</u> Contact: <u>A. Freeman</u> Phone: _____ PO/SO #: _____		ANALYSIS REQUESTED <div style="border: 1px solid black; padding: 5px; transform: rotate(-90deg); transform-origin: center;">           8021 BTEX            8015 TPH (GRO/DEQ/MPC)         </div>		Lab use only Due Date: _____ Temp. of coolers when received (C°): <u>1.7+05Ca</u> <div style="display: flex; justify-content: space-around;"> <span>1</span><span>2</span><span>3</span><span>4</span><span>5</span> </div> Page <u>1</u> of <u>1</u>							
		Project Manager <u>K. Summers</u> Sampler's Name <u>Ranee Deechilly</u> Sampler's Signature <u>R. Deechilly</u>											
Proj. No. _____		Project Name <u>MB-18</u>		No/Type of Containers _____									
Matrix	Date	Time	CO OP	GL ASS	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	5/2/17	1145	X		RS-1						1		1705 141-001
		1155			CS-2								-002
		1205			CS-3								-003
		1215			CS-4								-004
		1225			CS-5								-005
		1235			CS-6								-006
		1245			CS-7								-007
		1255			CS-8								-008
<del>RM to NPS</del>													
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush <u>SAME DAY</u>													
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:	NOTES:  <u>Bill to Tom Long (EPRD)</u>  <u>SAME DAY</u>					
<u>R. Deechilly</u>		5/2/17	1600	<u>[Signature]</u>		5/2/17	1600						
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:						
<u>[Signature]</u>		5/2/17	1912	<u>[Signature]</u>		05/02/17	0730						
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:						
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:						

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



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

May 08, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: MB-18

OrderNo.: 1705312

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 6 sample(s) on 5/5/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705312

Date Reported: 5/8/2017

**CLIENT:** APEX TITAN**Client Sample ID:** CS-9**Project:** MB-18**Collection Date:** 5/4/2017 1:00:00 PM**Lab ID:** 1705312-001**Matrix:** MEOH (SOIL)**Received Date:** 5/5/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	5/5/2017 10:50:20 AM	G42580
Surr: BFB	96.5	70-130		%Rec	1	5/5/2017 10:50:20 AM	G42580
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	48	9.5		mg/Kg	1	5/5/2017 9:57:35 AM	31586
Motor Oil Range Organics (MRO)	95	48		mg/Kg	1	5/5/2017 9:57:35 AM	31586
Surr: DNOP	88.2	70-130		%Rec	1	5/5/2017 9:57:35 AM	31586
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.021		mg/Kg	1	5/5/2017 10:50:20 AM	31576
Toluene	ND	0.043		mg/Kg	1	5/5/2017 10:50:20 AM	31576
Ethylbenzene	ND	0.043		mg/Kg	1	5/5/2017 10:50:20 AM	31576
Xylenes, Total	ND	0.085		mg/Kg	1	5/5/2017 10:50:20 AM	31576
Surr: 1,2-Dichloroethane-d4	96.5	70-130		%Rec	1	5/5/2017 10:50:20 AM	31576
Surr: 4-Bromofluorobenzene	94.2	70-130		%Rec	1	5/5/2017 10:50:20 AM	31576
Surr: Dibromofluoromethane	99.4	70-130		%Rec	1	5/5/2017 10:50:20 AM	31576
Surr: Toluene-d8	95.9	70-130		%Rec	1	5/5/2017 10:50:20 AM	31576

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705312

Date Reported: 5/8/2017

**CLIENT:** APEX TITAN**Client Sample ID:** CS-10**Project:** MB-18**Collection Date:** 5/4/2017 1:10:00 PM**Lab ID:** 1705312-002**Matrix:** MEOH (SOIL)**Received Date:** 5/5/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	5/5/2017 11:47:27 AM	G42580
Surr: BFB	103	70-130		%Rec	1	5/5/2017 11:47:27 AM	G42580
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	11	10		mg/Kg	1	5/5/2017 10:25:20 AM	31586
Motor Oil Range Organics (MRO)	ND	51		mg/Kg	1	5/5/2017 10:25:20 AM	31586
Surr: DNOP	87.3	70-130		%Rec	1	5/5/2017 10:25:20 AM	31586
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.022		mg/Kg	1	5/5/2017 11:47:27 AM	31576
Toluene	ND	0.044		mg/Kg	1	5/5/2017 11:47:27 AM	31576
Ethylbenzene	ND	0.044		mg/Kg	1	5/5/2017 11:47:27 AM	31576
Xylenes, Total	ND	0.087		mg/Kg	1	5/5/2017 11:47:27 AM	31576
Surr: 1,2-Dichloroethane-d4	94.9	70-130		%Rec	1	5/5/2017 11:47:27 AM	31576
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	5/5/2017 11:47:27 AM	31576
Surr: Dibromofluoromethane	103	70-130		%Rec	1	5/5/2017 11:47:27 AM	31576
Surr: Toluene-d8	97.5	70-130		%Rec	1	5/5/2017 11:47:27 AM	31576

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705312

Date Reported: 5/8/2017

**CLIENT:** APEX TITAN**Client Sample ID:** CS-11**Project:** MB-18**Collection Date:** 5/4/2017 1:20:00 PM**Lab ID:** 1705312-003**Matrix:** MEOH (SOIL)**Received Date:** 5/5/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	5/5/2017 12:16:17 PM	G42580
Surr: BFB	101	70-130		%Rec	1	5/5/2017 12:16:17 PM	G42580
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	11	9.6		mg/Kg	1	5/5/2017 10:53:19 AM	31586
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/5/2017 10:53:19 AM	31586
Surr: DNOP	87.6	70-130		%Rec	1	5/5/2017 10:53:19 AM	31586
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.022		mg/Kg	1	5/5/2017 12:16:17 PM	31576
Toluene	ND	0.043		mg/Kg	1	5/5/2017 12:16:17 PM	31576
Ethylbenzene	ND	0.043		mg/Kg	1	5/5/2017 12:16:17 PM	31576
Xylenes, Total	ND	0.086		mg/Kg	1	5/5/2017 12:16:17 PM	31576
Surr: 1,2-Dichloroethane-d4	98.0	70-130		%Rec	1	5/5/2017 12:16:17 PM	31576
Surr: 4-Bromofluorobenzene	94.7	70-130		%Rec	1	5/5/2017 12:16:17 PM	31576
Surr: Dibromofluoromethane	103	70-130		%Rec	1	5/5/2017 12:16:17 PM	31576
Surr: Toluene-d8	96.7	70-130		%Rec	1	5/5/2017 12:16:17 PM	31576

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705312

Date Reported: 5/8/2017

**CLIENT:** APEX TITAN**Client Sample ID:** CS-12**Project:** MB-18**Collection Date:** 5/4/2017 1:45:00 PM**Lab ID:** 1705312-004**Matrix:** MEOH (SOIL)**Received Date:** 5/5/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	5/5/2017 12:44:59 PM	G42580
Surr: BFB	99.1	70-130		%Rec	1	5/5/2017 12:44:59 PM	G42580
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	15	9.4		mg/Kg	1	5/5/2017 11:21:24 AM	31586
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/5/2017 11:21:24 AM	31586
Surr: DNOP	84.5	70-130		%Rec	1	5/5/2017 11:21:24 AM	31586
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.022		mg/Kg	1	5/5/2017 12:44:59 PM	31576
Toluene	ND	0.045		mg/Kg	1	5/5/2017 12:44:59 PM	31576
Ethylbenzene	ND	0.045		mg/Kg	1	5/5/2017 12:44:59 PM	31576
Xylenes, Total	ND	0.089		mg/Kg	1	5/5/2017 12:44:59 PM	31576
Surr: 1,2-Dichloroethane-d4	96.8	70-130		%Rec	1	5/5/2017 12:44:59 PM	31576
Surr: 4-Bromofluorobenzene	93.6	70-130		%Rec	1	5/5/2017 12:44:59 PM	31576
Surr: Dibromofluoromethane	103	70-130		%Rec	1	5/5/2017 12:44:59 PM	31576
Surr: Toluene-d8	95.6	70-130		%Rec	1	5/5/2017 12:44:59 PM	31576

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705312

Date Reported: 5/8/2017

**CLIENT:** APEX TITAN**Client Sample ID:** CS-13**Project:** MB-18**Collection Date:** 5/4/2017 1:55:00 PM**Lab ID:** 1705312-005**Matrix:** MEOH (SOIL)**Received Date:** 5/5/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/5/2017 1:13:42 PM	G42580
Surr: BFB	100	70-130		%Rec	1	5/5/2017 1:13:42 PM	G42580
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/5/2017 11:49:12 AM	31586
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/5/2017 11:49:12 AM	31586
Surr: DNOP	90.9	70-130		%Rec	1	5/5/2017 11:49:12 AM	31586
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.020		mg/Kg	1	5/5/2017 1:13:42 PM	31576
Toluene	ND	0.039		mg/Kg	1	5/5/2017 1:13:42 PM	31576
Ethylbenzene	ND	0.039		mg/Kg	1	5/5/2017 1:13:42 PM	31576
Xylenes, Total	ND	0.078		mg/Kg	1	5/5/2017 1:13:42 PM	31576
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%Rec	1	5/5/2017 1:13:42 PM	31576
Surr: 4-Bromofluorobenzene	94.1	70-130		%Rec	1	5/5/2017 1:13:42 PM	31576
Surr: Dibromofluoromethane	106	70-130		%Rec	1	5/5/2017 1:13:42 PM	31576
Surr: Toluene-d8	96.8	70-130		%Rec	1	5/5/2017 1:13:42 PM	31576

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705312

Date Reported: 5/8/2017

**CLIENT:** APEX TITAN**Client Sample ID:** CS-14**Project:** MB-18**Collection Date:** 5/4/2017 2:05:00 PM**Lab ID:** 1705312-006**Matrix:** MEOH (SOIL)**Received Date:** 5/5/2017 6:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	5/5/2017 1:42:27 PM	G42580
Surr: BFB	102	70-130		%Rec	1	5/5/2017 1:42:27 PM	G42580
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/5/2017 12:17:01 PM	31586
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/5/2017 12:17:01 PM	31586
Surr: DNOP	92.7	70-130		%Rec	1	5/5/2017 12:17:01 PM	31586
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.020		mg/Kg	1	5/5/2017 1:42:27 PM	31576
Toluene	ND	0.041		mg/Kg	1	5/5/2017 1:42:27 PM	31576
Ethylbenzene	ND	0.041		mg/Kg	1	5/5/2017 1:42:27 PM	31576
Xylenes, Total	ND	0.082		mg/Kg	1	5/5/2017 1:42:27 PM	31576
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	5/5/2017 1:42:27 PM	31576
Surr: 4-Bromofluorobenzene	94.5	70-130		%Rec	1	5/5/2017 1:42:27 PM	31576
Surr: Dibromofluoromethane	104	70-130		%Rec	1	5/5/2017 1:42:27 PM	31576
Surr: Toluene-d8	97.0	70-130		%Rec	1	5/5/2017 1:42:27 PM	31576

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705312

08-May-17

Client: APEX TITAN

Project: MB-18

Sample ID	LCS-31586		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31586		RunNo: 42571					
Prep Date:	5/5/2017		Analysis Date: 5/5/2017		SeqNo: 1339179		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.7	63.8	116			
Surr: DNOP	4.3		5.000		85.2	70	130			

Sample ID	MB-31586	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 31586			RunNo: 42571					
Prep Date:	5/5/2017	Analysis Date: 5/5/2017			SeqNo: 1339180		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.4		10.00		83.7	70	130			

Sample ID	1705312-001AMS		SampType:	MS		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	CS-9		Batch ID:	31586		RunNo:	42571				
Prep Date:	5/5/2017		Analysis Date:	5/5/2017		SeqNo:	1339496		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	81	9.6	48.03	48.04	69.2	51.6	130				
Surr: DNOP	4.5		4.803		94.3	70	130				

Sample ID	1705312-001AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-9		Batch ID: 31586		RunNo: 42571					
Prep Date:	5/5/2017		Analysis Date: 5/5/2017		SeqNo: 1339497		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	71	9.5	47.35	48.04	47.8	51.6	130	13.9	20	S
Surr: DNOP	4.3		4.735		91.4	70	130	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705312

08-May-17

Client: APEX TITAN

Project: MB-18

Sample ID	Ics-31576		SampType: LCS		TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS		Batch ID: 31576		RunNo: 42580					
Prep Date:	5/4/2017		Analysis Date: 5/5/2017		SeqNo: 1340063		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	103	70	130			
Toluene	0.99	0.050	1.000	0	98.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		91.9	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.49		0.5000		97.4	70	130			

Sample ID	MB-31576	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID: 31576			RunNo: 42580					
Prep Date:	5/4/2017	Analysis Date: 5/5/2017			SeqNo: 1340064		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.49		0.5000		97.8	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.0	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.48		0.5000		95.3	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705312

08-May-17

Client: APEX TITAN

Project: MB-18

Sample ID	1705312-001ams	SampType:	MS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	CS-9	Batch ID:	G42580	RunNo:	42580					
Prep Date:		Analysis Date:	5/5/2017	SeqNo:	1340065	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.3	21.28	0	104	63.2	128			
Surr: BFB	440		425.6		103	70	130			

Sample ID	1705312-001amsd	SampType:	MSD	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	CS-9	Batch ID:	G42580	RunNo:	42580					
Prep Date:		Analysis Date:	5/5/2017	SeqNo:	1340066	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.3	21.28	0	101	63.2	128	2.26	20	
Surr: BFB	440		425.6		105	70	130	0	0	

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	G42580	RunNo:	42580					
Prep Date:		Analysis Date:	5/5/2017	SeqNo:	1340067	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	110	70	130			
Surr: BFB	520		500.0		103	70	130			

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	G42580	RunNo:	42580					
Prep Date:		Analysis Date:	5/5/2017	SeqNo:	1340068	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	490		500.0		98.7	70	130			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1705312

RcptNo: 1

Received By: Ashley Gallegos 5/5/2017 6:45:00 AM

Completed By: Ashley Gallegos 5/5/2017 7:11:08 AM

Reviewed By: *src* *Arg* 05/05/17

### Chain of Custody

- |  |         |    |               |
|--|---------|----|---------------|
| 1. Custody seals intact on sample bottles? | Yes     | No | Not Present ✓ |
| 2. Is Chain of Custody complete?           | Yes ✓   | No | Not Present   |
| 3. How was the sample delivered?           | Courier |    |               |

### Log In

- |   |       |      |  |
|---|-------|------|--|
| 4. Was an attempt made to cool the samples?   | Yes ✓ | No   | NA   |
| 5. Were all samples received at a temperature of >0° C to 6.0°C                           | Yes ✓ | No   | NA   |
| 6. Sample(s) in proper container(s)?  | Yes ✓ | No   |  |
| 7. Sufficient sample volume for indicated test(s)?  | Yes ✓ | No   |  |
| 8. Are samples (except VOA and ONG) properly preserved?                                   | Yes ✓ | No   |  |
| 9. Was preservative added to bottles?   | Yes   | No ✓ | NA   |
| 10. VOA vials have zero headspace?  | Yes   | No   | No VOA Vials ✓   |
| 11. Were any sample containers received broken?   | Yes   | No ✓ |  |
| 12. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)       | Yes ✓ | No   | # of preserved bottles checked for pH:<br>(<2 or >12 unless noted) |
| 13. Are matrices correctly identified on Chain of Custody?                                | Yes ✓ | No   | Adjusted?  |
| 14. Is it clear what analyses were requested?   | Yes ✓ | No   |  |
| 15. Were all holding times able to be met?<br>(If no, notify customer for authorization.) | Yes ✓ | No   | Checked by:  |

### Special Handling (If applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✓

Person Notified:

Date

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			



## Appendix F

### New Mexico EMNRD OCD Correspondence

---

**From:** [Smith, Cory, EMNRD](#)  
**To:** [Long, Thomas](#); [Fields, Vanessa, EMNRD](#)  
**Cc:** [Stone, Brian](#)  
**Subject:** RE: MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957  
**Date:** Monday, May 08, 2017 7:47:29 AM

---

Tom,

Vanessa is out of the Office,

OCD approves Enterprise alternative closure standard. Please include this approval in your Final C-141.

OCD approval does not relieve Enterprise of any requirements imposed by other agencies.

Cory Smith  
Environmental Specialist  
Oil Conservation Division  
Energy, Minerals, & Natural Resources  
1000 Rio Brazos, Aztec, NM 87410  
(505)334-6178 ext 115  
[cory.smith@state.nm.us](mailto:cory.smith@state.nm.us)

---

**From:** Long, Thomas [mailto:[tjlong@eprod.com](mailto:tjlong@eprod.com)]  
**Sent:** Monday, May 8, 2017 7:13 AM  
**To:** Fields, Vanessa, EMNRD <[Vanessa.Fields@state.nm.us](mailto:Vanessa.Fields@state.nm.us)>; Smith, Cory, EMNRD <[Cory.Smith@state.nm.us](mailto:Cory.Smith@state.nm.us)>  
**Cc:** Stone, Brian <[bmstone@eprod.com](mailto:bmstone@eprod.com)>  
**Subject:** FW: MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957

Vanessa,

Please find the attached site sketch and lab reports for the MB-18 release site. All are below the site specific remediation standard, except CS-9 which is approximately 12 feet below ground surface and on competent sandstone. The sample result exceeds the site specific standard for TPH by 43 ppm with 95 ppm MRO. Enterprise request to backfill the excavation. If you have any questions, please call or email.

Sincerely,

**Tom Long**  
**505-599-2286 (office (**  
**505-215-4727 (Cell (**  
**[tjlong@eprod.com](mailto:tjlong@eprod.com)**

---

**From:** Long, Thomas  
**Sent:** Thursday, May 04, 2017 7:21 AM  
**To:** Fields, Vanessa, EMNRD ([Vanessa.Fields@state.nm.us](mailto:Vanessa.Fields@state.nm.us)); 'Smith, Cory, EMNRD ([Cory.Smith@state.nm.us](mailto:Cory.Smith@state.nm.us))'  
**Cc:** Stone, Brian  
**Subject:** FW: MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957

Vanessa,

Please find the attached site sketch and lab reports for the MB-18 release site. All are below the site specific remediation standard, except CS-4. Enterprise will backfill the north portion of the excavation to allow equipment to access the area of CS-4. Enterprise will continue excavating in the area of CS-4 after the repairs are complete. I will keep you informed as to when sampling may occur. If you have any questions, please call or email.

Sincerely,

**Tom Long**  
**505-599-2286 (office (**  
**505-215-4727 (Cell (**  
**[tjlong@eprod.com](mailto:tjlong@eprod.com)**

---

**From:** Long, Thomas  
**Sent:** Monday, May 01, 2017 12:35 PM  
**To:** Fields, Vanessa, EMNRD ([Vanessa.Fields@state.nm.us](mailto:Vanessa.Fields@state.nm.us))  
**Cc:** 'Smith, Cory, EMNRD ([Cory.Smith@state.nm.us](mailto:Cory.Smith@state.nm.us))'; Stone, Brian  
**Subject:** MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957

Vanessa,

This email is to notify you that Enterprise had a release of natural gas and condensate on the MB-18 on April 24, 2017. Repairs were initiated on last Friday and Enterprise has determined that this release is reportable due to the volume of subsurface impacts. The release is located at MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957. Enterprise anticipates collecting soil samples for laboratory analysis tomorrow, Tuesday, May 2, 2017 at 3 p.m. If you have any questions, please call or email.

Sincerely,

**Thomas J. Long**  
**Senior Environmental Scientist**  
**Enterprise Products Company**  
**614 Reilly Ave.**  
**Farmington, New Mexico 87401**  
**505-599-2286 (office (**

**505-215-4727 (Cell (**  
**[tjlong@eprod.com](mailto:tjlong@eprod.com)**



---

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

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 April 3, 2017

Submit to the appropriate District Office  
in accordance with 19.15.29 NMAC.

OCT 03 2017

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company <b>Enterprise Field Services, LLC</b>	Contact <b>Thomas Long</b>
Address <b>614 Reilly Ave, Farmington, NM 87401</b>	Telephone No. <b>505-599-2286</b>
Facility Name <b>Chaco Gas Plant</b>	Facility Type <b>Natural Gas Processing Plant</b>
Surface Owner <b>Private</b>	Mineral Owner <b>BLM</b>
Serial Number: <b>NA</b>	

LOCATION OF RELEASE

Unit Letter <b>M</b>	Section <b>16</b>	Township <b>26N</b>	Range <b>12W</b>	Feet from the <b>710</b>	North/South Line <b>South</b>	Feet from the <b>1968</b>	East/West Line <b>West</b>	County <b>San Juan</b>
-------------------------	----------------------	------------------------	---------------------	--------------------------------	-------------------------------------	---------------------------------	----------------------------------	---------------------------

Latitude 36.482905 Longitude -108.119193 NAD83

NATURE OF RELEASE

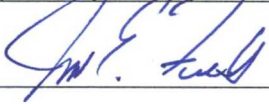

Type of Release <b>Natural Gas</b>	Volume of Release <b>2,500-3,000 MCF Gas</b>	Volume Recovered <b>None</b>
Source of Release <b>Facility Blowdown/Human Error</b>	Date and Hour of Occurrence <b>9/19/2017 @ 9:50 a.m.</b>	Date and Hour of Discovery <b>9/19/2017 @ 9:50 a.m.</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? : Notification to Cory Smith – NMOCD	
By Whom? <b>Thomas Long</b>	Date and Hour <b>September 21, 2017 @ 8:00 a.m.</b>	
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.\* On 9/19/2017 while Kinder Morgan technicians were isolating their 1209 line (Residue Gas line out of Chaco Plant) for maintenance a 16" manual block valve that supplies gas to Chaco's TW Turbine was mistakenly closed and locked out. TW Turbine tripped at 9:50 AM and upon troubleshooting the cause Enterprise technicians identified the closed & locked valve. Kinder Morgan technicians returned to site, removed locks and Enterprise aligned valves correctly and re-started turbine at 10:37 AM. During this event overpressure protection devices on the 400 Train demethanizer; PSV-8111D-1 & PCV-8116D activated which resulted in a gas release to atmosphere.

Describe Area Affected and Cleanup Action Taken.\* None.

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 E. Fields</b>	Approved by Environmental Specialist: 	
Title: <b>Director, Environmental</b>	Approval Date: <b>10/3/2017</b>	Expiration Date:
E-mail Address: <b>jefields@eprod.com</b>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>9/29/2017</b> 6684	Phone: (713) 381-	

\* Attach Additional Sheets If Necessary

NCS1726429686

1

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: Enterprise Field Services LLC	Contact: Thomas Long/Runell Seale
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Gallegos Canyon Unit #203 DK	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: BLM	Mineral Owner: BLM	API No. SN NM 042399
--------------------	--------------------	----------------------

### LOCATION OF RELEASE

Unit Letter B	Section 24	Township 28N	Range 12W	Feet from the 2475	North/South Line	Feet from the 953	East/West Line	County San Juan
------------------	---------------	-----------------	--------------	--------------------------	---------------------	-------------------------	-------------------	--------------------

OIL CONS. DIV DIST. 3

Latitude 36.64443 Longitude -108.05873

JUL 17 2017

### NATURE OF RELEASE

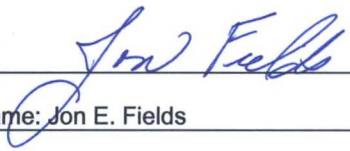

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: 4.44 MCF Gas; 5-10 BBLs Condensate	Volume Recovered: None
Source of Release: Internal corrosion	Date and Hour of Occurrence: 4/18/2017 @ 7:00 a.m.	Date and Hour of Discovery: 4/18/2017 @ 7:00 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification: Vanessa Fields - NMOCD Whitney Thomas-BLM	
By Whom? Thomas Long	Date and Hour May 2, 2017 @ 8:28 a.m.	
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: On April 18, 2017, Enterprise responded to a natural gas release on the Gallegos Canyon Unit #203 well tie. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation were initiated on April 28, 2017 and Enterprise determined this release is reportable per NMOCD regulation on May 2, 2017, due to the volume of subsurface impacts.

Describe Area Affected and Cleanup Action Taken.\* Remediation was completed on May 3, 2017. The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 60 feet long by 27 feet wide ranging from 7-20 feet deep. Approximately 484 cubic yards of hydrocarbon impacted soil was excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final." C-141.

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: 		OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields		Approved by Environmental Specialist: 	
Title: Director, Environmental		Approval Date: 9/22/17	Expiration Date:
E-mail Address: jefields@eprod.com		Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7-12-2017	Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

NVE171324833

43



## CORRECTIVE ACTION REPORT

Property:

**Gallegos Canyon U #203 Well Tie Release (April 2017)**  
**NE 1/4, S24 T28N R12W**  
**San Juan County, New Mexico**

June 27, 2017

Apex Project No. 725040112285

Prepared for:

**Enterprise Field Services, LLC**  
**614 Reilly Avenue**  
**Farmington, NM 87401**  
**Attn: Mr. Thomas Long**

Prepared by:

A handwritten signature in blue ink, appearing to read 'Chad D'Aponti', written over a horizontal line.

Chad D'Aponti  
Project Scientist

A handwritten signature in blue ink, appearing to read 'Kyle Summers', written over a horizontal line.

Kyle Summers, CPG  
Branch Manager / Senior Geologist

OIL CONS. DIV DIST. 3  
JUL 17 2017

OIL CONS. DIV DIST. 3  
JUL 17 2017

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### LIST OF APPENDICES

<b>Appendix A:</b>	Figure 1	Topographic Map
	Figure 2	Site Vicinity Map
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<b>Appendix B:</b>	Executed C-138 Solid Waste Acceptance Forms	
<b>Appendix C:</b>	Photographic Documentation	
<b>Appendix D:</b>	Table	
<b>Appendix E:</b>	Laboratory Data Sheets & Chain of Custody Documentation	

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## CORRECTIVE ACTION REPORT

**Gallegos Canyon U #203 Well Tie Release (April 2017)**  
**NE 1/4, S24 T28N R12W**  
**San Juan County, New Mexico**

**Apex Project No. 725040112285**

### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Gallegos Canyon U #203 (GCU #203) Well Tie release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northeast (NE)  $\frac{1}{4}$  of Section 24, Township 28 North, Range 12 West, in San Juan County, New Mexico (36.65456N, 108.05839W), referred to hereinafter as the "Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is predominantly surrounded by native vegetation rangeland, periodically interrupted by oil and gas gathering facilities. The Enterprise Gallegos Canyon U #203 natural gas well tie transects the area from approximately northeast to southwest.

On April 18, 2017, Enterprise personnel identified a release on the GCU #203. On April 27, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential hydrocarbon impact to soils. The leak was subsequently repaired by replacing 40 feet of the pipeline.

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 environmental 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* (RALs) 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 ENMRD 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	20
	200 to 1,000 feet	10	
	>1,000 feet	0	
<b>Total Ranking Score</b>			<b>40</b>

Based on Apex's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 40 this ranking is based on the following:

- No water wells were identified within a mile of the Site on the OSE website. However, based on the Site's proximity to an unnamed ephemeral wash, the depth to groundwater at the Site may be less than 50 feet below grade surface (bgs), resulting in a ranking of "20" for depth to groundwater.
- 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. These proximities result in a wellhead protection area ranking score of "0".
- The release point is located approximately 40 feet west of an unnamed ephemeral wash that is identified as a "blue line" on the United States Geological Survey topographic map. This information supports a distance to surface water ranking score of "20".

### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On April 18, 2017, Enterprise personnel identified a release on the GCU #203. On April 27, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential hydrocarbon impact to soils. The leak was subsequently repaired by replacing 40 feet of the pipeline. During the corrective action activities, Foutz and Bursum Construction Co., Inc. provided heavy equipment and labor support, and Apex provided environmental support.

On May 3, 2017, nine (9) composite soil samples (S-1 through S-9) were collected from the repair excavation and two (2) composite stockpile soil samples (SP-1 through SP-2) were collected for laboratory analysis to determine the potential to reuse a portion of the unaffected soils as backfill material.

The final excavation is irregular in shape and measured approximately 60 feet long. The excavated area adjacent to the point of release measured approximately 27 feet wide at its maximum extent, while the remainder of the excavated pipe chase measured only six (6) feet wide. The depth of the excavation ranged from seven (7) feet bgs (southern portion) to 20 feet bgs (near the point of release).

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand and gravel.

A total of approximately 484 cubic yards of hydrocarbon affected soils were transported to the Envirotech Inc. (Envirotech) landfarm for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean imported fill and laboratory-confirmed stockpiled overburden soils, and then contoured to surrounding grade.

Figure 3 is a Site Map with soil sample locations that depicts the approximate location of the excavated area in relation to the Site pipeline (Appendix A). Photographic documentation of the field activities is included in Appendix C.

### **3.2 Soil Sampling Program**

Apex screened head-space samples of the impacted soils with a photoionization detector (PID) fitted with a 10.6 eV lamp, and a PetroFlag hydrocarbon analyzer to estimate excavation limits.

Apex's soil sampling program included the collection of nine (9) soil samples (S-1 through S-9) from the repair excavation, and two (2) composite stockpile soil samples (SP-1 and SP-2) for laboratory analyses.

The soil samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied label, and placed on ice in a cooler, which was secured with a custody seal. The samples and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico for analysis.

### **3.3 Laboratory Analytical Methods**

The soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA SW-846 Method #8021, and total petroleum hydrocarbons (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015.

Laboratory results are summarized in Table 1, included in Appendix D. The executed chain-of-custody forms and laboratory data sheets are provided in Appendix E.

## **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 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

### **4.1 Confirmation Soil Samples**

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the confirmation soil samples (S-1 through S-9) and stockpiled soil samples (SP-1 and SP-2) to the OCD RALs for sites having a total ranking score of "40".

- The laboratory analyses of the confirmation samples from soils remaining in place and the reused stockpiled soils do not indicate benzene concentrations above the PQLs, which are below the OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples from soils remaining in place and the reused stockpiled soils indicate total BTEX concentrations ranging from below the PQLs to 0.66 mg/kg (S-2), which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples from soils remaining in place and the reused stockpiled soils indicate combined TPH GRO/DRO/MRO concentrations ranging from below the PQLs to 43.4 mg/kg (S-2), which are below the OCD RAL of 100 mg/kg.

Confirmation sample and stockpiled soil sample laboratory analytical results are provided in Table 1 in Appendix D.

## 5.0 FINDINGS AND RECOMMENDATIONS

The GCU #203 well tie release Site is located within the Enterprise pipeline ROW in the NE  $\frac{1}{4}$  of Section 24, Township 28 North, Range 12 West, in San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities. The Enterprise Gallegos Canyon U #203 natural gas well tie transects the area from approximately northeast to southwest.

On April 18, 2017, Enterprise personnel identified a release on the GCU #203. On April 27, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential hydrocarbon impact to soils. The leak was subsequently repaired by replacing 40 feet of the pipeline.

- The primary objective of the environmental 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 lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand and gravel.
- The final excavation is irregular in shape and measured approximately 60 feet long. The excavated area adjacent to the point of release measured approximately 27 feet wide at its maximum extent, while the remainder of the excavated pipe chase measured only six (6) feet wide. The depth of the excavation ranged from seven (7) feet bgs (southern portion) to 20 feet bgs (near the point of release).
- Prior to backfilling, nine (9) excavation soil samples, and two (2) stockpiled soil composite samples were collected for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit BTEX or TPH GRO/DRO/MRO concentrations above the OCD RALs for a site ranking of "40".



- A total of approximately 484 cubic yards of soil were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and then contoured to the approximate surrounding grade.

**Based on field observations and laboratory analytical results, no additional corrective action with respect to soil impact 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 or described herein. 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

---



GCU #203  
NE 1/4 S24 T28N R12W  
San Juan County, New Mexico  
36.65456 N, 108.05839 W

Project No. 725040112285



**Apex TITAN, Inc.**

606 South Rio Grande, Suite A

Aztec, New Mexico 87410

Phone: (505) 334-5200

[www.apexcos.com](http://www.apexcos.com)

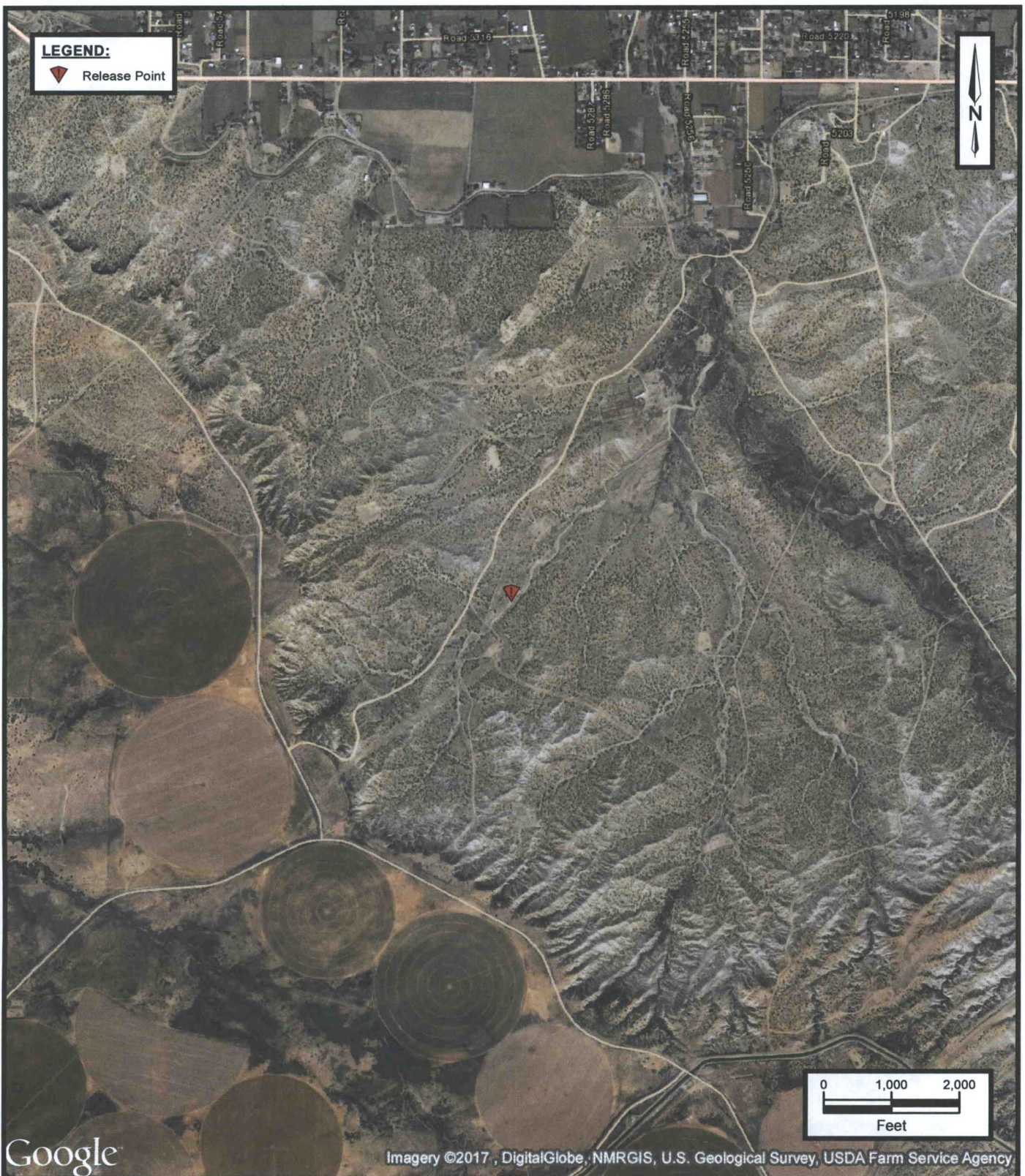
A Subsidiary of Apex Companies, LLC

**FIGURE 1**

**Topographic Map**

Service Layer Credits:

Copyright: © 2013 National Geographic Society, i-cubed, Horn Canyon New Mexico 7.5-Minute Quadrangle 1978



**GCU #203**  
 NE 1/4 S24 T28N R12W  
 San Juan County, New Mexico  
 36.65456 N, 108.05839 W



**Apex TITAN, Inc.**  
 606 South Rio Grande, Suite A  
 Aztec, New Mexico 87410  
 Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
 A Subsidiary of Apex Companies, LLC

## FIGURE 2

### Site Vicinity Map

Service Layer Credits:  
 Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Aerial Photograph March 2015

Project No. 725040112285

**LEGEND:**

- Confirmation Soil Sample Location
- ▼ Release Point
- Pipeline Location
- ▨ Soil Stockpile Location
- ▨ Extent of Excavation

**NOTE:**

All Concentrations are Listed in mg/Kg.

Excavations Depths in Orange and  
Sample Depths are Listed in Feet BGS.



S-3  
5/3/2017  
(0-18')  
Benzene...<0.017  
Toluene...<0.034  
Ethylbenzene...<0.034  
Xylenes...<0.068  
Total BTEX...ND  
TPH GRO...<3.4  
TPH DRO...<9.3  
TPH MRO...<46

S-4  
5/3/2017  
(0-18')  
Benzene...<0.017  
Toluene...<0.034  
Ethylbenzene...<0.034  
Xylenes...<0.068  
Total BTEX...ND  
TPH GRO...<3.4  
TPH DRO...<9.9  
TPH MRO...<50

S-1  
5/3/2017  
(18')  
Benzene...<0.095  
Toluene...<0.19  
Ethylbenzene...<0.19  
Xylenes...<0.38  
Total BTEX...ND  
TPH GRO...<19  
TPH DRO...<9.2  
TPH MRO...<46

S-5  
5/3/2017  
(0-11')  
Benzene...<0.017  
Toluene...<0.035  
Ethylbenzene...<0.035  
Xylenes...<0.069  
Total BTEX...ND  
TPH GRO...<3.5  
TPH DRO...<9.6  
TPH MRO...<48

S-7  
5/3/2017  
(0-7')  
Benzene...<0.017  
Toluene...<0.035  
Ethylbenzene...<0.035  
Xylenes...<0.070  
Total BTEX...ND  
TPH GRO...<3.5  
TPH DRO...<9.8  
TPH MRO...<49

SP-1  
5/3/2017  
Benzene...<0.018  
Toluene...<0.036  
Ethylbenzene...<0.036  
Xylenes...<0.073  
Total BTEX...ND  
TPH GRO...<3.6  
TPH DRO...<10  
TPH MRO...<50

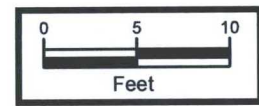
SP-2  
5/3/2017  
Benzene...<0.018  
Toluene...<0.036  
Ethylbenzene...<0.036  
Xylenes...<0.071  
Total BTEX...ND  
TPH GRO...<3.6  
TPH DRO...<9.7  
TPH MRO...<48

S-2  
5/3/2017  
(0-18')  
Benzene...<0.017  
Toluene...0.041  
Ethylbenzene...<0.034  
Xylenes...0.62  
Total BTEX...0.66  
TPH GRO...7.4  
TPH DRO...36  
TPH MRO...<50

S-6  
5/3/2017  
(0-7')  
Benzene...<0.017  
Toluene...<0.034  
Ethylbenzene...<0.034  
Xylenes...<0.069  
Total BTEX...ND  
TPH GRO...<3.4  
TPH DRO...<9.5  
TPH MRO...<47

S-9  
5/3/2017  
(7')  
Benzene...<0.018  
Toluene...<0.035  
Ethylbenzene...<0.035  
Xylenes...<0.070  
Total BTEX...ND  
TPH GRO...<3.5  
TPH DRO...<9.7  
TPH MRO...<49

S-8  
5/3/2017  
(0-7')  
Benzene...<0.017  
Toluene...<0.034  
Ethylbenzene...<0.034  
Xylenes...<0.069  
Total BTEX...ND  
TPH GRO...<3.4  
TPH DRO...<9.4  
TPH MRO...<47



GCU #203  
NE 1/4 S24 T28N R12W  
San Juan County, New Mexico  
36.65456 N, 108.05839 W

**Apex TITAN, Inc.**

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Aztec, New Mexico 87410  
Phone: (505) 334-5200

[www.apexcos.com](http://www.apexcos.com)

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

Project No. 725040112285

## APPENDIX B

### Executed C-138 Solid Waste Acceptance Form

---

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

97057-0841

Form C-138  
Revised 08/01/11

\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

**REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

**1. Generator Name and Address:**

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401

**2. Originating Site:**

GCU #203 Well Tie

**3. Location of Material (Street Address, City, State or ULSTR):**

Unit B Sec 24 T 28N R 12W; 336.65443, -108.05873

April 2017

**4. Source and Description of Waste:**

Source: Amine Spill Cleanup activities.

Description: Hydrocarbon impacted soil associated with a natural gas pipeline leak.

Estimated Volume 20 yd<sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul) 484 yd<sup>3</sup> bbls

**5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby

**Generator Signature**

certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

**GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS**

I, Thomas Long *Thomas Long* 4-28-17, representative for Enterprise Products Operating authorize Envirotech, Inc. to complete

**Generator Signature**

the required testing/sign the Generator Waste Testing Certification.

I, *Greg Crabtree* representative for Envirotech, Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

**5. Transporter:** ~~Foutz and Bursum~~ or subcontractors Ternco, Lohato, Del Prado, Prado Farms

**OCD Permitted Surface Waste Management Facility**

Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM01-0011

Address of Facility: Hill Top, NM

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

**Waste Acceptance Status:**

☒ **APPROVED**

☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager DATE: 4/28/17

SIGNATURE: *Greg Crabtree*  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

## APPENDIX C

### Photographic Documentation

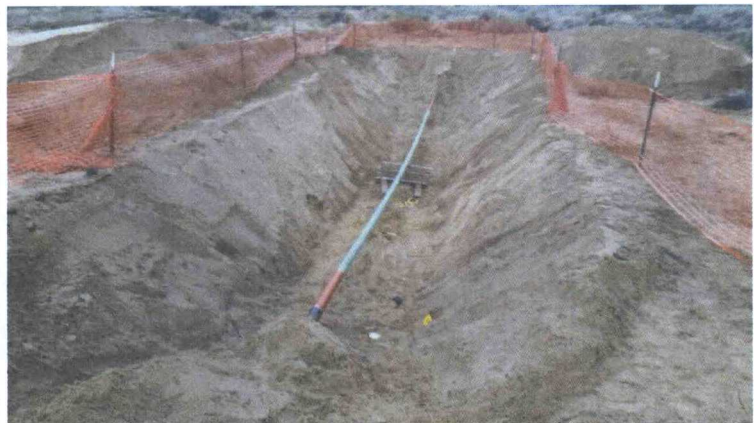
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**Photograph 1**

Surface expression of the release.

**Photograph 2**

Pipeline after repairs.

**Photograph 3**

Pipeline excavation, facing northeast.



**Photograph 4**

View of the excavation, facing southeast



**Photograph 5**

Excavation at the point of release, facing northeast.



**Photograph 6**

View of the stockpiles.



## APPENDIX D

### Table

---

**TABLE 1**  
**GCU #203 Pipeline Release**  
**SOIL ANALYTICAL SUMMARY**

Sample I.D.	Date	Sample Depth (feet)	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 MRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100		
Stockpile Confirmation Soil Samples										
SP-1	5.03.17	Stockpile	<0.018	<0.036	<0.036	<0.073	ND	<3.6	<10	<50
SP-2	5.03.17	Stockpile	<0.018	<0.036	<0.036	<0.071	ND	<3.6	<9.7	<48
Excavation Confirmation Soil Samples										
S-1	5.03.17	18	<0.095	<0.19	<0.19	<0.38	ND	<19	<9.2	<46
S-2	5.03.17	0 to 18	<0.017	0.041	<0.034	0.62	0.66	7.4	36	<50
S-3	5.03.17	0 to 18	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.3	<46
S-4	5.03.17	0 to 18	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.9	<50
S-5	5.03.17	0 to 11	<0.017	<0.035	<0.035	<0.069	ND	<3.5	<9.6	<48
S-6	5.03.17	0 to 7	<0.017	<0.034	<0.034	<0.069	ND	<3.4	<9.5	<47
S-7	5.03.17	0 to 7	<0.017	<0.035	<0.035	<0.070	ND	<3.5	<9.8	<49
S-8	5.03.17	0 to 7	<0.017	<0.034	<0.034	<0.069	ND	<3.4	<9.4	<47
S-9	5.03.17	7	<0.018	<0.035	<0.035	<0.070	ND	<3.5	<9.7	<49

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram

## Appendix E

### Laboratory Data Sheets & Chain of Custody Documentation

---



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

May 05, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: GCU 203

OrderNo.: 1705217

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 9 sample(s) on 5/4/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-1

Project: GCU 203

Collection Date: 5/3/2017 10:00:00 AM

Lab ID: 1705217-001

Matrix: MEOH (SOIL)

Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/4/2017 11:58:53 AM	31563
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/4/2017 11:58:53 AM	31563
Surr: DNOP	104	70-130		%Rec	1	5/4/2017 11:58:53 AM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	5/4/2017 9:20:23 AM	R42544
Surr: BFB	98.8	54-150		%Rec	5	5/4/2017 9:20:23 AM	R42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.095		mg/Kg	5	5/4/2017 9:20:23 AM	B42544
Toluene	ND	0.19		mg/Kg	5	5/4/2017 9:20:23 AM	B42544
Ethylbenzene	ND	0.19		mg/Kg	5	5/4/2017 9:20:23 AM	B42544
Xylenes, Total	ND	0.38		mg/Kg	5	5/4/2017 9:20:23 AM	B42544
Surr: 4-Bromofluorobenzene	117	66.6-132		%Rec	5	5/4/2017 9:20:23 AM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-2

Project: GCU 203

Collection Date: 5/3/2017 10:05:00 AM

Lab ID: 1705217-002

Matrix: MEOH (SOIL)

Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	36	10		mg/Kg	1	5/4/2017 12:20:59 PM	31563
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/4/2017 12:20:59 PM	31563
Surr: DNOP	109	70-130		%Rec	1	5/4/2017 12:20:59 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	7.4	3.4		mg/Kg	1	5/4/2017 9:44:16 AM	G42544
Surr: BFB	148	54-150		%Rec	1	5/4/2017 9:44:16 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	5/4/2017 9:44:16 AM	B42544
Toluene	0.041	0.034		mg/Kg	1	5/4/2017 9:44:16 AM	B42544
Ethylbenzene	ND	0.034		mg/Kg	1	5/4/2017 9:44:16 AM	B42544
Xylenes, Total	0.62	0.067		mg/Kg	1	5/4/2017 9:44:16 AM	B42544
Surr: 4-Bromofluorobenzene	120	66.6-132		%Rec	1	5/4/2017 9:44:16 AM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1705217

Date Reported: 5/5/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** S-3**Project:** GCU 203**Collection Date:** 5/3/2017 10:10:00 AM**Lab ID:** 1705217-003**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	5/4/2017 12:43:19 PM	31563
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/4/2017 12:43:19 PM	31563
Surr: DNOP	107	70-130		%Rec	1	5/4/2017 12:43:19 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/4/2017 10:08:14 AM	G42544
Surr: BFB	103	54-150		%Rec	1	5/4/2017 10:08:14 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	5/4/2017 10:08:14 AM	B42544
Toluene	ND	0.034		mg/Kg	1	5/4/2017 10:08:14 AM	B42544
Ethylbenzene	ND	0.034		mg/Kg	1	5/4/2017 10:08:14 AM	B42544
Xylenes, Total	ND	0.068		mg/Kg	1	5/4/2017 10:08:14 AM	B42544
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	1	5/4/2017 10:08:14 AM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1705217

Date Reported: 5/5/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** S-4**Project:** GCU 203**Collection Date:** 5/3/2017 10:15:00 AM**Lab ID:** 1705217-004**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/4/2017 1:05:29 PM	31563
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/4/2017 1:05:29 PM	31563
Surr: DNOP	108	70-130		%Rec	1	5/4/2017 1:05:29 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/4/2017 10:32:08 AM	G42544
Surr: BFB	101	54-150		%Rec	1	5/4/2017 10:32:08 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Toluene	ND	0.034		mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Ethylbenzene	ND	0.034		mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Xylenes, Total	ND	0.068		mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Surr: 4-Bromofluorobenzene	119	66.6-132		%Rec	1	5/4/2017 10:32:08 AM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705217

Date Reported: 5/5/2017

**CLIENT:** APEX TITAN**Client Sample ID:** S-5**Project:** GCU 203**Collection Date:** 5/3/2017 10:20:00 AM**Lab ID:** 1705217-005**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/4/2017 1:27:36 PM	31563
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/4/2017 1:27:36 PM	31563
Surr: DNOP	108	70-130		%Rec	1	5/4/2017 1:27:36 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	5/4/2017 10:56:06 AM	G42544
Surr: BFB	97.4	54-150		%Rec	1	5/4/2017 10:56:06 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Toluene	ND	0.035		mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Ethylbenzene	ND	0.035		mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Xylenes, Total	ND	0.069		mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	5/4/2017 10:56:06 AM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705217

Date Reported: 5/5/2017

CLIENT: APEX TITAN

Client Sample ID: S-6

Project: GCU 203

Collection Date: 5/3/2017 10:25:00 AM

Lab ID: 1705217-006

Matrix: MEOH (SOIL)

Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/4/2017 1:49:43 PM	31563
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/4/2017 1:49:43 PM	31563
Surr: DNOP	110	70-130		%Rec	1	5/4/2017 1:49:43 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/4/2017 11:19:58 AM	G42544
Surr: BFB	102	54-150		%Rec	1	5/4/2017 11:19:58 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	5/4/2017 11:19:58 AM	B42544
Toluene	ND	0.034		mg/Kg	1	5/4/2017 11:19:58 AM	B42544
Ethylbenzene	ND	0.034		mg/Kg	1	5/4/2017 11:19:58 AM	B42544
Xylenes, Total	ND	0.069		mg/Kg	1	5/4/2017 11:19:58 AM	B42544
Surr: 4-Bromofluorobenzene	122	66.6-132		%Rec	1	5/4/2017 11:19:58 AM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Analytical Report

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-7

Project: GCU 203

Collection Date: 5/3/2017 10:30:00 AM

Lab ID: 1705217-007

Matrix: MEOH (SOIL)

Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/4/2017 2:11:41 PM	31563
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/4/2017 2:11:41 PM	31563
Surr: DNOP	110	70-130		%Rec	1	5/4/2017 2:11:41 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	5/4/2017 11:43:50 AM	G42544
Surr: BFB	101	54-150		%Rec	1	5/4/2017 11:43:50 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	5/4/2017 11:43:50 AM	B42544
Toluene	ND	0.035		mg/Kg	1	5/4/2017 11:43:50 AM	B42544
Ethylbenzene	ND	0.035		mg/Kg	1	5/4/2017 11:43:50 AM	B42544
Xylenes, Total	ND	0.070		mg/Kg	1	5/4/2017 11:43:50 AM	B42544
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	1	5/4/2017 11:43:50 AM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Analytical Report

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-8

Project: GCU 203

Collection Date: 5/3/2017 10:35:00 AM

Lab ID: 1705217-008

Matrix: MEOH (SOIL)

Received Date: 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/4/2017 2:33:57 PM	31563
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/4/2017 2:33:57 PM	31563
Surr: DNOP	102	70-130		%Rec	1	5/4/2017 2:33:57 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	5/4/2017 12:07:41 PM	G42544
Surr: BFB	97.7	54-150		%Rec	1	5/4/2017 12:07:41 PM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	5/4/2017 12:07:41 PM	B42544
Toluene	ND	0.034		mg/Kg	1	5/4/2017 12:07:41 PM	B42544
Ethylbenzene	ND	0.034		mg/Kg	1	5/4/2017 12:07:41 PM	B42544
Xylenes, Total	ND	0.069		mg/Kg	1	5/4/2017 12:07:41 PM	B42544
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	5/4/2017 12:07:41 PM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1705217

Date Reported: 5/5/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** S-9**Project:** GCU 203**Collection Date:** 5/3/2017 10:40:00 AM**Lab ID:** 1705217-009**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/4/2017 2:56:04 PM	31563
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/4/2017 2:56:04 PM	31563
Surr: DNOP	105	70-130		%Rec	1	5/4/2017 2:56:04 PM	31563
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	5/4/2017 12:31:34 PM	G42544
Surr: BFB	97.8	54-150		%Rec	1	5/4/2017 12:31:34 PM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.018		mg/Kg	1	5/4/2017 12:31:34 PM	B42544
Toluene	ND	0.035		mg/Kg	1	5/4/2017 12:31:34 PM	B42544
Ethylbenzene	ND	0.035		mg/Kg	1	5/4/2017 12:31:34 PM	B42544
Xylenes, Total	ND	0.070		mg/Kg	1	5/4/2017 12:31:34 PM	B42544
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	5/4/2017 12:31:34 PM	B42544

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705217

05-May-17

Client: APEX TITAN

Project: GCU 203

Sample ID	MB-31564		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31564		RunNo: 42525					
Prep Date:	5/4/2017		Analysis Date: 5/4/2017		SeqNo: 1337677		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.1		10.00		81.1	70	130			

Sample ID	LCS-31564		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31564		RunNo: 42525					
Prep Date:	5/4/2017		Analysis Date: 5/4/2017		SeqNo: 1337679		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID	LCS-31563		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31563		RunNo: 42534					
Prep Date:	5/4/2017		Analysis Date: 5/4/2017		SeqNo: 1337721		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.9	63.8	116			
Surr: DNOP	4.8		5.000		95.2	70	130			

Sample ID	MB-31563	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 31563			RunNo: 42534					
Prep Date:	5/4/2017	Analysis Date: 5/4/2017			SeqNo: 1337722		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		105	70	130			

Sample ID	MB-31549		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31549		RunNo: 42525					
Prep Date:	5/3/2017		Analysis Date: 5/4/2017		SeqNo: 1338403		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3		10.00		83.4	70	130			

Sample ID	LCS-31549		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31549		RunNo: 42525					
Prep Date:	5/3/2017		Analysis Date: 5/4/2017		SeqNo: 1338404		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.5	70	130			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705217

05-May-17

Client: APEX TITAN

Project: GCU 203

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338370	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		104	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338371	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.3	76.4	125			
Surr: BFB	1100		1000		111	54	150			

Sample ID	1705217-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-1	Batch ID:	G42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338372	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	90	19	94.55	0	95.4	61.3	150			
Surr: BFB	4200		3782		112	54	150			

Sample ID	1705217-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-1	Batch ID:	G42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338373	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	88	19	94.55	0	92.8	61.3	150	2.72	20	
Surr: BFB	4300		3782		113	54	150	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705217

05-May-17

Client: APEX TITAN

Project: GCU 203

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338380	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		123	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338381	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.6	80	120			
Toluene	0.95	0.050	1.000	0	95.3	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.4	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.3	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		119	66.6	132			

Sample ID	1705217-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-2	Batch ID:	B42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338382	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.017	0.6720	0.008198	94.4	61.5	138			
Toluene	0.66	0.034	0.6720	0.04086	92.9	71.4	127			
Ethylbenzene	0.67	0.034	0.6720	0.02890	95.3	70.9	132			
Xylenes, Total	2.1	0.067	2.016	0.6172	71.3	76.2	123			S
Surr: 4-Bromofluorobenzene	0.80		0.6720		120	66.6	132			

Sample ID	1705217-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-2	Batch ID:	B42544	RunNo:	42544					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338383	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.017	0.6720	0.008198	93.9	61.5	138	0.461	20	
Toluene	0.66	0.034	0.6720	0.04086	92.6	71.4	127	0.243	20	
Ethylbenzene	0.67	0.034	0.6720	0.02890	96.1	70.9	132	0.810	20	
Xylenes, Total	2.1	0.067	2.016	0.6172	71.5	76.2	123	0.108	20	S
Surr: 4-Bromofluorobenzene	0.80		0.6720		119	66.6	132	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1705217

RcptNo: 1

Received By: Ashley Gallegos 5/4/2017 7:00:00 AM

Completed By: Ashley Gallegos 5/4/2017 7:38:39 AM

Reviewed By: ENM 05/04/17

*AG*  
*AG*

### Chain of Custody

1. Custody seals intact on sample bottles? Yes No Not Present ✓
2. Is Chain of Custody complete? Yes ✓ No Not Present
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ✓ No NA
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ✓ No NA
6. Sample(s) in proper container(s)? Yes ✓ No
7. Sufficient sample volume for indicated test(s)? Yes ✓ No
8. Are samples (except VOA and ONG) properly preserved? Yes ✓ No
9. Was preservative added to bottles? Yes No ✓ NA
10. VOA vials have zero headspace? Yes No No VOA Vials ✓
11. Were any sample containers received broken? Yes No ✓  
# of preserved bottles checked for pH:  
( $<2$  or  $>12$  unless noted)
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ✓ No Adjusted?
13. Are matrices correctly identified on Chain of Custody? Yes ✓ No
14. Is it clear what analyses were requested? Yes ✓ No
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ✓ No Checked by:

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes No NA ✓



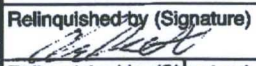
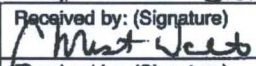

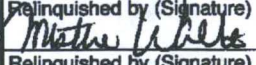
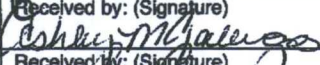
Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
By Whom: \_\_\_\_\_ Via: eMail Phone Fax In Person  
Regarding: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Aztec NM</u>		Laboratory: <u>Hall Enk</u> Address: <u>A30 NM</u> Contact: <u>A. Freeman</u> Phone: _____ PO/SO #: _____		ANALYSIS REQUESTED <div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;">           BT EX 8021            TPH DRO/GRO/MED SOILS         </div>		Lab use only Due Date: _____ Temp. of coolers when received (C°): <u>1.1 + 0.5 (CF)</u> <div style="display: flex; justify-content: space-around;"> <span>1</span><span>2</span><span>3</span><span>4</span><span>5</span> </div> Page <u>1</u> of <u>1</u>							
		Project Manager <u>L Summers</u> Sampler's Name <u>Chad D'Aponte</u> Sampler's Signature 											
Proj. No. <u>725040112285</u>		Project Name <u>GCU #203</u>		No/Type of Containers _____									
Matrix	Date	Time	COED	Garg	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	5-3-17	1000			S-1								1705217 - 001
		1005			S-2								- 002
		1010			S-3								- 003
		1015			S-4								- 004
		1020			S-5								- 005
		1025			S-6								- 006
		1030			S-7								- 007
		1035			S-8								- 008
		1040			S-9								- 009
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush <u>Same Day</u>													
Relinquished by (Signature) 		Date: <u>5-3-17</u>	Time: <u>1315</u>	Received by (Signature) 		Date: <u>5/3/17</u>	Time: <u>1315</u>	NOTES: <u>Bill to Tom Long (Elrod)</u> <u>AFE # N30371</u> 					
Relinquished by (Signature) 		Date: <u>5/3/17</u>	Time: <u>1858</u>	Received by (Signature) 		Date: <u>05/03/17</u>	Time: <u>0700</u>						
Relinquished by (Signature) _____		Date: _____	Time: _____	Received by (Signature) _____		Date: _____	Time: _____						
Relinquished by (Signature) _____		Date: _____	Time: _____	Received by (Signature) _____		Date: _____	Time: _____						
<div style="display: flex; justify-content: space-between; font-size: small;"> <div>Matrix Container</div> <div>WW - Wastewater VOA - 40 ml vial</div> <div>W - Water A/G - Amber / Or Glass 1 Liter</div> <div>S - Soil SD - Solid</div> <div>L - Liquid 250 ml - Glass wide mouth</div> <div>A - Air Bag</div> <div>C - Charcoal tube P/O - Plastic or other</div> <div>SL - sludge</div> <div>O - Oil</div> </div>													



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

May 05, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: GCU 203

OrderNo.: 1705219

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/4/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1705219

Date Reported: 5/5/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** SP-1**Project:** GCU 203**Collection Date:** 5/3/2017 10:45:00 AM**Lab ID:** 1705219-001**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	5/4/2017 10:44:35 AM	31564
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/4/2017 10:44:35 AM	31564
Surr: DNOP	86.8	70-130		%Rec	1	5/4/2017 10:44:35 AM	31564
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	5/4/2017 10:16:29 AM	G42543
Surr: BFB	108	54-150		%Rec	1	5/4/2017 10:16:29 AM	G42543
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.018		mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Toluene	ND	0.036		mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Ethylbenzene	ND	0.036		mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Xylenes, Total	ND	0.073		mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	5/4/2017 10:16:29 AM	B42543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1705219

Date Reported: 5/5/2017

**CLIENT:** APEX TITAN**Client Sample ID:** SP-2**Project:** GCU 203**Collection Date:** 5/3/2017 10:50:00 AM**Lab ID:** 1705219-002**Matrix:** MEOH (SOIL)**Received Date:** 5/4/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/4/2017 11:11:48 AM	31564
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/4/2017 11:11:48 AM	31564
Surr: DNOP	89.8	70-130		%Rec	1	5/4/2017 11:11:48 AM	31564
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	5/4/2017 10:40:02 AM	G42543
Surr: BFB	94.5	54-150		%Rec	1	5/4/2017 10:40:02 AM	G42543
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.018		mg/Kg	1	5/4/2017 10:40:02 AM	B42543
Toluene	ND	0.036		mg/Kg	1	5/4/2017 10:40:02 AM	B42543
Ethylbenzene	ND	0.036		mg/Kg	1	5/4/2017 10:40:02 AM	B42543
Xylenes, Total	ND	0.071		mg/Kg	1	5/4/2017 10:40:02 AM	B42543
Surr: 4-Bromofluorobenzene	107	66.6-132		%Rec	1	5/4/2017 10:40:02 AM	B42543

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
R	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705219

05-May-17

Client: APEX TITAN

Project: GCU 203

Sample ID	MB-31564	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 31564			RunNo: 42525					
Prep Date:	5/4/2017	Analysis Date: 5/4/2017			SeqNo: 1337677		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.1		10.00		81.1	70	130			

Sample ID	LCS-31564		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31564		RunNo: 42525					
Prep Date:	5/4/2017		Analysis Date: 5/4/2017		SeqNo: 1337679		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.6	63.8	116			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID	MB-31549		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31549		RunNo: 42525					
Prep Date:	5/3/2017		Analysis Date: 5/4/2017		SeqNo: 1338403		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.3		10.00		83.4	70	130			

Sample ID	LCS-31549		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31549		RunNo: 42525					
Prep Date:	5/3/2017		Analysis Date: 5/4/2017		SeqNo: 1338404		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		90.5	70	130			

## Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705219

05-May-17

Client: APEX TITAN

Project: GCU 203

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G42543	RunNo:	42543					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338389	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.0	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G42543	RunNo:	42543					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338390	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.3	76.4	125			
Surr: BFB	1000		1000		101	54	150			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1705219

05-May-17

Client: APEX TITAN

Project: GCU 203

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B42543	RunNo:	42543					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338395	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B42543	RunNo:	42543					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338396	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.3	80	120			
Toluene	0.92	0.050	1.000	0	92.0	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.5	80	120			
Xylenes, Total	2.8	0.10	3.000	0	95.0	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	66.6	132			

Sample ID	1705219-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SP-1	Batch ID:	B42543	RunNo:	42543					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338397	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.68	0.018	0.7283	0	93.9	61.5	138			
Toluene	0.71	0.036	0.7283	0.009504	96.3	71.4	127			
Ethylbenzene	0.72	0.036	0.7283	0.01038	96.9	70.9	132			
Xylenes, Total	2.2	0.073	2.185	0.02822	98.0	76.2	123			
Surr: 4-Bromofluorobenzene	0.79		0.7283		109	66.6	132			

Sample ID	1705219-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	SP-1	Batch ID:	B42543	RunNo:	42543					
Prep Date:		Analysis Date:	5/4/2017	SeqNo:	1338398	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.67	0.018	0.7283	0	91.3	61.5	138	2.79	20	
Toluene	0.68	0.036	0.7283	0.009504	92.0	71.4	127	4.43	20	
Ethylbenzene	0.69	0.036	0.7283	0.01038	93.8	70.9	132	3.19	20	
Xylenes, Total	2.1	0.073	2.185	0.02822	95.9	76.2	123	2.15	20	
Surr: 4-Bromofluorobenzene	0.80		0.7283		109	66.6	132	0	0	

### Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1705219

RcptNo: 1

Received By: Ashley Gallegos 5/4/2017 7:00:00 AM

Completed By: Ashley Gallegos 5/4/2017 7:46:55 AM

Reviewed By: ENM 05/04/17

*[Signature]*  
*[Signature]*

### Chain of Custody

- |  |         |    |               |
|--|---------|----|---------------|
| 1. Custody seals intact on sample bottles? | Yes     | No | Not Present ✓ |
| 2. Is Chain of Custody complete?           | Yes ✓   | No | Not Present   |
| 3. How was the sample delivered?           | Courier |    |               |

### Log In

- |   |       |      |  |
|---|-------|------|--|
| 4. Was an attempt made to cool the samples?   | Yes ✓ | No   | NA   |
| 5. Were all samples received at a temperature of >0° C to 6.0°C                           | Yes ✓ | No   | NA   |
| 6. Sample(s) in proper container(s)?  | Yes ✓ | No   |  |
| 7. Sufficient sample volume for indicated test(s)?  | Yes ✓ | No   |  |
| 8. Are samples (except VOA and ONG) properly preserved?                                   | Yes ✓ | No   |  |
| 9. Was preservative added to bottles?   | Yes   | No ✓ | NA   |
| 10. VOA vials have zero headspace?  | Yes   | No   | No VOA Vials ✓   |
| 11. Were any sample containers received broken?   | Yes   | No ✓ |  |
| 12. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)       | Yes ✓ | No   | # of preserved bottles checked for pH:<br>(<2 or >12 unless noted) |
| 13. Are matrices correctly identified on Chain of Custody?                                | Yes ✓ | No   | Adjusted?  |
| 14. Is it clear what analyses were requested?   | Yes ✓ | No   |  |
| 15. Were all holding times able to be met?<br>(If no, notify customer for authorization.) | Yes ✓ | No   | Checked by:  |

### Special Handling (If applicable)

- |   |     |    |      |
|---|-----|----|------|
| 16. Was client notified of all discrepancies with this order? | Yes | No | NA ✓ |
|---|-----|----|------|

Person Notified:

Date

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:


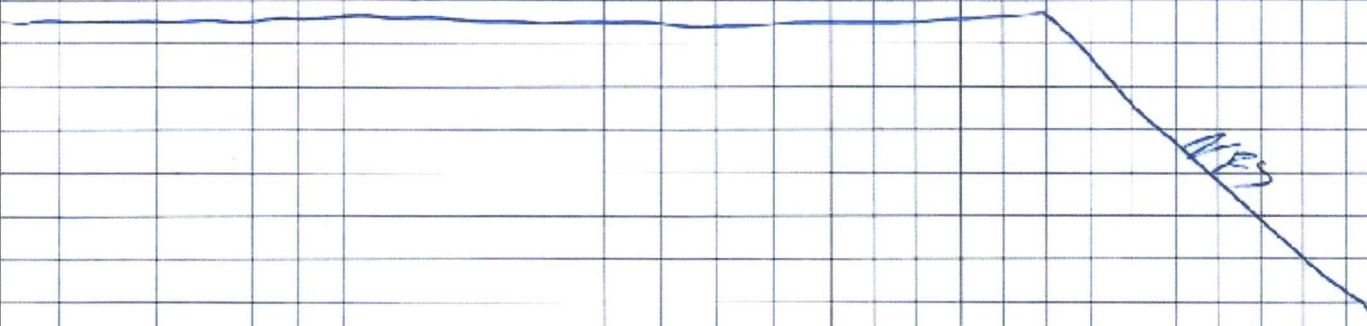
Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Aztec N.M.</u>		Laboratory: <u>Hall Env</u> Address: <u>ABA NM</u>		ANALYSIS REQUESTED <u>BIEX 8021</u> <u>TAN GAO/DA/MA SWS</u>		Lab use only Due Date:							
		Contact: <u>A Freeman</u> Phone: _____ PO/SO #: _____				Temp. of coolers <u>11405 (or)</u> when received (C°): <u>1.6</u>							
Project Manager <u>R Summer 3</u> Sampler's Name <u>Chad A. Ford</u>		Sampler's Signature <u>[Signature]</u>				Page <u>1</u> of <u>1</u>							
Proj. No. _____		Project Name <u>GCU #203</u>		No/Type of Containers _____									
Matrix	Date	Time	Code	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	5-3-17	1045			SP-1						1		1705219 -001
S	5-3-17	1050			SP-2						1		-002
													
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush <u>Same Day</u>													
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:	NOTES: <u>B.A. to Tom Long</u> <u>APE # N30371</u> <u>Same Day</u>					
[Signature]		5-3-17	1315	[Signature]		5-3-17	1315						
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:						
[Signature]		5-3-17	1858	[Signature]		5-3-17	1700						
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  
 A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

District I\*  
4625 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 April 3, 2017

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: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286/505-599-2124
Facility Name: <b>Gordon #3</b>	Facility Type: <b>Natural Gas Gathering Pipeline</b>
Surface Owner: <b>BLM</b>	Mineral Owner: <b>BLM</b>
Serial No. <b>NM 0009308</b>	

### LOCATION OF RELEASE

Unit Letter <b>P</b>	Section <b>23</b>	Township <b>27N</b>	Range <b>10W</b>	Feet from the <b>767</b>	North/South Line <b>South</b>	Feet from the <b>953</b>	East/West Line <b>East</b>	County <b>San Juan</b>
-------------------------	----------------------	------------------------	---------------------	--------------------------------	-------------------------------------	--------------------------------	----------------------------------	---------------------------

Latitude **36.555580** Longitude **-107.859306** NAD 83

### NATURE OF RELEASE

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>8.49 MCF Gas; 10-15 BBLs Condensate</b>	Volume Recovered: <b>None</b>
Source of Release: Internal corrosion	Date and Hour of Occurrence: <b>3/28/2017 @ 3:00 p.m.</b>	Date and Hour of Discovery: <b>3/28/2017 @ 3:00 p.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification: Vanessa Fields – NMOCD Whitney Thomas-BLM	
By Whom? Thomas Long	Date and Hour April 6, 2017 @ 4:00 p.m.	
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: On March 28, 2017, Enterprise responded to a possible leak on the Gordon #3 pipeline during. Enterprise technician verified the leak and the pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation are currently in progress and Enterprise has determined this release is reportable per NMOCD regulation on April 6, 2017, due to the volume of subsurface impacts.

Describe Area Affected and Cleanup Action Taken.\* Remediation was completed on May 15, 2017. The contaminant mass was removed by mechanical excavation. The final excavation was irregular in shape and varied in depth. Approximately 2,844 cubic yards of hydrocarbon impacted soil was excavated and transported to New Mexico Oil Conservation Division approved land farm facility. A third party corrective action report is included with this "Final." C-141.

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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: <b>4/22/2017</b>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>8/31/2017</b>	Phone: (713) 381-6684	

\* Attach Additional Sheets If Necessary

NVF1711435283

54



## **CORRECTIVE ACTION REPORT**

Property:


**Gordon #3 Well Tie  
SE 1/4, S23 T27N R10W  
San Juan County, New Mexico**


August 15, 2017  
Apex Project No. 725040112278

Prepared for:

**Enterprise Field Services, LLC  
614 Reilly Avenue  
Farmington, NM 87401  
Attn: Mr. Thomas Long**

Prepared by:

  
Chad D'Aponti  
Project Scientist

  
Kyle Summers, CPG  
Branch Manager / Senior Geologist

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---

## CORRECTIVE ACTION REPORT

**Gordon #3 Well Tie**  
SE 1/4, S23 T27N R10W  
San Juan County, New Mexico

**Apex Project No. 725040112278**

### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Gordon #3 Well Tie release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southeast (SE) ¼ of Section 23, Township 27 North, Range 10 West, in rural San Juan County, New Mexico (36.55558N, 107.85931W), referred to hereinafter as the "Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which transects the area from approximately northwest to southeast.

On March 28, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On April 6, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and placed back into service.

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 action 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 (RALs)* 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	10
	200 to 1,000 feet	10	
	>1,000 feet	0	
<b>Total Ranking Score</b>			<b>30</b>

Based on Apex's evaluation of the scoring criteria, the Site would earn a maximum Total Ranking Score of "30". This ranking is based on the following:

- No water wells were identified on the OSE website within one mile of the Site. Due to the proximity to the upper Armenta Canyon arroyo, groundwater may be encountered at depths of less than 50 feet below grade surface (bgs). This information supports a ranking score of "20" for depth to groundwater.
- 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. These proximities result in a wellhead protection area ranking score of "0".
- The release point is located approximately 450 feet from the main channel of the upper Armenta Canyon arroyo which is identified as a "blue line" on the United States Geological Survey topographic map, resulting in a distance to surface water ranking score of "10".

### 3.0 CORRECTIVE ACTIONS

#### 3.1 Soil Excavation Activities

On March 28, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On April 6, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and placed back into service. During the pipeline repair and corrective action activities, Foutz & Bursum Construction Co Inc., provided heavy equipment and labor support, and Apex provided environmental support.

Enterprise performed remediation excavation activities between April 6, 2017 and May 15, 2017. A total of ten (10) final confirmation soil samples (S-1b through S-10) were collected from the sidewalls and floor of the final excavation for laboratory analysis.

The overall final excavation measured approximately 70 feet (east-west) by 60 feet (north-south), with a total maximum depth of approximately 36 feet bgs in the central portion of the excavation.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand.

A total of approximately 2,844 cubic yards of hydrocarbon affected soils were transported to the Envirotech landfarm (Envirotech) near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

**Figure 3** is a **Site Map** that indicates the approximate sample locations in relation to the excavation extents and the location of the pipeline (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

### 3.2 Soil Sampling Program

Apex field screened soil samples from the excavation utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp and a calibrated Dextsil PetroFLAG® hydrocarbon analyzer system to guide excavation extents.

Apex's soil sampling program included the collection of ten (10) final confirmation soil samples (S-1b through S-10) from the excavation. These samples were subsequently submitted for laboratory analysis. **Figure 3** depicts the approximate location of the excavated area and depicts the final confirmation sample locations in relation to the final excavation dimensions (**Appendix A**).

The samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels, and placed on ice in a cooler, which was secured with a custody seal. The sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis.

### 3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA SW-846 Method #8021, and total petroleum hydrocarbon (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015.

Laboratory results are summarized in **Table 1**, included in **Appendix D**. The executed chain-of-custody form and laboratory data sheets are provided in **Appendix E**.

## 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 New Mexico EMNRD OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation samples (S-1b through S-10) to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "30". Interim excavation sample S-1 was removed by excavation and is not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate total BTEX concentrations ranging from below the PQLs to 0.20 mg/kg (S-10), which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate combined TPH GRO/DRO/MRO concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "30".

The stockpiled soils resulting from the excavation were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation.

Confirmation soil sample results are provided in **Table 1** in **Appendix D**.

## 5.0 FINDINGS AND RECOMMENDATIONS

The Gordon #3 Well Tie release site is located within the Enterprise ROW in the SE ¼ of Section 23, Township 27 North, Range 10 West, in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which transects the area from approximately northwest to southeast.

On March 28, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On April 6, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and placed back into service.

- The primary objective of the corrective action 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 lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand.
- The overall final excavation measured approximately 70 feet (east-west) by 60 feet (north-south), with a total maximum depth of approximately 36 feet bgs in the central portion of the excavation.
- Prior to backfilling, ten (10) final confirmation soil samples were collected from the excavation and submitted for laboratory analysis. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs for a Site ranking of "30".
- A total of approximately 2,844 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

**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.

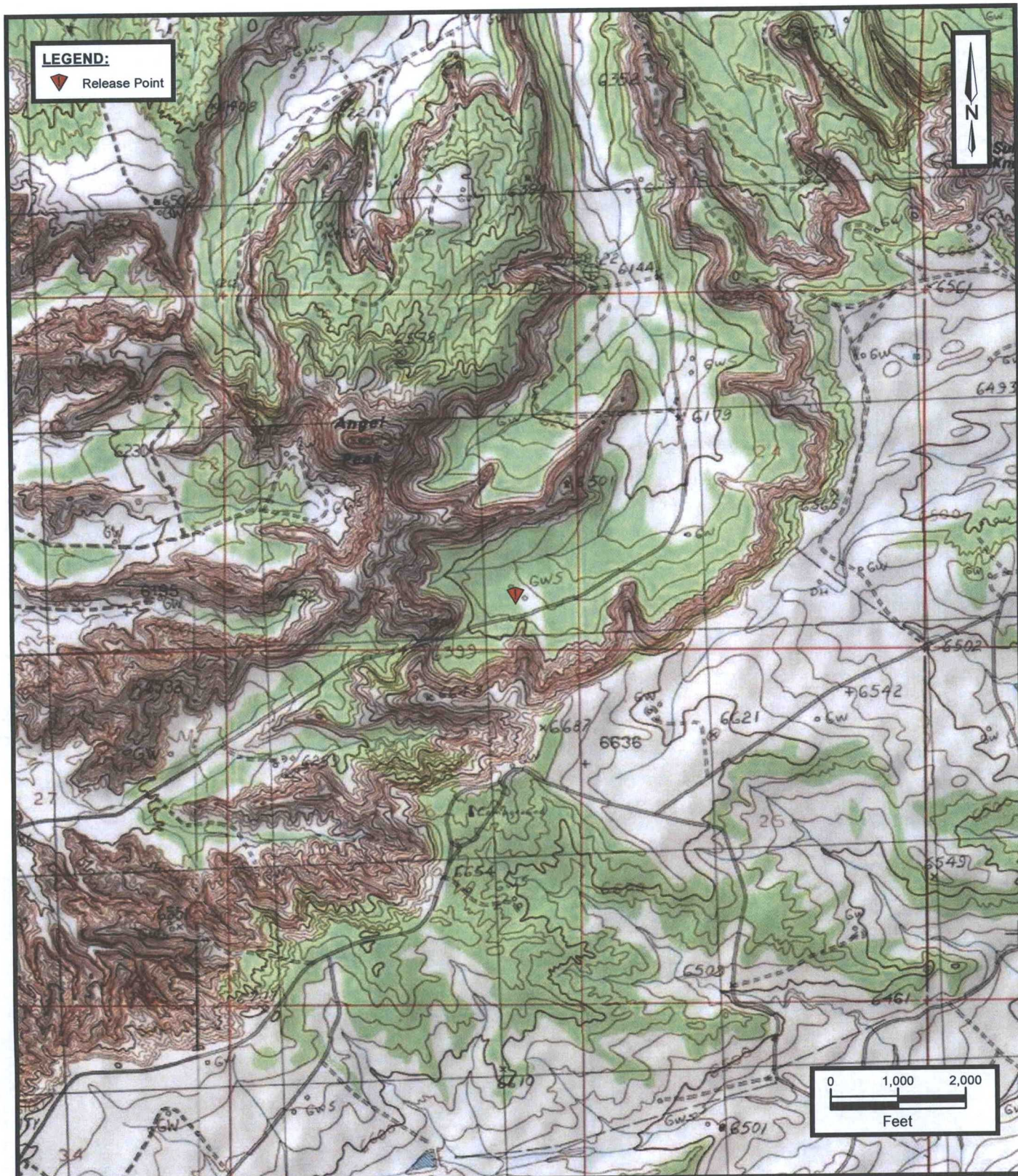
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence 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

---



**Gordon #3**  
 SE1/4 S23 T27N R10W  
 San Juan County, New Mexico  
 36.55558 N, 107.85931 W

Project No. 725040112278



### Apex TITAN, Inc.

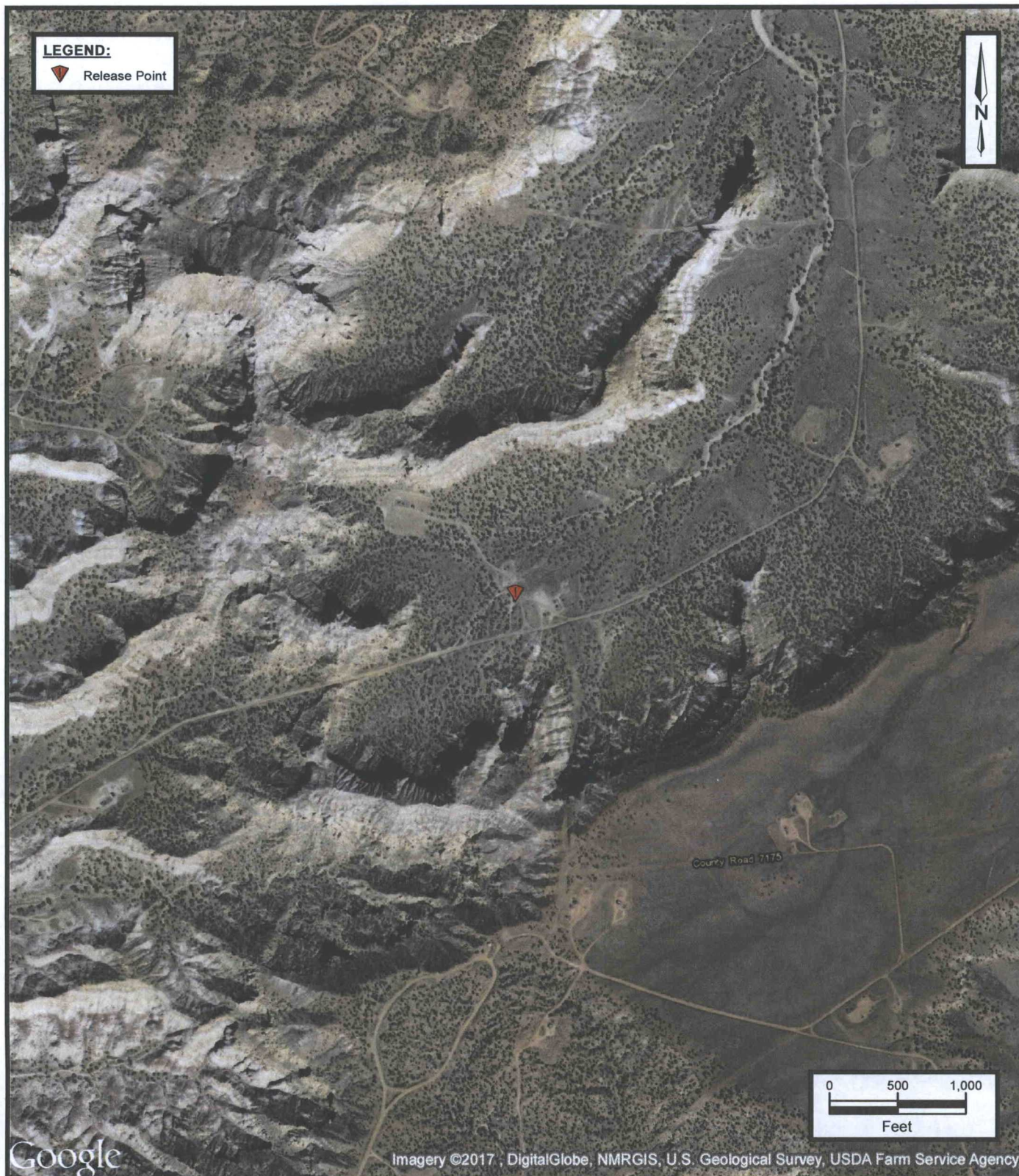
606 South Rio Grande, Suite A  
 Aztec, New Mexico 87410  
 Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)

A Subsidiary of Apex Companies, LLC

### FIGURE 1

### Topographic Map

Service Layer Credits:  
 Copyright © 2013 National Geographic Society, i-cubed,  
 Huerfano Peak and East Fork Kutz Canyon New Mexico 7.5-  
 Minute Quadrangles 1985



**Gordon #3**  
 SE1/4 S23 T27N R10W  
 San Juan County, New Mexico  
 36.55558 N, 107.85931 W

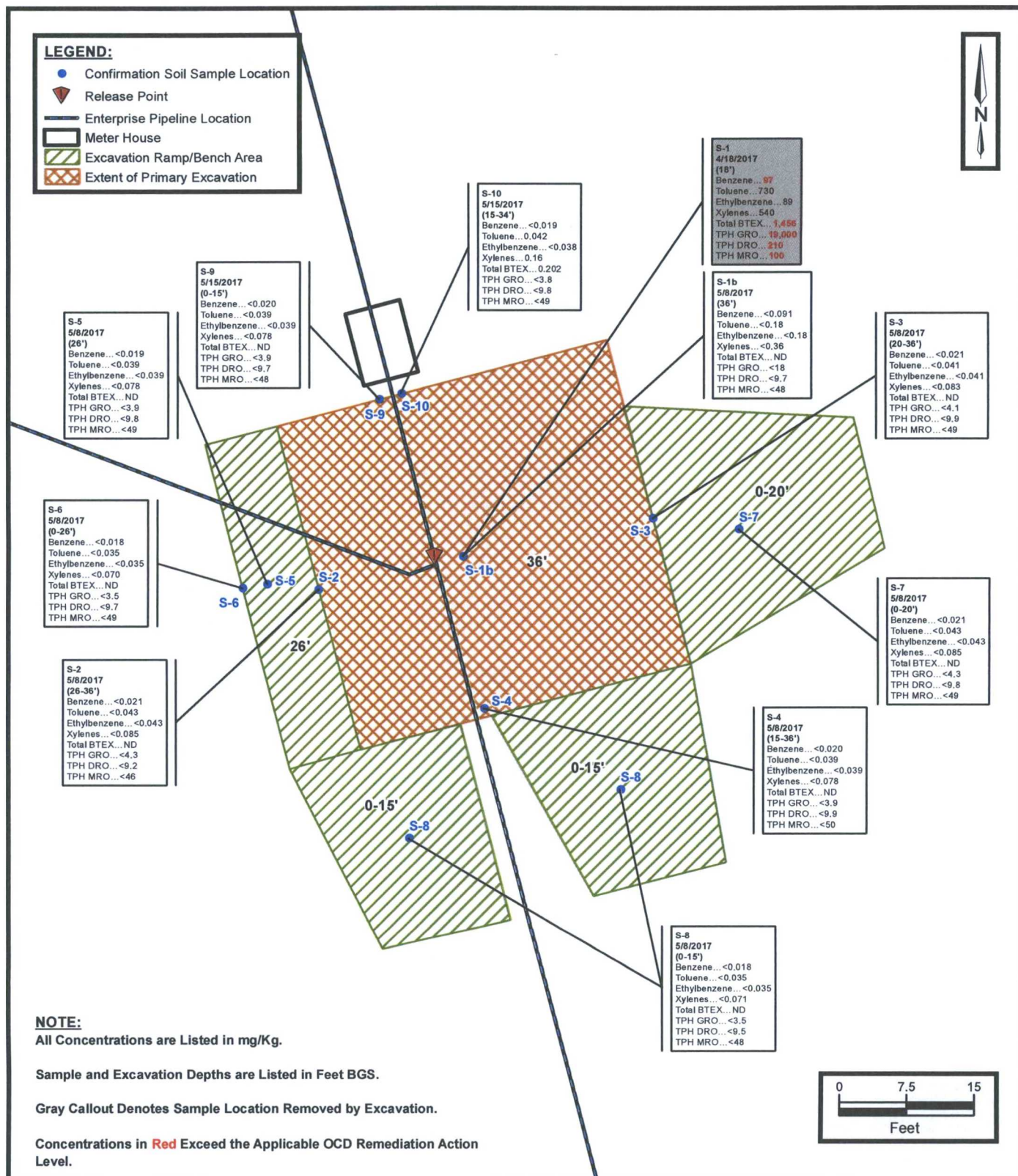
Project No. 725040112278



**Apex TITAN, Inc.**  
 606 South Rio Grande, Suite A  
 Aztec, New Mexico 87410  
 Phone: (505) 334-5200  
[www.apexcoss.com](http://www.apexcoss.com)  
 A Subsidiary of Apex Companies, LLC

**FIGURE 2**  
**Site Vicinity Map**

**Service Layer Credits:**  
 Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Aerial Photograph March 2015



Gordon #3  
SE1/4 S23 T27N R10W  
San Juan County, New Mexico  
36.55558 N, 107.85931 W



**Apex TITAN, Inc.**  
606 South Rio Grande, Suite A  
Aztec, New Mexico 87410  
Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

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

Project No. 725040112278

## APPENDIX B

### Executed C-138 Solid Waste Acceptance Forms

---

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-138  
Revised August 1, 2011  
97257-0840  
\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**  
Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401

2. **Originating Site:**  
Gordon #3 Pipeline

3. **Location of Material (Street Address, City, State or ULSTR):**  
Unit Letter P, Section 23, T27N, R10W; 36.5555580, -107.859306 April 2017

4. **Source and Description of Waste:** Hydrocarbon impacted soils associated with a release from a natural gas pipeline.

5. **Estimated Volume** 50 yd<sup>3</sup> bbls **Known Volume (to be entered by the operator at the end of the haul)** 2070 yd<sup>3</sup> / bbls

5. **GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS**

I, Thomas Long *Thomas Long* representative or authorized agent for Enterprise Field Services, LLC do hereby  
**PRINT & SIGN NAME** **COMPANY NAME**  
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988  
regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. **Operator Use Only: Waste Acceptance Frequency** ☐ Monthly ☐ Weekly ☐ Per Load

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long *Thomas Long* 4-6-17, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to  
Generator Signature  
complete the required testing/sign the Generator Waste Testing Certification.

I, Greg Crabtree *Greg Crabtree*, representative for Envirotech, Inc. do hereby certify that  
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples  
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results  
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of  
19.15.36 NMAC.

6. **Transporter:** Foutz & Bursum, AM Trucking, Esparza, Prado Farms, M+I, Envirotech, Ternco

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech, Inc. Soil Remediation Facility** \* Permit #: NM 01-0011  
Address of Facility: **Hilltop, NM**

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED**

☐ **DENIED (Must Be Maintained As Permanent Record)**

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager

DATE: 4/7/17

SIGNATURE: Greg Crabtree  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

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-138  
Revised August 1, 2011  
97057-0840  
\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. **Generator Name and Address:**  
Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. **Originating Site:**  
Gordon #3 Pipeline
3. **Location of Material (Street Address, City, State or ULSTR):**  
Unit Letter P, Section 23, T27N, R10W; 36.5555580, -107.859306 May 2017
4. **Source and Description of Waste:** Hydrocarbon impacted soils associated with a release from a natural gas pipeline.
5. **Estimated Volume** 50 yd<sup>3</sup> bbls **Known Volume** (to be entered by the operator at the end of the haul) 774 yd<sup>3</sup> bbls

### 5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

- I, Thomas Long *Thomas Long* representative or authorized agent for Enterprise Field Services, LLC do hereby  
**PRINT & SIGN NAME** **COMPANY NAME**  
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988  
regulatory determination, the above described waste is: (Check the appropriate classification)
- ☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. **Operator Use Only: Waste Acceptance Frequency** ☐ Monthly ☐ Weekly ☐ Per Load
- ☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
- ☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)

### GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

- I, Thomas Long *Thomas Long*, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to  
Generator Signature  
complete the required testing/sign the Generator Waste Testing Certification.
- I, Greg Crabtree *Greg Crabtree*, representative for Envirotech, Inc. do hereby certify that  
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples  
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results  
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of  
19.15.36 NMAC.
6. **Transporter:** Foutz & Bursum, TERNCO, Mt I, Prado Farms

### OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech, Inc. Soil Remediation Facility** \* Permit #: NM 01-0011

Address of Facility: **Hilltop, NM**

Method of Treatment and/or Disposal:

☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:

☒ **APPROVED**

☐ **DENIED** (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager DATE: 5/5/17

SIGNATURE: Greg Crabtree  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

## APPENDIX C

### Photographic Documentation

---

**Photograph 1**

View of the in-process excavation activities, facing north.



**Photograph 2**



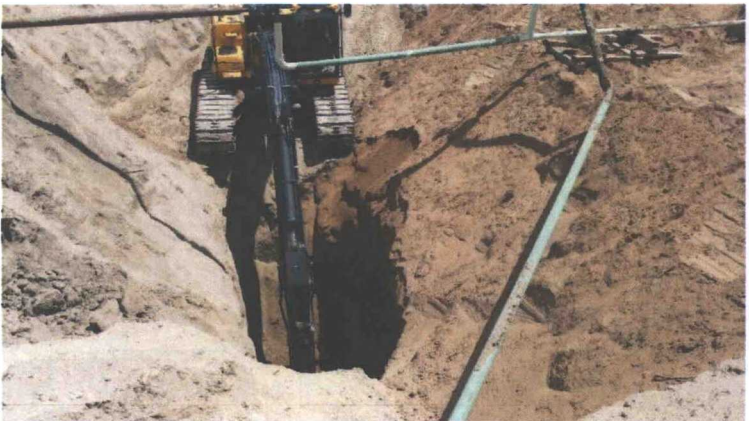
View of the excavation, facing north.



**Photograph 3**

View of the excavation, facing east.



<p><b>Photograph 4</b></p> <p>View of the in-process excavation activities.</p>	
<p><b>Photograph 5</b></p> <p>View of the excavation with southern portion backfilled to allow additional excavation of the north wall (facing west).</p>	
<p><b>Photograph 6</b></p> <p>View of the in-process excavation of north wall after southern portion backfilled for pipeline support.</p>	

## APPENDIX D

### Table

---



**TABLE 1**  
Gordon #3 Well Tie Release  
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	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 MRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100		
Interim Excavation Sample Removed by Excavation										
S-1	4.18.19	18	97	730	89	540	1,456	19,000	210	100
Over-Excavation Soil Samples										
S-1b	5.08.17	36	<0.091	<0.18	<0.18	<0.36	ND	<18	<9.7	<48
S-2	5.08.17	26 to 36	<0.021	<0.043	<0.043	<0.085	ND	<4.3	<9.2	<46
S-3	5.08.17	20 to 36	<0.021	<0.041	<0.041	<0.083	ND	<4.1	<9.9	<49
S-4	5.08.17	15 to 36	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.9	<50
S-5	5.08.17	26	<0.019	<0.039	<0.039	<0.078	ND	<3.9	<9.8	<49
S-6	5.08.17	0 to 26	<0.018	<0.035	<0.035	<0.070	ND	<3.5	<9.7	<49
S-7	5.08.17	0 to 20	<0.021	<0.043	<0.043	<0.085	ND	<4.3	<9.8	<49
S-8	5.08.17	0 to 15	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<9.5	<48
S-9	5.15.17	0 to 15	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.7	<48
S-10	5.15.17	15 to 34	<0.019	0.042	<0.038	0.16	0.20	<3.8	<9.8	<49

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not Established

mg/kg = milligram per kilogram

Appendix E

Laboratory Data Sheets  
& Chain of Custody Documentation

---



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

April 20, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Gordon 3

OrderNo.: 1704813

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/19/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1704813

Date Reported: 4/20/2017

CLIENT: APEX TITAN

Client Sample ID: S-1

Project: Gordon 3

Collection Date: 4/18/2017 2:00:00 PM

Lab ID: 1704813-001

Matrix: MEOH (SOIL)

Received Date: 4/19/2017 6:46:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	210	9.4		mg/Kg	1	4/19/2017 10:42:02 AM	31309
Motor Oil Range Organics (MRO)	100	47		mg/Kg	1	4/19/2017 10:42:02 AM	31309
Surr: DNOP	105	70-130		%Rec	1	4/19/2017 10:42:02 AM	31309
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	19000	1800		mg/Kg	500	4/19/2017 10:29:59 AM	31299
Surr: BFB	109	54-150		%Rec	500	4/19/2017 10:29:59 AM	31299
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	97	0.90		mg/Kg	50	4/19/2017 9:43:13 AM	31299
Toluene	730	18		mg/Kg	500	4/19/2017 10:29:59 AM	31299
Ethylbenzene	89	1.8		mg/Kg	50	4/19/2017 9:43:13 AM	31299
Xylenes, Total	540	36		mg/Kg	500	4/19/2017 10:29:59 AM	31299
Surr: 4-Bromofluorobenzene	120	66.6-132		%Rec	500	4/19/2017 10:29:59 AM	31299

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1704813

20-Apr-17

Client: APEX TITAN

Project: Gordon 3

Sample ID	LCS-31309		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31309		RunNo: 42208					
Prep Date:	4/19/2017		Analysis Date: 4/19/2017		SeqNo: 1326052		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	95.0	63.8	116			
Surr: DNOP	4.5		5.000		89.6	70	130			

Sample ID	MB-31309	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	31309		RunNo:	42208				
Prep Date:	4/19/2017	Analysis Date:	4/19/2017		SeqNo:	1326053		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		104	70	130			

Sample ID	1704813-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	S-1		Batch ID: 31309		RunNo: 42208					
Prep Date:	4/19/2017		Analysis Date: 4/19/2017		SeqNo: 1326438		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	220	9.8	48.97	206.6	19.0	51.6	130			S
Surr: DNOP	4.7		4.897		96.9	70	130			

Sample ID	1704813-001AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	S-1		Batch ID: 31309		RunNo: 42208					
Prep Date:	4/19/2017		Analysis Date: 4/19/2017		SeqNo: 1326439		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	220	9.2	46.00	206.6	19.3	51.6	130	0.193	20	S
Surr: DNOP	4.6		4.600		100	70	130	0	0	

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1704813

20-Apr-17

Client: APEX TITAN

Project: Gordon 3

Sample ID	MB-31299	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	31299	RunNo:	42221					
Prep Date:	4/18/2017	Analysis Date:	4/19/2017	SeqNo:	1326923	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.2	54	150			

Sample ID	LCS-31299	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	31299	RunNo:	42221					
Prep Date:	4/18/2017	Analysis Date:	4/19/2017	SeqNo:	1326924	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	100	76.4	125			
Surr: BFB	1000		1000		102	54	150			

## Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1704813

20-Apr-17

Client: APEX TITAN

Project: Gordon 3

Sample ID	MB-31299		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	31299		RunNo:	42221			
Prep Date:	4/18/2017		Analysis Date:	4/19/2017		SeqNo:	1326955		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	66.6	132			

Sample ID	LCS-31299		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	31299		RunNo:	42221			
Prep Date:	4/18/2017		Analysis Date:	4/19/2017		SeqNo:	1326956		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.8	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1704813

ReptNo: 1

Received By: Lindsay Mangin 4/19/2017 6:46:00 AM

Completed By: Lindsay Mangin 4/19/2017 7:13:12 AM

Reviewed By: A 04/19/17

### Chain of Custody

- |  |         |    |               |
|--|---------|----|---------------|
| 1. Custody seals intact on sample bottles? | Yes     | No | Not Present ✓ |
| 2. Is Chain of Custody complete?           | Yes ✓   | No | Not Present   |
| 3. How was the sample delivered?           | Courier |    |               |

### Log In

- |   |       |      |  |
|---|-------|------|--|
| 4. Was an attempt made to cool the samples?   | Yes ✓ | No   | NA                                     |
| 5. Were all samples received at a temperature of >0° C to 6.0°C                           | Yes ✓ | No   | NA                                     |
| 6. Sample(s) in proper container(s)?  | Yes ✓ | No   |  |
| 7. Sufficient sample volume for indicated test(s)?  | Yes ✓ | No   |  |
| 8. Are samples (except VOA and ONG) properly preserved?                                   | Yes ✓ | No   |  |
| 9. Was preservative added to bottles?   | Yes   | No ✓ | NA                                     |
| 10. VOA vials have zero headspace?  | Yes   | No   | No VOA Vials ✓                         |
| 11. Were any sample containers received broken?   | Yes   | No ✓ | # of preserved bottles checked for pH: |
| 12. Does paperwork match bottle labels?<br>(Note discrepancies on chain of custody)       | Yes ✓ | No   | (<2 or >12 unless noted)               |
| 13. Are matrices correctly identified on Chain of Custody?                                | Yes ✓ | No   | Adjusted?                              |
| 14. Is it clear what analyses were requested?   | Yes ✓ | No   |  |
| 15. Were all holding times able to be met?<br>(If no, notify customer for authorization.) | Yes ✓ | No   | Checked by:                            |

### Special Handling (if applicable)

- |   |     |    |      |
|---|-----|----|------|
| 16. Was client notified of all discrepancies with this order? | Yes | No | NA ✓ |
|---|-----|----|------|

Person Notified:

Date:

By Whom:

Via:

eMail

Phone

Fax

In Person

Regarding:

Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.1	Good	Yes			

  
APEX  
Office Location Attec dn  
  
Project Manager R Summers

Laboratory: Hall Eng  
Address: ABC Nw  
Contact: K Summers  
Phone: \_\_\_\_\_  
PO/SQ #: \_\_\_\_\_

ANALYSIS  
REQUESTED

Lab use only  
Due Date:

Temp. of coolers  
when received (C°): 1 1/2

1	2	3	4	5
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Page 1 of 1

Sampler's Name <i>Chad D'Aponte</i>		Sampler's Signature <i>[Signature]</i>	
Proj. No.	Project Name <i>Garden #3</i>	No./Type of Containers	

[illegible]

Lab Sample ID (Lab Use Only)

1704813-00

Turn around time	<input type="checkbox"/> Normal	<input type="checkbox"/> 25% Rush	<input type="checkbox"/> 50% Rush	<input checked="" type="checkbox"/> 100% Rush
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Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
<i>[Signature]</i>	4/18/17	1610	<i>[Signature]</i>	4/18/17	1610
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
<i>[Signature]</i>	4/18/17	1820	<i>[Signature]</i>	4/19/17	1820
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES:

Bill B Tom Long  
AFC H N30227

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



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

May 10, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Gordon #3

OrderNo.: 1705436

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 5/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1705436

Date Reported: 5/10/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** S-3**Project:** Gordon #3**Collection Date:** 5/8/2017 1:00:00 PM**Lab ID:** 1705436-001**Matrix:** SOIL**Received Date:** 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/9/2017 9:50:33 AM	31634
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/9/2017 9:50:33 AM	31634
Surr: DNOP	119	70-130		%Rec	1	5/9/2017 9:50:33 AM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	5/9/2017 9:24:01 AM	31610
Surr: BFB	108	54-150		%Rec	1	5/9/2017 9:24:01 AM	31610
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	5/9/2017 9:24:01 AM	31610
Toluene	ND	0.041		mg/Kg	1	5/9/2017 9:24:01 AM	31610
Ethylbenzene	ND	0.041		mg/Kg	1	5/9/2017 9:24:01 AM	31610
Xylenes, Total	ND	0.083		mg/Kg	1	5/9/2017 9:24:01 AM	31610
Surr: 4-Bromofluorobenzene	122	66.6-132		%Rec	1	5/9/2017 9:24:01 AM	31610

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1705436

Date Reported: 5/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-2

Project: Gordon #3

Collection Date: 5/8/2017 1:05:00 PM

Lab ID: 1705436-002

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	5/9/2017 10:12:37 AM	31634
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	5/9/2017 10:12:37 AM	31634
Surr: DNOP	102	70-130		%Rec	1	5/9/2017 10:12:37 AM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	5/9/2017 9:47:56 AM	31610
Surr: BFB	109	54-150		%Rec	1	5/9/2017 9:47:56 AM	31610
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	5/9/2017 9:47:56 AM	31610
Toluene	ND	0.043		mg/Kg	1	5/9/2017 9:47:56 AM	31610
Ethylbenzene	ND	0.043		mg/Kg	1	5/9/2017 9:47:56 AM	31610
Xylenes, Total	ND	0.085		mg/Kg	1	5/9/2017 9:47:56 AM	31610
Surr: 4-Bromofluorobenzene	121	66.6-132		%Rec	1	5/9/2017 9:47:56 AM	31610

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705436

Date Reported: 5/10/2017

CLIENT: APEX TITAN

Client Sample ID: S-1b

Project: Gordon #3

Collection Date: 5/8/2017 1:10:00 PM

Lab ID: 1705436-003

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/9/2017 10:34:49 AM	31634
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/9/2017 10:34:49 AM	31634
Surr: DNOP	103	70-130		%Rec	1	5/9/2017 10:34:49 AM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	5/9/2017 10:11:52 AM	31610
Surr: BFB	106	54-150		%Rec	5	5/9/2017 10:11:52 AM	31610
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.091		mg/Kg	5	5/9/2017 10:11:52 AM	31610
Toluene	ND	0.18		mg/Kg	5	5/9/2017 10:11:52 AM	31610
Ethylbenzene	ND	0.18		mg/Kg	5	5/9/2017 10:11:52 AM	31610
Xylenes, Total	ND	0.36		mg/Kg	5	5/9/2017 10:11:52 AM	31610
Surr: 4-Bromofluorobenzene	117	66.6-132		%Rec	5	5/9/2017 10:11:52 AM	31610

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1705436

Date Reported: 5/10/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** S-4**Project:** Gordon #3**Collection Date:** 5/8/2017 1:15:00 PM**Lab ID:** 1705436-004**Matrix:** SOIL**Received Date:** 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	5/9/2017 10:56:54 AM	31634
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/9/2017 10:56:54 AM	31634
Surr: DNOP	99.8	70-130		%Rec	1	5/9/2017 10:56:54 AM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/9/2017 9:41:47 AM	G42643
Surr: BFB	98.4	54-150		%Rec	1	5/9/2017 9:41:47 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Toluene	ND	0.039		mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Ethylbenzene	ND	0.039		mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Xylenes, Total	ND	0.078		mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Surr: 4-Bromofluorobenzene	107	66.6-132		%Rec	1	5/9/2017 9:41:47 AM	B42643

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705436

Date Reported: 5/10/2017

CLIENT: APEX TITAN

Client Sample ID: S-5

Project: Gordon #3

Collection Date: 5/8/2017 1:20:00 PM

Lab ID: 1705436-005

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/9/2017 11:19:11 AM	31634
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/9/2017 11:19:11 AM	31634
Surr: DNOP	100	70-130		%Rec	1	5/9/2017 11:19:11 AM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/9/2017 10:05:18 AM	G42643
Surr: BFB	99.2	54-150		%Rec	1	5/9/2017 10:05:18 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.019		mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Toluene	ND	0.039		mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Ethylbenzene	ND	0.039		mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Xylenes, Total	ND	0.078		mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Surr: 4-Bromofluorobenzene	105	66.6-132		%Rec	1	5/9/2017 10:05:18 AM	B42643

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P Sample pH Not In Range
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1705436

Date Reported: 5/10/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** S-6**Project:** Gordon #3**Collection Date:** 5/8/2017 1:25:00 PM**Lab ID:** 1705436-006**Matrix:** SOIL**Received Date:** 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/9/2017 11:41:16 AM	31634
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/9/2017 11:41:16 AM	31634
Surr: DNOP	99.1	70-130		%Rec	1	5/9/2017 11:41:16 AM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	5/9/2017 10:28:47 AM	G42643
Surr: BFB	98.1	54-150		%Rec	1	5/9/2017 10:28:47 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.018		mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Toluene	ND	0.035		mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Ethylbenzene	ND	0.035		mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Xylenes, Total	ND	0.070		mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Surr: 4-Bromofluorobenzene	103	66.6-132		%Rec	1	5/9/2017 10:28:47 AM	B42643

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705436

Date Reported: 5/10/2017

CLIENT: APEX TITAN

Client Sample ID: S-7

Project: Gordon #3

Collection Date: 5/8/2017 1:30:00 PM

Lab ID: 1705436-007

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/9/2017 12:03:22 PM	31634
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/9/2017 12:03:22 PM	31634
Surr: DNOP	102	70-130		%Rec	1	5/9/2017 12:03:22 PM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	5/9/2017 10:52:28 AM	G42643
Surr: BFB	98.7	54-150		%Rec	1	5/9/2017 10:52:28 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	5/9/2017 10:52:28 AM	B42643
Toluene	ND	0.043		mg/Kg	1	5/9/2017 10:52:28 AM	B42643
Ethylbenzene	ND	0.043		mg/Kg	1	5/9/2017 10:52:28 AM	B42643
Xylenes, Total	ND	0.085		mg/Kg	1	5/9/2017 10:52:28 AM	B42643
Surr: 4-Bromofluorobenzene	103	66.6-132		%Rec	1	5/9/2017 10:52:28 AM	B42643

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Analytical Report

Lab Order 1705436

Date Reported: 5/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-8

Project: Gordon #3

Collection Date: 5/8/2017 1:35:00 PM

Lab ID: 1705436-008

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	5/9/2017 12:25:19 PM	31634
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/9/2017 12:25:19 PM	31634
Surr: DNOP	98.5	70-130		%Rec	1	5/9/2017 12:25:19 PM	31634
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	5/9/2017 11:16:06 AM	G42643
Surr: BFB	99.3	54-150		%Rec	1	5/9/2017 11:16:06 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Toluene	ND	0.035		mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Ethylbenzene	ND	0.035		mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Xylenes, Total	ND	0.071		mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Surr: 4-Bromofluorobenzene	102	66.6-132		%Rec	1	5/9/2017 11:16:06 AM	B42643

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1705436

10-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	LCS-31634		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31634		RunNo: 42629					
Prep Date:	5/9/2017		Analysis Date: 5/9/2017		SeqNo: 1341178		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	10	50.00	0	101	63.8	116			
Surr: DNOP	5.1		5.000		101	70	130			

Sample ID	MB-31634	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	31634		RunNo:	42629				
Prep Date:	5/9/2017	Analysis Date:	5/9/2017		SeqNo:	1341179		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	11		10.00		112	70	130			

Sample ID	1705436-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	S-3		Batch ID: 31634		RunNo: 42629					
Prep Date:	5/9/2017		Analysis Date: 5/9/2017		SeqNo: 1341840		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.56	0	108	51.6	130			
Surr: DNOP	5.3		5.056		106	70	130			

Sample ID	1705436-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	S-3		Batch ID:	31634		RunNo:	42629				
Prep Date:	5/9/2017		Analysis Date:	5/9/2017		SeqNo:	1341841		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	48	9.6	47.85	0	100	51.6	130	13.0	20		
Surr: DNOP	4.9		4.785		102	70	130	0	0		

Sample ID	LCS-31616		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31616		RunNo: 42630					
Prep Date:	5/8/2017		Analysis Date: 5/9/2017		SeqNo: 1342303		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.5	70	130			

Sample ID	MB-31616		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31616		RunNo: 42630					
Prep Date:	5/8/2017		Analysis Date: 5/9/2017		SeqNo: 1342304		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705436

10-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	MB-31616	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	31616	RunNo:	42630					
Prep Date:	5/8/2017	Analysis Date:	5/9/2017	SeqNo:	1342304	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.9		10.00		88.6	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705436

10-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342221	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		98.0	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342222	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	76.4	125			
Surr: BFB	1100		1000		107	54	150			

Sample ID	1705436-004AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-4	Batch ID:	G42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342223	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.9	19.52	0	99.9	61.3	150			
Surr: BFB	840		780.6		108	54	150			

Sample ID	1705436-004AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-4	Batch ID:	G42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342224	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.9	19.52	0	99.9	61.3	150	0	20	
Surr: BFB	850		780.6		109	54	150	0	0	

Sample ID	MB-31610	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	31610	RunNo:	42644					
Prep Date:	5/8/2017	Analysis Date:	5/9/2017	SeqNo:	1342240	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		110	54	150			

Sample ID	LCS-31610	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	31610	RunNo:	42644					
Prep Date:	5/8/2017	Analysis Date:	5/9/2017	SeqNo:	1342241	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		110	54	150			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705436

10-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	LCS-31610		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	31610		RunNo:	42644				
Prep Date:	5/8/2017		Analysis Date:	5/9/2017		SeqNo:	1342241		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	76.4	125				
Surr: BFB	1200		1000		119	54	150				

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1705436

10-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342228	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342229	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.0	80	120			
Toluene	0.89	0.050	1.000	0	89.1	80	120			
Ethylbenzene	0.90	0.050	1.000	0	90.2	80	120			
Xylenes, Total	2.7	0.10	3.000	0	89.7	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	66.6	132			

Sample ID	1705436-005AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-5	Batch ID:	B42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342230	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.69	0.019	0.7752	0	89.0	61.5	138			
Toluene	0.72	0.039	0.7752	0.01052	91.0	71.4	127			
Ethylbenzene	0.73	0.039	0.7752	0.01005	93.3	70.9	132			
Xylenes, Total	2.3	0.078	2.326	0.05437	95.2	76.2	123			
Surr: 4-Bromofluorobenzene	0.86		0.7752		110	66.6	132			

Sample ID	1705436-005AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-5	Batch ID:	B42643	RunNo:	42643					
Prep Date:		Analysis Date:	5/9/2017	SeqNo:	1342231	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.69	0.019	0.7752	0	88.8	61.5	138	0.233	20	
Toluene	0.72	0.039	0.7752	0.01052	91.1	71.4	127	0.127	20	
Ethylbenzene	0.74	0.039	0.7752	0.01005	93.6	70.9	132	0.355	20	
Xylenes, Total	2.3	0.078	2.326	0.05437	95.2	76.2	123	0.0150	20	
Surr: 4-Bromofluorobenzene	0.86		0.7752		111	66.6	132	0	0	

### Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705436

10-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	MB-31610	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: 31610			RunNo: 42644					
Prep Date:	5/8/2017	Analysis Date: 5/9/2017			SeqNo: 1342271		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.2		1.000		124	66.6	132			

Sample ID	LCS-31610		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31610		RunNo: 42644					
Prep Date:	5/8/2017		Analysis Date: 5/9/2017		SeqNo: 1342272		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.9	80	120			
Toluene	0.98	0.050	1.000	0	98.3	80	120			
Ethylbenzene	0.99	0.050	1.000	0	99.3	80	120			
Xylenes, Total	3.0	0.10	3.000	0	101	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	66.6	132			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1705436

RcptNo: 1

Received By: Anne Thorne

5/9/2017 7:30:00 AM

*Anne Thorne*

Completed By: Anne Thorne

5/9/2017 7:44:28 AM

*Anne Thorne*

Reviewed By:

*AS*

5/9/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

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

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			



Office Location

Aztec NM

Project Manager K Summers

Sampler's Name

Chad Sapanti

Laboratory:

Hall Eng

Address:

ABQ NM

Contact:

A Freeman

Phone:

PO/SO #:

ANALYSIS  
REQUESTED

Lab use only

Due Date:

1.2

Temp. of coolers  
when received (C°):

1 2 3 4 5

Page 1 of 1

Proj. No.

Project Name

Gordon #3

No/Type of Containers

Matrix	Date	Time	Coed	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AVG 1 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	5/8/17	1300			S-3								1705436 -C01
		1305			S-2								-C02
		1310			S-10								-C03
		1315			S-4								-C04
		1320			S-5								-C05
		1325			S-6								-C06
		1330			S-7								-C07
		1335			S-8								-C08

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

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Date:

Time:

NOTES:

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  
ContainerWW - Wastewater  
VOA - 40 ml vialW - Water  
A/G - Amber / Or Glass 1 LiterS - Soil  
SD - SolidL - Liquid  
250 ml - Glass wide mouth

A - Air Bag

C - Charcoal tube  
P/O - Plastic or other

SL - sludge

O - Oil



*Hall Environmental Analysis Laboratory*  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

May 17, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Gordon #3

OrderNo.: 1705777

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/16/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1705777

Date Reported: 5/17/2017

CLIENT: APEX TITAN

Client Sample ID: S-9

Project: Gordon #3

Collection Date: 5/15/2017 2:30:00 PM

Lab ID: 1705777-001

Matrix: SOIL

Received Date: 5/16/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/16/2017 9:35:34 AM	31757
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/16/2017 9:35:34 AM	31757
Surr: DNOP	90.4	70-130		%Rec	1	5/16/2017 9:35:34 AM	31757
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/16/2017 9:12:29 AM	31750
Surr: BFB	103	54-150		%Rec	1	5/16/2017 9:12:29 AM	31750
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	5/16/2017 9:12:29 AM	31750
Toluene	ND	0.039		mg/Kg	1	5/16/2017 9:12:29 AM	31750
Ethylbenzene	ND	0.039		mg/Kg	1	5/16/2017 9:12:29 AM	31750
Xylenes, Total	ND	0.078		mg/Kg	1	5/16/2017 9:12:29 AM	31750
Surr: 4-Bromofluorobenzene	108	66.6-132		%Rec	1	5/16/2017 9:12:29 AM	31750

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1705777

Date Reported: 5/17/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-10

Project: Gordon #3

Collection Date: 5/15/2017 2:40:00 PM

Lab ID: 1705777-002

Matrix: SOIL

Received Date: 5/16/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	5/16/2017 10:03:18 AM	31757
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	5/16/2017 10:03:18 AM	31757
Surr: DNOP	90.0	70-130		%Rec	1	5/16/2017 10:03:18 AM	31757
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	5/16/2017 9:36:33 AM	31750
Surr: BFB	101	54-150		%Rec	1	5/16/2017 9:36:33 AM	31750
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.019		mg/Kg	1	5/16/2017 9:36:33 AM	31750
Toluene	0.042	0.038		mg/Kg	1	5/16/2017 9:36:33 AM	31750
Ethylbenzene	ND	0.038		mg/Kg	1	5/16/2017 9:36:33 AM	31750
Xylenes, Total	0.16	0.075		mg/Kg	1	5/16/2017 9:36:33 AM	31750
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	5/16/2017 9:36:33 AM	31750

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1705777

17-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	LCS-31757		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31757		RunNo: 42805					
Prep Date:	5/16/2017		Analysis Date: 5/16/2017		SeqNo: 1346453		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.5	73.2	114			
Surr: DNOP	4.7		5.000		93.8	70	130			

Sample ID	MB-31757	SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	PBS	Batch ID: 31757		RunNo: 42805						
Prep Date:	5/16/2017	Analysis Date: 5/16/2017		SeqNo: 1346454		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.3		10.00		83.4	70	130			

Sample ID	1705777-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	S-9		Batch ID: 31757		RunNo: 42805					
Prep Date:	5/16/2017		Analysis Date: 5/16/2017		SeqNo: 1346866		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.7	48.40	2.705	92.5	55.8	122			
Surr: DNOP	4.5		4.840		93.3	70	130			

Sample ID	1705777-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	S-9		Batch ID:	31757		RunNo:	42805				
Prep Date:	5/16/2017		Analysis Date:	5/16/2017		SeqNo:	1346867		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	48	9.9	49.31	2.705	92.4	55.8	122	1.71	20		
Surr: DNOP	4.6		4.931		93.6	70	130	0	0		

Sample ID	LCS-31741		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31741		RunNo: 42804					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1346873		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9		5.000		77.5	70	130			

Sample ID	MB-31741		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31741		RunNo: 42804					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1346874		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705777

17-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	MB-31741		SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS		Batch ID:	31741		RunNo:	42804				
Prep Date:	5/15/2017		Analysis Date:	5/16/2017		SeqNo:	1346874		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	8.5		10.00		84.9	70	130				

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705777

17-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	MB-31750		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 31750		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347048		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		97.5	54	150			

Sample ID	LCS-31750		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 31750		RunNo: 42820					
Prep Date:	5/15/2017		Analysis Date: 5/16/2017		SeqNo: 1347049		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.9	76.4	125			
Surr: BFB	1100		1000		105	54	150			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1705777

17-May-17

Client: APEX TITAN

Project: Gordon #3

Sample ID	MB-31750	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	31750	RunNo:	42820					
Prep Date:	5/15/2017	Analysis Date:	5/16/2017	SeqNo:	1347081	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

Sample ID	LCS-31750	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	31750	RunNo:	42820					
Prep Date:	5/15/2017	Analysis Date:	5/16/2017	SeqNo:	1347082	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.7	80	120			
Toluene	0.95	0.050	1.000	0	94.8	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.3	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1705777

RcptNo: 1

Received By: Anne Thorne

5/16/2017 7:20:00 AM

*Anne Thorne*

Completed By: Anne Thorne

5/16/2017 7:32:13 AM

*Anne Thorne*

Reviewed By:

*AT*

5/16/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted? \_\_\_\_\_

Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified: \_\_\_\_\_

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

By Whom: \_\_\_\_\_

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: \_\_\_\_\_

Client Instructions: \_\_\_\_\_

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			



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: Enterprise Field Services, LLC	Contact: Thomas Long
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name: Lateral H-45	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: BLM	Mineral Owner: BLM	Serial Number: NM 097563
--------------------	--------------------	--------------------------

LOCATION OF RELEASE

Unit Letter A	Section 11	Township 31N	Range 13W	Feet from the 642	North South Line	Feet from the 946	East West Line	County San Juan
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OIL CONS. DIV DIST. 3

Latitude 36.91977

Longitude -108.16735

JUL 17 2017

NATURE OF RELEASE

Type of Release: Natural Gas/Water/Condensate	Volume of Release <b>8.78 MCF Gas; 10-15 BBLs Condensate</b>	Volume Recovered: <b>None</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>2/11/2017 @ 11:45 a.m.</b>	Date and Hour of Discovery: <b>2/11/2017 @ 11:45 a.m.</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith - NMOCD; Whitey Thomas -BLM	
By Whom? Thomas Long	Date and Time. 2/11/2017 @ 2:35 p.m.	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume	

If a Watercourse was Impacted, Describe Fully.\* The release was located in a small ephemeral wash and fluids flowed approximately 450 feet down the wash where the flow was terminated and stable.

Describe Cause of Problem and Remedial Action: On February 11, 2017, Enterprise technicians were notified of a release on the Lateral H-45 pipeline. The release was located in a small ephemeral wash and fluids flowed approximately 450 feet down the wash where the flow was terminated and stable. The pipeline was isolated, blown down, locked out and tagged out. The remediation was complete on April 17, 2017.

Describe Area Affected and Cleanup Action: Due to the rains on February 12 and 13, 2017, the released fluids were mobilized further down gradient. On February 13, 2017, Enterprise personnel installed earthen berms, absorbent socks/booms, absorbent pads and Sphag Sorb in the wash to reduce mobilization of the oil/condensate mixture further down gradient. The remediation was complete on April 17, 2017. The contaminant mass was removed by mechanical excavation. Approximately 1,412 cubic yards of hydrocarbon impacted soil was excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141.

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

Signature: <i>Jon Fields</i>	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>9/14/17</u>	Expiration Date: <u>          </u>
E-mail Address: jefields@eprod.com	Conditions of Approval: <u>          </u>	Attached <input type="checkbox"/>
Date: <u>7-12-2017</u>	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS1704531637

(65)



## CORRECTIVE ACTION REPORT

Property:

**Lateral H-45  
NE 1/4, S11 T31N R13W  
San Juan County, New Mexico**

**OIL CONS. DIV DIST. 3  
JUL 17 2017**

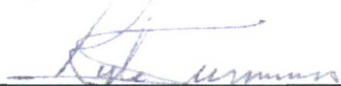
June 27, 2017  
Apex Project No. 725040112257

Prepared for:

**Enterprise Field Services, LLC  
614 Reilly Avenue  
Farmington, NM 87401  
Attn: Mr. Thomas Long**

Prepared by:

  
Chad D'Aponti  
Project Scientist

  
Kyle Summers, CPG  
Branch Manager / Senior Geologist

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## CORRECTIVE ACTION REPORT

### Lateral H-45 Pipeline Release

NE 1/4, S11 T31N R13W  
San Juan County, New Mexico

Apex Project No. 725040112257

## 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Lateral H-45 Pipeline Release Site originates at the Enterprise Field Services, LLC (Enterprise) pipeline in the northeast (NE) ¼ of Section 11, Township 31 North, Range 13 West, in rural San Juan County, New Mexico (36.919791N, 108.167367W), referred to hereinafter as the "Site". The Site is located on land managed by the Bureau of Land Management (BLM). The Site is surrounded by native-vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including one (1) Enterprise natural gas pipeline which traverses the area from approximately north to south.

A release of natural gas and associated pipeline liquids was discovered at the Site on February 11, 2017. The release breached the ground surface near the pipeline, and pipeline liquids traveled west approximately 700 feet in an unnamed ephemeral wash, and then south-southwest an additional 400 feet. Enterprise, Envirotech, Inc. (Envirotech), and New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) representatives were on Site on February 13, 2017 for the initial response actions, during which hand tools and sorbents were utilized to collect free liquids and saturated soils from the ground surface. Spill containment activities performed by Envirotech during the initial response actions are documented in a letter report titled *Spill Assessment Documentation for the release of Liquid Hydrocarbons from a Pipeline near La Plata, San Juan County, New Mexico* – Envirotech, March 23, 2017 (provided in Appendix A).

On February 15, 2017, Apex TITAN, Inc. (Apex) visited the Site to map the flow path and perform soil field screening. Preliminary photoionization detector (PID) measurements of the soils indicated that hydrocarbon affected soils were present at the ground surface in the upper flow path near the point of release.

At the request of the OCD, Enterprise submitted a sampling plan to evaluate surficial impact at the Site. The *Soil Sampling Work Plan – Surface Flow Path – Apex*, February 27, 2017, was submitted to the OCD and subsequently approved for implementation. On March 8, 2017, Apex performed the flow path sampling activities, collecting a total of 13 surface samples for laboratory analyses to evaluate constituent of concern (COCs) concentrations in shallow soils.

On April 13, 2017, Enterprise initiated corrective action activities at the Site to facilitate the repair of the pipeline, and to remediate hydrocarbon impact.

A **Topographic Map** is provided as **Figure 1 of Appendix B**, which was reproduced from a portion of a United State Geological Survey (USGS) 7.5-minute series topographic map. A **Site Vicinity Map**, created from an aerial photograph, is provided as **Figure 2 of Appendix B**.

## 1.2 Project Objective

The primary objective of the environmental corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD *Remediation Action Levels (RALs)* 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 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	20
	200 to 1,000 feet	10	
	>1,000 feet	0	
Total Ranking Score			40

Based on Apex's evaluation of the scoring criteria, the Site would earn a maximum Total Ranking Score of "40". This ranking is based on the following:

- The nearest water well (SJ 01026) identified on the OSE website is located approximately 0.67 miles northwest of the Site, but the website does not identify a depth to water. Based on the Site's proximity to the McDermott Arroyo, depth to groundwater is anticipated to be less than 50 feet bgs resulting in a ranking score of "20" for depth to groundwater.
- No water sources (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. These proximities result in a wellhead protection area ranking score of "0".
- A portion of the release flowed into a portion of an apparent high-water flood channel of the McDermott Arroyo that is listed as a "blue line" on the USGS topographic map, resulting in a ranking score of "20" for distance to surface water.

## 3.0 RESPONSE ACTIONS

### 3.1 Flow Path Soil Sampling and Pipeline Repair

On March 8, 2017, Apex collected five (5) composite soil samples (FP-1 through FP-5) along the primary release flow path and eight (8) composite soil samples (Q-1 through Q-8), from areas of

potential sheet flow near the McDermott Arroyo flood channel for laboratory analysis. The sample frequencies were based on the *Soil Sampling Work Plan – Surface Flow Path*, dated February 27, 2017, which describes that “each composite flow path sample will be comprised of five (5) aliquots collected at approximately 50-foot increments along the primary flow path” and that the “sheet flow area composite samples will each be comprised of five (5) aliquots collected from approximately 100-foot by 100-foot grids adjacent to the primary flow path.” A representative from the EMNRD OCD was present during the flow path/sheet-flow soil sampling event. Subsequent laboratory analytical results indicate that soils associated with flow path sample FP-1 exhibited hydrocarbon impact above OCD guidelines.

On April 11, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired. During the pipeline repair and corrective action activities, West States Energy Contractors, provided heavy equipment and labor support, and Apex provided environmental support.

The pipeline and upper flow path excavation activities were completed on April 17, 2017. A total of five (5) confirmation soil samples (S-1 through S-5) were collected from the sidewalls and floor of the pipeline right of way (ROW) excavation and two (2) composite samples (FP-1a and FP-1b) were collected from the excavated upper flow path for laboratory analysis. A representative from the EMNRD OCD was present during the soil sampling event.

The final pipeline ROW excavation measured approximately 33 feet long by 24 feet wide, with a total depth of approximately 20 feet bgs.

The extent of the total flow path measured approximately 1,100 feet in length and was typically three (3) feet to five (5) feet in width. The excavated upper portion of the flow path measured approximately 200 feet long, and was approximately 14 feet wide near the point of release, narrowing to approximately two (2) feet wide at the down-gradient extent. The total depth varied from approximately six (6) feet bgs near the point of release to six (6) inches bgs at the down-gradient extent.

The lithology encountered during the completion of corrective action activities consisted primarily of sand and gravel, weathered shale and sandstone.

A total of approximately 1,412 cubic yards of hydrocarbon affected soils were transported to the Industrial Ecosystems, Inc. landfarm on Crouch Mesa near Aztec, New Mexico for disposal/remediation. The executed C-138 form is provided in **Appendix C**. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

**Figure 3** is a **Flow Path Sampling Map** that indicates the approximate soil sample locations along the flow path (**Appendix B**). **Figure 4** is an **Excavation Area Map with Soil Analytical Results** that indicates the approximate sample locations in relation to the excavation extents and the location of the pipeline (**Appendix B**). Photographic documentation of the field activities is included in **Appendix D**.

### 3.2 Soil Sampling Program

Apex field screened soil samples from the flow path and excavations utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp and a calibrated Dexsil PetroFLAG® hydrocarbon analyzer system to guide excavation extents.

Apex's soil sampling program included the collection of 13 soil samples from the flow path and seven (7) confirmation soil samples (S-1 through S-5, FP-1a, and FP-1b) from the pipeline ROW and flow path excavations for laboratory analysis. **Figure 3** and **Figure 4** depict the approximate

locations of the excavated area and flow path, and identify the approximate sample locations in relation to the final excavation dimensions (**Appendix B**).

The samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels, and placed on ice in a cooler, which was secured with a custody seal. The sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis.

### 3.3 Laboratory Analytical Methods

The soil samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX) utilizing EPA SW-846 Method #8021, and total petroleum hydrocarbon (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO) using EPA SW-846 Method #8015.

Laboratory results are summarized in **Table 1**, included in **Appendix E**. The executed chain-of-custody form and laboratory data sheets are provided in **Appendix F**.

## 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 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation samples (S-1 through S-5, FP-1a, FP-1b, FP-2 through FP-5, and Q-1 through Q-8) collected from the excavated areas and flow path to the OCD RALs for sites having a total ranking score of "40". Soils associated with soil sample FP-1 were removed and transported to IEI for disposal/treatment, and are not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the PQLs, which are below the OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate total BTEX concentrations above the PQLs, which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO/MRO concentrations ranging from below the PQLs to 69 mg/kg (S-3), which are below the OCD RAL of 100 mg/kg for a Site ranking of "40".

The stockpiled soils resulting from the excavations were transported to the Industrial Ecosystems, Inc. landfarm on Crouch Mesa near Aztec, New Mexico for disposal/remediation.

Confirmation sample analytical results are provided in **Table 1** in **Appendix E**.

## 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral H-45 Pipeline Release Site originates at the Enterprise pipeline in the NE  $\frac{1}{4}$  of Section 11, Township 31 North, Range 13 West, in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including one (1) Enterprise natural gas pipeline which traverses the area from approximately north to south.

On February 15, 2017, Apex visited the Site to map the flow path and perform soil field screening. Preliminary PID measurements of the soils indicated that hydrocarbon affected soils were present at the ground surface in the upper flow path.

On March 8, 2017, Apex performed the flow path sampling activities, collecting a total of 13 surface samples for laboratory analyses to evaluate COC concentrations in shallow soils.

On April 13, 2017, Enterprise initiated corrective action activities at the Site to facilitate the repair of the pipeline, and to remediate hydrocarbon impact.

- The primary objective of the environmental corrective action was to reduce COC concentrations 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 lithology encountered during the completion of corrective action activities consisted primarily of sand and gravel, weathered shale and sandstone.
- The final pipeline ROW excavation measured approximately 33 feet long by 24 feet wide, with a total depth of approximately 20 feet bgs.
- The excavated upper portion of the flow path measured approximately 200 feet long, and was approximately 14 feet wide near the point of release, narrowing to approximately two (2) feet wide at the down-gradient extent. The total depth varied from approximately six (6) feet bgs near the point of release to six (6) inches bgs at the down-gradient extent.
  - A total of 20 soil samples were collected from the flow path and final excavations for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD *RALs* for a Site ranking of "40".
  - A total of approximately 1,412 cubic yards of hydrocarbon affected soils were transported to Industrial Ecosystems, Inc. landfarm on Crouch Mesa near Aztec, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

**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

### Spill Containment Documentation

---



March 23, 2017

Project Number 97057-0824

Mr. Tom Long  
Enterprise  
614 Reilly Ave  
Farmington, New Mexico, 87401

Phone: (505)599-2286  
Email: [tjlong@eprod.com](mailto:tjlong@eprod.com)

**RE: SPILL ASSESSMENT DOCUMENTATION FOR THE RELEASE OF LIQUID HYDROCARBONS  
FROM A PIPELINE NEAR LA PLATA, SAN JUAN COUNTY, NEW MEXICO**

Dear Mr. Long:

Enclosed please find the *Vicinity Map* and *Site Map*, for the activities performed at the pipeline spill located in Section 12, Township 31 North, Range 13 West, La Plata, San Juan County, New Mexico; see enclosed *Vicinity Map*. On February 13, 2017, Envirotech Inc. was contacted by Mr. Tom Long, Enterprise Products representative, to perform spill containment activities for a release of liquid hydrocarbons from a pipeline at the aforementioned location. Upon arrival to the site, a brief site assessment was performed and a Job Safety Analysis (JSA) was conducted. The area of release was approximately 0.8 of a mile southeast of the intersection of Highway 574 and County Road 1300, (36.91977, -108.16735) within an ephemeral wash; see enclosed *Site Map*. Due to an active precipitation event, water was running in the wash and a light sheen was observed on the water. Additionally, hydrocarbon impacted soil was observed along the spill path.

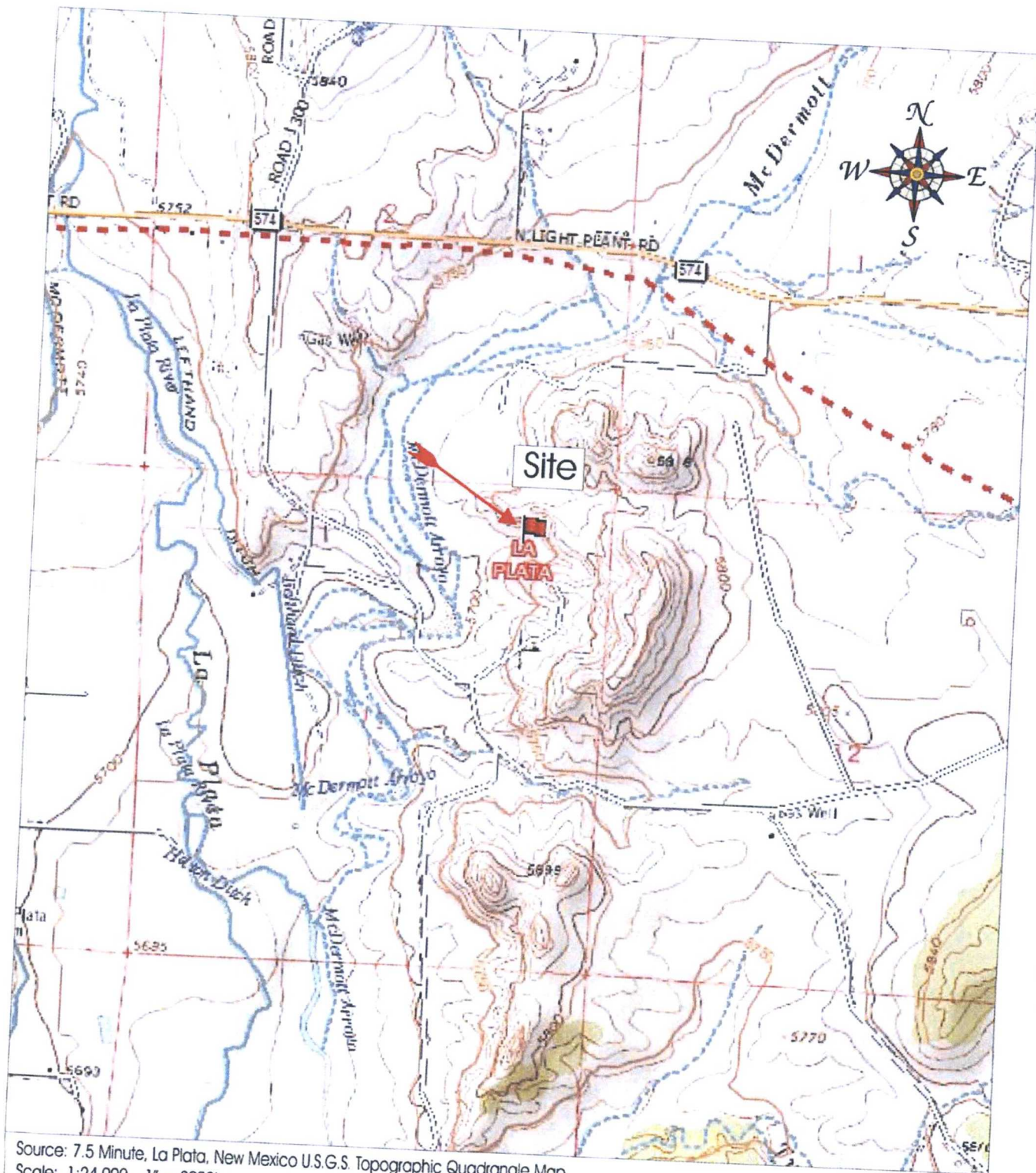
Envirotech personnel utilized the following material to confine and contain the release: one (1) bag of oil pads, four (4) bags of oil absorbing booms, and three (3) bags of sphagnum moss. The absorbent materials were used in conjunction with dirt dykes to mitigate additional migration of the contamination. Based on the on-site observations, Envirotech recommends remediation of the impacted areas, followed by confirmation sampling and analysis.

We appreciate the opportunity to be of service. Should you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully submitted,  
**ENVIROTECH, INC.**

  
Anthony Lee  
Environmental Field Technician  
[alee@envirotech-inc.com](mailto:alee@envirotech-inc.com)

Enclosure(s): Figure 1, *Vicinity Map*



Source: 7.5 Minute, La Plata, New Mexico U.S.G.S. Topographic Quadrangle Map  
 Scale: 1:24,000 1" = 2000'

Enterprise  
 Pipeline near La Plata  
 Section 12 Township 31N Range 13W  
 San Juan County, New Mexico

**envirotech**  
 ENVIRONMENTAL SCIENTISTS & ENGINEERS

5796 U.S. HIGHWAY 64  
 Farmington, New Mexico 87401  
 505.632.0615

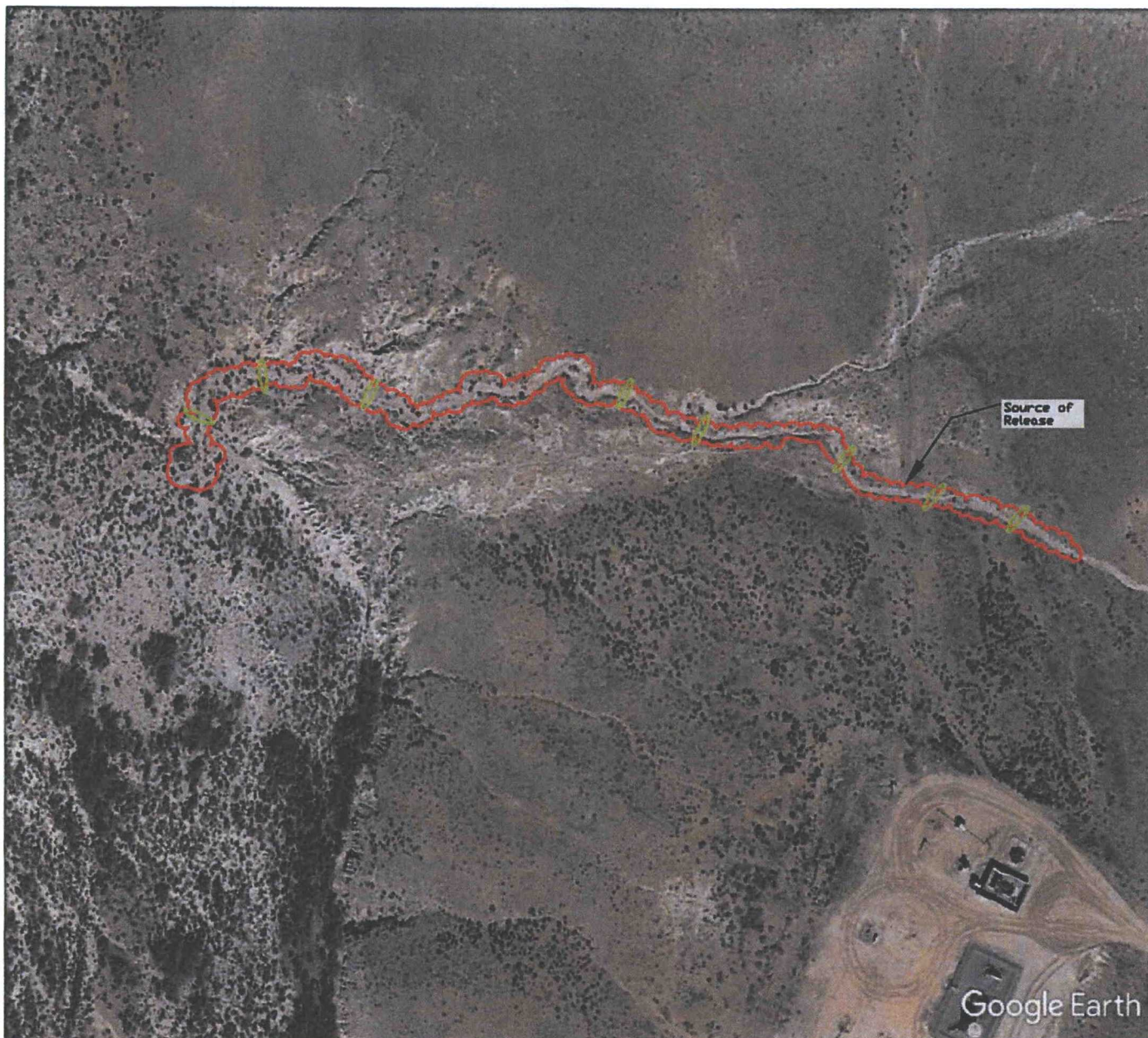
Vicinity Map

Figure #1

DRAWN BY:  
 AnthonyLee

PROJECT MANAGER:  
 Felipe Aragon

PROJECT Number: 97057-0824 Date Drawn: 2/28/17



## LEGEND



Spill Path



Placement of  
Booms

## SITE MAP

Enterprise Products

Pipeline Spill near La Plata

SECTION 12, TWP 31 NORTH, RANGE 13 WEST  
SAN JUAN COUNTY, NEW MEXICO

SCALE: NTS

PROJECT NO97057-0824

FIGURE NO. 2

REV

### REVISIONS

NO.	DATE	BY	DESCRIPTION
MAP DRWN	AL	3/2/17	BASE DRWN AL 3/2/17



envirotech

5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615

## APPENDIX B

### Figures

---



**Apex TITAN, Inc.**

12100 Ford Road, Suite 401

Dallas, Texas 75234

Phone: (469) 365-1100

[www.apexcosh.com](http://www.apexcosh.com)

**A Subsidiary of Apex Companies, LLC**

### Lateral H-45

NE 1/4 S11 T31N R13W

San Juan County, New Mexico

36.91977 N, 108.16736 W

Project No. 725040112257

**FIGURE 1**

### Topographic Map

0	1,000	2,000
---	-------	-------



**Apex TITAN, Inc.**

12100 Ford Road, Suite 401

Dallas, Texas 75234

Phone: (469) 365-1100

[www.apexcos.com](http://www.apexcos.com)

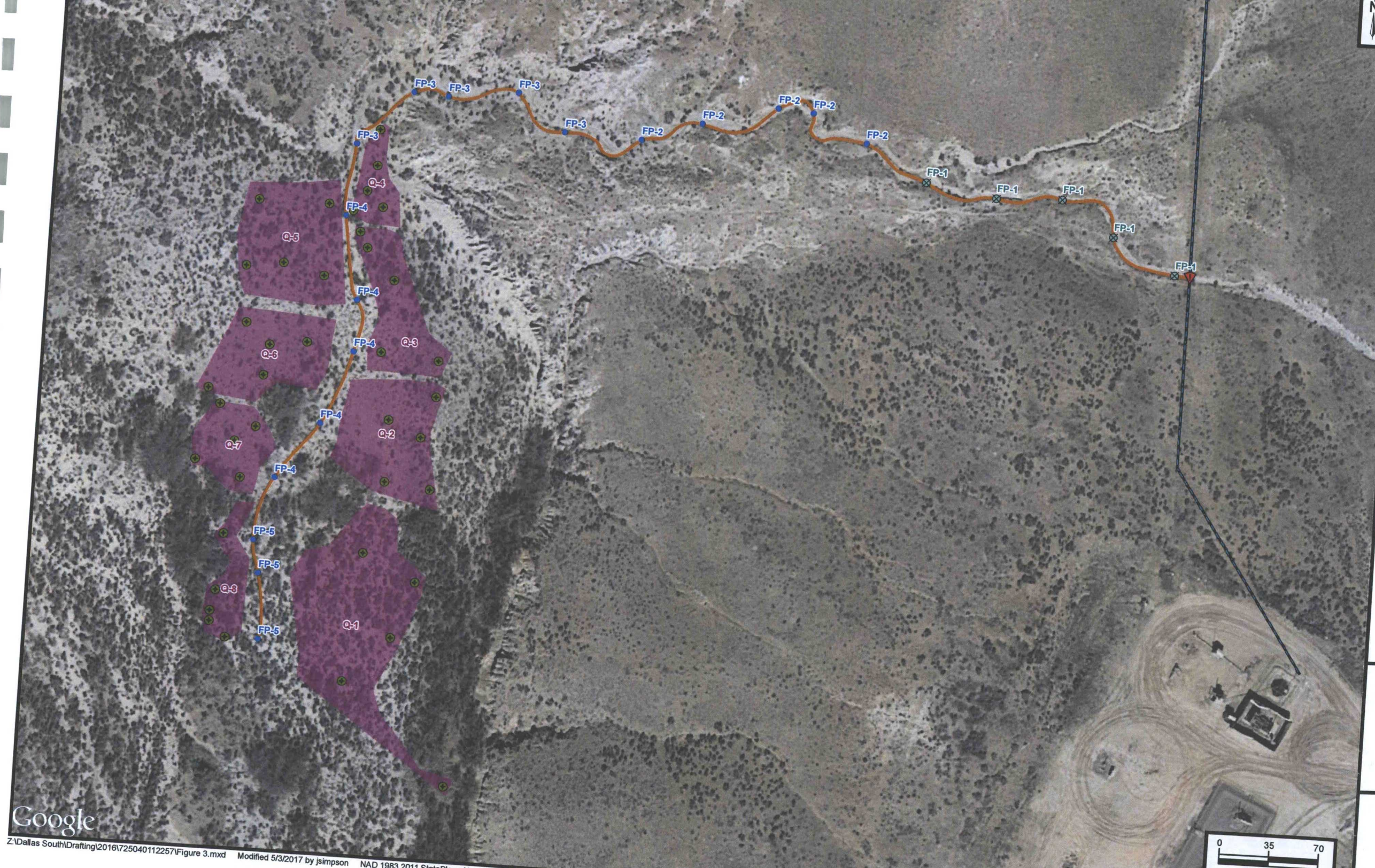
A Subsidiary of Apex Companies, LLC

**Lateral H-45**  
**NE 1/4 S11 T31N R13W**  
San Juan County, New Mexico  
36.91977 N, 108.16736 W

Project No. 725040112257

**FIGURE 2**

Site Vicinity Map



- Grid Composite Surface Soil Sample Location
- Surface Soil Sampling Grid Area
- ▼ Release Point
- Flow Path
- Approximate Enterprise Lateral H-45 Pipeline Location



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Dallas, Texas 75234  
Phone: (469) 365-1100  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

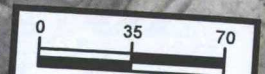
**Lateral H-45**  
**NE 1/4 S11 T31N R13W**  
San Juan County, New Mexico  
36.91977 N, 108.16736 W

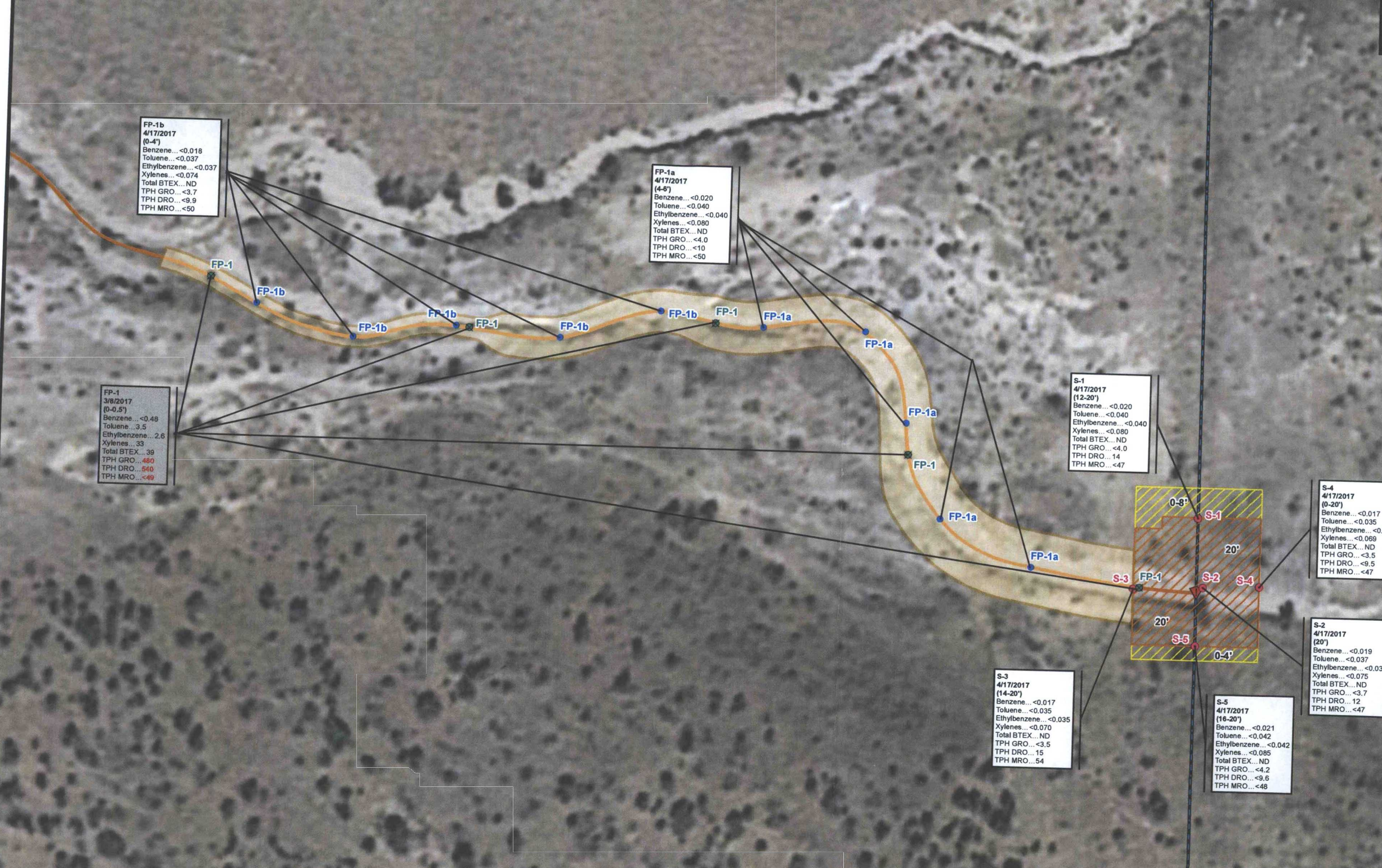
Project No. 725040112257

**FIGURE 3**

**Flow Path Sampling Map**

Google





- Excavation Soil Confirmation Sample Location
- Release Point
- Extent of Flow Path Excavation
- Extent of Main Excavation
- Main Excavation Ramp Area
- Flow Path
- Approximate Enterprise Lateral H-45 Pipeline Location

**NOTE:**  
Excavation Depths and Sample Depths are Listed in Feet BGS.

All Concentrations are Listed in mg/Kg.

Concentrations in **Red** Exceed the Applicable OCD Remediation Action Level.

Gray Callout Box Denotes Sample Removed by Excavation.

**Apex TITAN, Inc.**  
12100 Ford Road, Suite 401  
Dallas, Texas 75234  
Phone: (469) 365-1100  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

**Lateral H-45**  
**NE 1/4 S11 T31N R13W**  
San Juan County, New Mexico  
36.91977 N, 108.16736 W

Project No. 725040112257

**FIGURE 4**  
**Excavation Area Map with**  
**Soil Analysis Data**

**FP-1b**  
4/17/2017  
(0-4')  
Benzene...<0.018  
Toluene...<0.037  
Ethylbenzene...<0.037  
Xylenes...<0.074  
Total BTEX...ND  
TPH GRO...<3.7  
TPH DRO...<9.9  
TPH MRO...<50

**FP-1a**  
4/17/2017  
(4-5')  
Benzene...<0.020  
Toluene...<0.040  
Ethylbenzene...<0.040  
Xylenes...<0.080  
Total BTEX...ND  
TPH GRO...<4.0  
TPH DRO...<10  
TPH MRO...<50

**FP-1**  
3/8/2017  
(0-0.5')  
Benzene...<0.48  
Toluene...3.5  
Ethylbenzene...2.6  
Xylenes...33  
Total BTEX...39  
TPH GRO...480  
TPH DRO...540  
TPH MRO...<49

**S-1**  
4/17/2017  
(12-20')  
Benzene...<0.020  
Toluene...<0.040  
Ethylbenzene...<0.040  
Xylenes...<0.080  
Total BTEX...ND  
TPH GRO...<4.0  
TPH DRO...14  
TPH MRO...<47

**S-4**  
4/17/2017  
(0-20')  
Benzene...<0.017  
Toluene...<0.035  
Ethylbenzene...<0.035  
Xylenes...<0.069  
Total BTEX...ND  
TPH GRO...<3.5  
TPH DRO...<9.5  
TPH MRO...<47

**S-2**  
4/17/2017  
(20')  
Benzene...<0.019  
Toluene...<0.037  
Ethylbenzene...<0.037  
Xylenes...<0.075  
Total BTEX...ND  
TPH GRO...<3.7  
TPH DRO...12  
TPH MRO...<47

**S-3**  
4/17/2017  
(14-20')  
Benzene...<0.017  
Toluene...<0.035  
Ethylbenzene...<0.035  
Xylenes...<0.070  
Total BTEX...ND  
TPH GRO...<3.5  
TPH DRO...15  
TPH MRO...54

**S-5**  
4/17/2017  
(16-20')  
Benzene...<0.021  
Toluene...<0.042  
Ethylbenzene...<0.042  
Xylenes...<0.085  
Total BTEX...ND  
TPH GRO...<4.2  
TPH DRO...<9.6  
TPH MRO...<48

## APPENDIX C

### Executed C-138 Solid Waste Acceptance Form

---

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  
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-138  
Revised 08/01/11

\*Surface Waste Management Facility Operator  
and Generator shall maintain and make this  
documentation available for Division inspection.

**REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE**

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401	4/20/17 - 170 cy 4/19/17 - 200 cy 4/18/17 - 150 cy 4/17/17 - 282 cy 4-14-17 - 200 cy
2. Originating Site: Lateral H-45	
3. Location of Material (Street Address, City, State or ULSTR): Unit A Sec 11 T 31 N R 13 W, San Juan County, NM; 36.91977, -108.1673	4/13/17 - 130 cy 4/12/17 - 180 cy
4. Source and Description of Waste: Source: Hydrocarbon impacted soil from a Leak from a Natural Gas Gathering Line Description: Soil impacted with Natural Gas Liquids (Condensate and Water) Estimated Volume <u>50</u> yd <sup>3</sup> /bbls Known Volume (to be entered by the operator at the end of the haul) <u>100</u> yd <sup>3</sup> /bbls	

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long*, representative or authorized agent for Enterprise Products Operating do hereby  
Generator Signature  
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency  
regulatory determination, the above described waste is: (Check the appropriate classification)

☒ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with other waste. Operator Use Only: Waste Acceptance Frequency ☒ Monthly ☐ Weekly ☐ Per Load

☐ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste as determined by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR 261.33, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. Check the appropriate items)

☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☒ Process Knowledge ☐ Other (Provide description)

**GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS**

I, Thomas Long *Thomas Long*, 411-17, representative for Enterprise Products Operating authorizes IEI, Inc. to complete  
Generator Signature  
the required testing/sign the Generator Waste Testing Certification.

I, Hauptho Welling, representative for IEI, Inc. do hereby certify that  
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples  
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results  
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of  
19.15.36 NMAC.

5. Transporter: TBD

OCD Permitted Surface Waste Management Facility  
Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. \* Permit #: NM 01-0010B  
Address of Facility: #49 CR 2150 Aztec, New Mexico

Method of Treatment and/or Disposal:  
☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other

Waste Acceptance Status:  
☒ APPROVED ☐ DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Hauptho Welling TITLE: Clerk DATE: 4/11/17  
SIGNATURE: Hauptho Welling TELEPHONE NO.: 505-632-1782  
Surface Waste Management Facility Authorized Agent

4/4/17

## APPENDIX D

### Photographic Documentation

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## Photograph 1

Flow path near the release point, facing southwest.



## Photograph 2

Flow path and potential sheet flow area, facing south.



## Photograph 3

Central flow path, facing northeast.



**Photograph 4**

View of excavation activities, facing west.



**Photograph 5**

View of the pipeline ROW excavation, facing south.



**Photograph 6**

View of the upper flow path excavation, facing east.



**Photograph 7**

View of the flow path excavation.



**Photograph 8**

View of the flow path excavation, facing southeast.



**Photograph 9**

View of the flow path excavation, facing east.



## APPENDIX E

### Table

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**TABLE 1**  
Lateral H-45 Pipeline Release  
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	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 MRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100		
Soil Samples Removed by Excavation										
FP-1	03.08.17	0 to 0.5	<0.48	3.5	2.6	33	39	480	540	<49
Soil Samples Collected from the Primary Flow Path										
FP-1a	04.17.17	4 to 6	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<10	<50
FP-1b	04.17.17	0 to 4	<0.018	<0.037	<0.037	<0.074	ND	<3.7	<9.9	<50
FP-2	03.08.17	0 to 0.5	<0.025	<0.049	<0.049	<0.098	ND	<4.9	<9.5	<47
FP-3	03.08.17	0 to 0.5	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<9.3	<47
FP-4	03.08.17	0 to 0.5	<0.025	<0.049	<0.049	<0.098	ND	<4.9	<9.8	<49
FP-5	03.08.17	0 to 0.5	<0.024	<0.048	<0.048	<0.096	ND	<4.8	<9.9	<50
Surface Soil Samples Collected from Grids										
Q-1	03.08.17	0 to 0.5	<0.024	<0.049	<0.049	<0.097	ND	<4.9	<9.2	<46
Q-2	03.08.17	0 to 0.5	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<9.1	<46
Q-3	03.08.17	0 to 0.5	<0.024	<0.048	<0.048	<0.096	ND	<4.8	<9.9	<49
Q-4	03.08.17	0 to 0.5	<0.025	<0.050	<0.050	<0.10	ND	<5.0	<10	<50
Q-5	03.08.17	0 to 0.5	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<9.3	<47
Q-6	03.08.17	0 to 0.5	<0.023	<0.046	<0.046	<0.091	ND	<4.6	<9.2	<46
Q-7	03.08.17	0 to 0.5	<0.025	<0.049	<0.049	<0.099	ND	<4.9	<9.8	<49
Q-8	03.08.17	0 to 0.5	<0.024	<0.048	<0.048	<0.096	ND	<4.8	<9.2	<46
Excavation Confirmation Soil Samples										
S-1	04.17.17	12 to 20	<0.020	<0.040	<0.040	<0.080	ND	<4.0	14	<47
S-2	04.17.17	20	<0.019	<0.037	<0.037	<0.075	ND	<3.7	12	<47
S-3	04.17.17	14 to 20	<0.017	<0.035	<0.035	<0.070	ND	<3.5	15	54
S-4	04.17.17	0 to 20	<0.017	<0.035	<0.035	<0.069	ND	<3.5	<9.5	<47
S-5	04.17.17	16 to 20	<0.021	<0.042	<0.042	<0.085	ND	<4.2	<9.6	<48

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram

## Appendix F

### Laboratory Analytical Reports & Chain of Custody Documentation

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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

March 14, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Lateral H-45

OrderNo.: 1703493

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

**Analytical Report**

Lab Order 1703493

Date Reported: 3/14/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** FP-1**Project:** Lateral H-45**Collection Date:** 3/8/2017 9:00:00 AM**Lab ID:** 1703493-001**Matrix:** SOIL**Received Date:** 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	540	9.7		mg/Kg	1	3/13/2017 3:41:46 PM	30627
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/13/2017 3:41:46 PM	30627
Surr: DNOP	93.4	70-130		%Rec	1	3/13/2017 3:41:46 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	480	96		mg/Kg	20	3/10/2017 12:39:19 PM	30613
Surr: BFB	259	54-150	S	%Rec	20	3/10/2017 12:39:19 PM	30613
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.48		mg/Kg	20	3/10/2017 12:39:19 PM	30613
Toluene	3.5	0.96		mg/Kg	20	3/10/2017 12:39:19 PM	30613
Ethylbenzene	2.6	0.96		mg/Kg	20	3/10/2017 12:39:19 PM	30613
Xylenes, Total	33	1.9		mg/Kg	20	3/10/2017 12:39:19 PM	30613
Surr: 4-Bromofluorobenzene	111	66.6-132		%Rec	20	3/10/2017 12:39:19 PM	30613

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1703493

Date Reported: 3/14/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** FP-2**Project:** Lateral H-45**Collection Date:** 3/8/2017 9:05:00 AM**Lab ID:** 1703493-002**Matrix:** SOIL**Received Date:** 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	3/13/2017 4:06:20 PM	30627
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/13/2017 4:06:20 PM	30627
Surr: DNOP	93.0	70-130		%Rec	1	3/13/2017 4:06:20 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/10/2017 10:15:45 PM	30613
Surr: BFB	81.5	54-150		%Rec	1	3/10/2017 10:15:45 PM	30613
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/10/2017 10:15:45 PM	30613
Toluene	ND	0.049		mg/Kg	1	3/10/2017 10:15:45 PM	30613
Ethylbenzene	ND	0.049		mg/Kg	1	3/10/2017 10:15:45 PM	30613
Xylenes, Total	ND	0.098		mg/Kg	1	3/10/2017 10:15:45 PM	30613
Surr: 4-Bromofluorobenzene	87.5	66.6-132		%Rec	1	3/10/2017 10:15:45 PM	30613

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1703493

Date Reported: 3/14/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** FP-3**Project:** Lateral H-45**Collection Date:** 3/8/2017 9:10:00 AM**Lab ID:** 1703493-003**Matrix:** SOIL**Received Date:** 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/13/2017 4:31:19 PM	30627
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/13/2017 4:31:19 PM	30627
Surr: DNOP	92.9	70-130		%Rec	1	3/13/2017 4:31:19 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/11/2017 12:01:11 AM	30613
Surr: BFB	94.9	54-150		%Rec	1	3/11/2017 12:01:11 AM	30613
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	3/11/2017 12:01:11 AM	30613
Toluene	ND	0.046		mg/Kg	1	3/11/2017 12:01:11 AM	30613
Ethylbenzene	ND	0.046		mg/Kg	1	3/11/2017 12:01:11 AM	30613
Xylenes, Total	ND	0.092		mg/Kg	1	3/11/2017 12:01:11 AM	30613
Surr: 4-Bromofluorobenzene	105	66.6-132		%Rec	1	3/11/2017 12:01:11 AM	30613

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1703493

Date Reported: 3/14/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** FP-4**Project:** Lateral H-45**Collection Date:** 3/8/2017 9:15:00 AM**Lab ID:** 1703493-004**Matrix:** SOIL**Received Date:** 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/13/2017 4:56:07 PM	30627
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/13/2017 4:56:07 PM	30627
Surr: DNOP	96.0	70-130		%Rec	1	3/13/2017 4:56:07 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/11/2017 12:27:31 AM	30613
Surr: BFB	92.2	54-150		%Rec	1	3/11/2017 12:27:31 AM	30613
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/11/2017 12:27:31 AM	30613
Toluene	ND	0.049		mg/Kg	1	3/11/2017 12:27:31 AM	30613
Ethylbenzene	ND	0.049		mg/Kg	1	3/11/2017 12:27:31 AM	30613
Xylenes, Total	ND	0.098		mg/Kg	1	3/11/2017 12:27:31 AM	30613
Surr: 4-Bromofluorobenzene	100	66.6-132		%Rec	1	3/11/2017 12:27:31 AM	30613

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703493

Date Reported: 3/14/2017

CLIENT: APEX TITAN

Client Sample ID: FP-5

Project: Lateral H-45

Collection Date: 3/8/2017 9:20:00 AM

Lab ID: 1703493-005

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/13/2017 5:21:07 PM	30627
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/13/2017 5:21:07 PM	30627
Surr: DNOP	95.9	70-130		%Rec	1	3/13/2017 5:21:07 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/11/2017 12:53:46 AM	30613
Surr: BFB	87.2	54-150		%Rec	1	3/11/2017 12:53:46 AM	30613
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/11/2017 12:53:46 AM	30613
Toluene	ND	0.048		mg/Kg	1	3/11/2017 12:53:46 AM	30613
Ethylbenzene	ND	0.048		mg/Kg	1	3/11/2017 12:53:46 AM	30613
Xylenes, Total	ND	0.096		mg/Kg	1	3/11/2017 12:53:46 AM	30613
Surr: 4-Bromofluorobenzene	94.6	66.6-132		%Rec	1	3/11/2017 12:53:46 AM	30613

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1703493

14-Mar-17

Client: APEX TITAN

Project: Lateral H-45

Sample ID	MB-30627		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 30627		RunNo: 41321					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1294825		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		87.5	70	130			

Sample ID	LCS-30627		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 30627		RunNo: 41321					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1294826		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.5	63.8	116			
Surr: DNOP	4.5		5.000		89.2	70	130			

Sample ID	LCS-30637		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 30637		RunNo: 41324					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1295865		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.3		5.000		86.1	70	130			

Sample ID	MB-30637		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 30637		RunNo: 41324					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1295866		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.1		10.00		91.2	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703493

14-Mar-17

Client: APEX TITAN

Project: Lateral H-45

Sample ID	MB-30613		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 30613		RunNo: 41306					
Prep Date:	3/9/2017		Analysis Date: 3/10/2017		SeqNo: 1294532		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	820		1000		81.9	54	150			

Sample ID	LCS-30613		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 30613		RunNo: 41306					
Prep Date:	3/9/2017		Analysis Date: 3/10/2017		SeqNo: 1294534		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.2	76.4	125			
Surr: BFB	990		1000		99.4	54	150			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703493

14-Mar-17

Client: APEX TITAN

Project: Lateral H-45

Sample ID	MB-30613	SampType:		MBLK		TestCode: EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:		30613		RunNo: 41306				
Prep Date:	3/9/2017	Analysis Date:		3/10/2017		SeqNo: 1294570		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.9	66.6	132			

Sample ID	LCS-30613		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 30613		RunNo: 41306					
Prep Date:	3/9/2017		Analysis Date: 3/10/2017		SeqNo: 1294577		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	95.7	80	120			
Toluene	0.96	0.050	1.000	0	96.4	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.1	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.6	80	120			
Surr: 4-Bromofluorobenzene	0.86		1.000		86.1	66.6	132			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1703493

RcptNo: 1

Received by/date:

AT

03/09/17

Logged By:

Lindsay Mangin

3/9/2017 7:10:00 AM

Completed By:

Lindsay Mangin

3/9/2017 1:05:16 PM

Reviewed By:

AT

03/09/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:


Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Aztec NM</u>		Laboratory: <u>Hall Environmental</u> Address: <u>ABG, NM</u> Contact: <u>A. Freeman</u> Phone: _____ PO/SO #: _____		ANALYSIS REQUESTED <div style="transform: rotate(-45deg); transform-origin: center;">             Real BTEX              8/15 TTH GPO/DEALMED           </div>		Lab use only Due Date: <u>1.0</u> Temp. of coolers when received (C°): <table border="1" style="width:100%; text-align: center;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table> Page <u>1</u> of <u>1</u>		1	2	3	4	5
		1	2			3	4	5				
Project Manager <u>K Summers</u> Sampler's Name <u>Rance Deechilly Chad D'Arati</u> Proj. No. _____ Project Name <u>Lateral H-45</u> No/Type of Containers _____		Sampler's Signature <u>Rance Deechilly</u> <u>Chad D'Arati</u>										

Matrix	Date	Time	COED	GPO	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L	250 ml	Glass Jar	PO	Lab Sample ID (Lab Use Only)
S	3/8/17	900	X		FP-1						1		1703493-001
S		905	X		FP-2						1		-002
S		910	X		FP-3						1		-003
S		915	X		FP-4						1		-004
S		920	X		FP-5						1		-005
<div style="transform: rotate(-30deg); transform-origin: center; opacity: 0.5;">             N/A           </div>													

Turn around time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush					
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
<u>Rance Deechilly</u>	3/8/17	1330	<u>Tom Long</u>	3/8/17	1330
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
<u>Chad D'Arati</u>	3/8/17	1952	<u>Tom Long</u>	3/8/17	0710
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

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

VOA - 40 ml vial    A/G - Amber / Or Glass 1 Liter    250 ml - Glass wide mouth    P/O - Plastic or other

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204

NOTES:

Bill to Tom Long (EPRON)

NON-AFE N24405



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

March 14, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Lateral H-45

OrderNo.: 1703496

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: Q-1

Project: Lateral H-45

Collection Date: 3/8/2017 9:25:00 AM

Lab ID: 1703496-001

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/13/2017 7:01:00 PM	30627
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/13/2017 7:01:00 PM	30627
Surr: DNOP	91.5	70-130		%Rec	1	3/13/2017 7:01:00 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/13/2017 7:40:19 PM	30631
Surr: BFB	82.5	54-150		%Rec	1	3/13/2017 7:40:19 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/13/2017 7:40:19 PM	30631
Toluene	ND	0.049		mg/Kg	1	3/13/2017 7:40:19 PM	30631
Ethylbenzene	ND	0.049		mg/Kg	1	3/13/2017 7:40:19 PM	30631
Xylenes, Total	ND	0.097		mg/Kg	1	3/13/2017 7:40:19 PM	30631
Surr: 4-Bromofluorobenzene	90.8	66.6-132		%Rec	1	3/13/2017 7:40:19 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: Q-2

Project: Lateral H-45

Collection Date: 3/8/2017 9:30:00 AM

Lab ID: 1703496-002

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	3/13/2017 7:25:51 PM	30627
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/13/2017 7:25:51 PM	30627
Surr: DNOP	93.5	70-130		%Rec	1	3/13/2017 7:25:51 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/13/2017 8:06:31 PM	30631
Surr: BFB	76.2	54-150		%Rec	1	3/13/2017 8:06:31 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	3/13/2017 8:06:31 PM	30631
Toluene	ND	0.050		mg/Kg	1	3/13/2017 8:06:31 PM	30631
Ethylbenzene	ND	0.050		mg/Kg	1	3/13/2017 8:06:31 PM	30631
Xylenes, Total	ND	0.099		mg/Kg	1	3/13/2017 8:06:31 PM	30631
Surr: 4-Bromofluorobenzene	84.7	66.6-132		%Rec	1	3/13/2017 8:06:31 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

## Analytical Report

Lab Order 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: Q-3

Project: Lateral H-45

Collection Date: 3/8/2017 9:35:00 AM

Lab ID: 1703496-003

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/13/2017 7:50:39 PM	30627
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/13/2017 7:50:39 PM	30627
Surr: DNOP	92.4	70-130		%Rec	1	3/13/2017 7:50:39 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/13/2017 8:32:41 PM	30631
Surr: BFB	79.5	54-150		%Rec	1	3/13/2017 8:32:41 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/13/2017 8:32:41 PM	30631
Toluene	ND	0.048		mg/Kg	1	3/13/2017 8:32:41 PM	30631
Ethylbenzene	ND	0.048		mg/Kg	1	3/13/2017 8:32:41 PM	30631
Xylenes, Total	ND	0.096		mg/Kg	1	3/13/2017 8:32:41 PM	30631
Surr: 4-Bromofluorobenzene	87.1	66.6-132		%Rec	1	3/13/2017 8:32:41 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703496

Date Reported: 3/14/2017

CLIENT: APEX TITAN

Client Sample ID: Q-4

Project: Lateral H-45

Collection Date: 3/8/2017 9:40:00 AM

Lab ID: 1703496-004

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/13/2017 8:15:22 PM	30627
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/13/2017 8:15:22 PM	30627
Surr: DNOP	93.2	70-130		%Rec	1	3/13/2017 8:15:22 PM	30627
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/13/2017 8:58:49 PM	30631
Surr: BFB	79.8	54-150		%Rec	1	3/13/2017 8:58:49 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/13/2017 8:58:49 PM	30631
Toluene	ND	0.050		mg/Kg	1	3/13/2017 8:58:49 PM	30631
Ethylbenzene	ND	0.050		mg/Kg	1	3/13/2017 8:58:49 PM	30631
Xylenes, Total	ND	0.10		mg/Kg	1	3/13/2017 8:58:49 PM	30631
Surr: 4-Bromofluorobenzene	88.0	66.6-132		%Rec	1	3/13/2017 8:58:49 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1703496

Date Reported: 3/14/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** Q-5**Project:** Lateral H-45**Collection Date:** 3/8/2017 9:45:00 AM**Lab ID:** 1703496-005**Matrix:** SOIL**Received Date:** 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	3/13/2017 9:29:34 PM	30637
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/13/2017 9:29:34 PM	30637
Surr: DNOP	92.6	70-130		%Rec	1	3/13/2017 9:29:34 PM	30637
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/13/2017 9:24:57 PM	30631
Surr: BFB	76.2	54-150		%Rec	1	3/13/2017 9:24:57 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/13/2017 9:24:57 PM	30631
Toluene	ND	0.050		mg/Kg	1	3/13/2017 9:24:57 PM	30631
Ethylbenzene	ND	0.050		mg/Kg	1	3/13/2017 9:24:57 PM	30631
Xylenes, Total	ND	0.099		mg/Kg	1	3/13/2017 9:24:57 PM	30631
Surr: 4-Bromofluorobenzene	84.4	66.6-132		%Rec	1	3/13/2017 9:24:57 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703496

Date Reported: 3/14/2017

CLIENT: APEX TITAN

Client Sample ID: Q-6

Project: Lateral H-45

Collection Date: 3/8/2017 9:50:00 AM

Lab ID: 1703496-006

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/13/2017 10:43:09 PM	30637
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/13/2017 10:43:09 PM	30637
Surr: DNOP	97.1	70-130		%Rec	1	3/13/2017 10:43:09 PM	30637
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/13/2017 9:51:10 PM	30631
Surr: BFB	76.6	54-150		%Rec	1	3/13/2017 9:51:10 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.023		mg/Kg	1	3/13/2017 9:51:10 PM	30631
Toluene	ND	0.046		mg/Kg	1	3/13/2017 9:51:10 PM	30631
Ethylbenzene	ND	0.046		mg/Kg	1	3/13/2017 9:51:10 PM	30631
Xylenes, Total	ND	0.091		mg/Kg	1	3/13/2017 9:51:10 PM	30631
Surr: 4-Bromofluorobenzene	83.9	66.6-132		%Rec	1	3/13/2017 9:51:10 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1703496

Date Reported: 3/14/2017

CLIENT: APEX TITAN

Client Sample ID: Q-7

Project: Lateral H-45

Collection Date: 3/8/2017 9:55:00 AM

Lab ID: 1703496-007

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/13/2017 11:07:45 PM	30637
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/13/2017 11:07:45 PM	30637
Surr: DNOP	95.9	70-130		%Rec	1	3/13/2017 11:07:45 PM	30637
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/13/2017 10:17:26 PM	30631
Surr: BFB	75.5	54-150		%Rec	1	3/13/2017 10:17:26 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.025		mg/Kg	1	3/13/2017 10:17:26 PM	30631
Toluene	ND	0.049		mg/Kg	1	3/13/2017 10:17:26 PM	30631
Ethylbenzene	ND	0.049		mg/Kg	1	3/13/2017 10:17:26 PM	30631
Xylenes, Total	ND	0.099		mg/Kg	1	3/13/2017 10:17:26 PM	30631
Surr: 4-Bromofluorobenzene	82.8	66.6-132		%Rec	1	3/13/2017 10:17:26 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Analytical Report**

Lab Order 1703496

Date Reported: 3/14/2017

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** Q-8**Project:** Lateral H-45**Collection Date:** 3/8/2017 10:00:00 AM**Lab ID:** 1703496-008**Matrix:** SOIL**Received Date:** 3/9/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	3/13/2017 11:32:12 PM	30637
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	3/13/2017 11:32:12 PM	30637
Surr: DNOP	96.1	70-130		%Rec	1	3/13/2017 11:32:12 PM	30637
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/13/2017 10:43:45 PM	30631
Surr: BFB	111	54-150		%Rec	1	3/13/2017 10:43:45 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.024		mg/Kg	1	3/13/2017 10:43:45 PM	30631
Toluene	ND	0.048		mg/Kg	1	3/13/2017 10:43:45 PM	30631
Ethylbenzene	ND	0.048		mg/Kg	1	3/13/2017 10:43:45 PM	30631
Xylenes, Total	ND	0.096		mg/Kg	1	3/13/2017 10:43:45 PM	30631
Surr: 4-Bromofluorobenzene	84.4	66.6-132		%Rec	1	3/13/2017 10:43:45 PM	30631

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703496

14-Mar-17

Client: APEX TITAN

Project: Lateral H-45

Sample ID	MB-30627		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 30627		RunNo: 41321					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1294825		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.8		10.00		87.5	70	130			

Sample ID	LCS-30627		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 30627		RunNo: 41321					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1294826		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	98.5	63.8	116			
Surr: DNOP	4.5		5.000		89.2	70	130			

Sample ID	1703496-005AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	Q-5		Batch ID: 30637		RunNo: 41324					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1295857		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	1.880	80.8	51.6	130			
Surr: DNOP	4.3		5.000		85.9	70	130			

Sample ID	1703496-005AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	Q-5		Batch ID:	30637		RunNo:	41324				
Prep Date:	3/10/2017		Analysis Date:	3/13/2017		SeqNo:	1295858		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	38	9.7	48.40	1.880	75.6	51.6	130	9.41	20		
Surr: DNOP	4.0		4.840		82.2	70	130	0	0		

Sample ID	LCS-30637		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 30637		RunNo: 41324					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1295865		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	85.8	63.8	116			
Surr: DNOP	4.3		5.000		86.1	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703496

14-Mar-17

Client: APEX TITAN

Project: Lateral H-45

Sample ID	MB-30637	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	30637	RunNo:	41324					
Prep Date:	3/10/2017	Analysis Date:	3/13/2017	SeqNo:	1295866	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.1		10.00		91.2	70	130			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703496

14-Mar-17

Client: APEX TITAN

Project: Lateral H-45

Sample ID	MB-30631		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 30631		RunNo: 41331					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1295376		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	800		1000		79.9	54	150			

Sample ID	LCS-30631		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 30631		RunNo: 41331					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1295377		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	76.4	125			
Surr: BFB	1000		1000		103	54	150			

Sample ID	1703496-002AMS			SampType:	MS		TestCode:	EPA Method 8015D: Gasoline Range			
Client ID:	Q-2			Batch ID:	30631		RunNo:	41331			
Prep Date:	3/10/2017			Analysis Date:	3/13/2017		SeqNo:	1295383		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	20	4.7	23.28	0	84.3	61.3	150				
Surr: BFB	830		931.1		89.3	54	150				

Sample ID	1703496-002AMSD		SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	Q-2		Batch ID: 30631		RunNo: 41331					
Prep Date:	3/10/2017		Analysis Date: 3/13/2017		SeqNo: 1295384		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	24.80	0	95.3	61.3	150	18.6	20	
Surr: BFB	860		992.1		86.3	54	150	0	0	

## Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1703496

14-Mar-17

Client: APEX TITAN

Project: Lateral H-45

Sample ID	MB-30631	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	30631	RunNo:	41331					
Prep Date:	3/10/2017	Analysis Date:	3/13/2017	SeqNo:	1295395	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.89		1.000		88.9	66.6	132			

Sample ID	LCS-30631		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	LCSS		Batch ID:	30631		RunNo:	41331				
Prep Date:	3/10/2017		Analysis Date:	3/13/2017		SeqNo:	1295396		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Benzene	0.97	0.025	1.000	0	96.7	80	120			
Toluene	0.99	0.050	1.000	0	98.9	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	0.92		1.000		92.5	66.6	132			

Sample ID	1703496-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	Q-1	Batch ID:	30631	RunNo:	41331					
Prep Date:	3/10/2017	Analysis Date:	3/13/2017	SeqNo:	1295399	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	0.90	0.024	0.9728	0.007700	91.3	61.5	138			
Toluene	0.92	0.049	0.9728	0	94.7	71.4	127			
Ethylbenzene	0.95	0.049	0.9728	0	97.2	70.9	132			
Xylenes, Total	2.9	0.097	2.918	0	99.5	76.2	123			
Surr: 4-Bromofluorobenzene	0.94		0.9728		96.2	66.6	132			

Sample ID	1703496-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	Q-1	Batch ID:	30631	RunNo:	41331					
Prep Date:	3/10/2017	Analysis Date:	3/13/2017	SeqNo:	1295400	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Benzene	0.88	0.025	0.9940	0.007700	87.5	61.5	138	2.07	20	
Toluene	0.92	0.050	0.9940	0	92.6	71.4	127	0.0569	20	
Ethylbenzene	0.93	0.050	0.9940	0	93.5	70.9	132	1.71	20	
Xylenes, Total	2.9	0.099	2.982	0	95.6	76.2	123	1.91	20	
Surr: 4-Bromofluorobenzene	0.88		0.9940		88.1	66.6	132	0	0	

## Qualifiers:

* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
D Sample Diluted Due to Matrix	E Value above quantitation range
H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
ND Not Detected at the Reporting Limit	P Sample pH Not In Range
R RPD outside accepted recovery limits	RL Reporting Detection Limit
S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1703496

RcptNo: 1

Received by/date: AT

03/09/17

Logged By: Lindsay Mangin

3/9/2017 7:10:00 AM

*[Signature]*

Completed By: Lindsay Mangin

3/9/2017 1:12:04 PM

*[Signature]*

Reviewed By:

*[Signature]*

03/09/17

### Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

### Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐
- # of preserved bottles checked for pH: \_\_\_\_\_  
( $<2$  or  $>12$  unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

### Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:

Date

By Whom:

Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:


Client Instructions:

17. Additional remarks:

### 18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Aztec</u>		Laboratory: <u>Hall Environmental</u> Address: <u>ABQ, NM</u> Contact: <u>A Freeman</u> Phone: _____ PO/ISO #: _____		ANALYSIS REQUESTED <div style="transform: rotate(-45deg); transform-origin: center;">             8021 BTX              8015 TPH (P/P/D/P/M)           </div>		Lab use only Due Date: <u>1-0</u> Temp. of coolers when received (C°): <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> </table> Page <u>1</u> of <u>1</u>		1	2	3	4	5
		1	2			3	4	5				
Project Manager <u>K Summers</u> Sampler's Name <u>Rancee Dreechilly</u> Sampler's Signature <u>[Signature]</u> Proj. No. _____    Project Name <u>Lateral H-45</u> No/Type of Containers _____												

Matrix	Date	Time	Colp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L.	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
	3/8/17	925	X		Q-1						1		X Y 1703496-001
		930			Q-2						1		-002
		935			Q-3						1		-003
		940			Q-4						1		-004
		945			Q-5						1		-005
		950			Q-6						1		-006
		955			Q-7						1		-007
↓	↓	1000	↓		Q-8						1		-008
NFS													

Turn around time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush			
Relinquished by (Signature): <u>[Signature]</u>	Date: <u>3/8/17</u>	Time: <u>1330</u>	Received by (Signature): <u>[Signature]</u>
Relinquished by (Signature): <u>[Signature]</u>	Date: <u>3/8/17</u>	Time: <u>1952</u>	Received by (Signature): <u>[Signature]</u>
Relinquished by (Signature): _____	Date: _____	Time: _____	Received by (Signature): _____
Relinquished by (Signature): _____	Date: _____	Time: _____	Received by (Signature): _____

Matrix Container WW - Wastewater VOA - 40 ml vial W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube P/O - Plastic or other	NOTES: Bill to Tom Long (EPRCD) NCAFE N29405
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Hall Environmental Analysis Laboratory  
4901 Hawkins NE  
Albuquerque, NM 87109  
TEL: 505-345-3975 FAX: 505-345-4107  
Website: [www.hallenvironmental.com](http://www.hallenvironmental.com)

April 19, 2017

Kyle Summers  
APEX TITAN  
606 S. Rio Grande Unit A  
Aztec, NM 87410  
TEL: (903) 821-5603  
FAX

RE: Lateral H 45

OrderNo.: 1704733

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/18/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://www.hallenvironmental.com) or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Analytical Report

Lab Order 1704733

Date Reported: 4/19/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-1

Project: Lateral H 45

Collection Date: 4/17/2017 2:00:00 PM

Lab ID: 1704733-001

Matrix: MEOH (SOIL)

Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	14	9.4		mg/Kg	1	4/18/2017 11:18:41 AM	31287
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/18/2017 11:18:41 AM	31287
Surr: DNOP	84.3	70-130		%Rec	1	4/18/2017 11:18:41 AM	31287
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	4/18/2017 8:30:50 PM	31284
Surr: BFB	94.2	54-150		%Rec	1	4/18/2017 8:30:50 PM	31284
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	4/18/2017 8:30:50 PM	31284
Toluene	ND	0.040		mg/Kg	1	4/18/2017 8:30:50 PM	31284
Ethylbenzene	ND	0.040		mg/Kg	1	4/18/2017 8:30:50 PM	31284
Xylenes, Total	ND	0.080		mg/Kg	1	4/18/2017 8:30:50 PM	31284
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	4/18/2017 8:30:50 PM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1704733

Date Reported: 4/19/2017

CLIENT: APEX TITAN

Client Sample ID: S-2

Project: Lateral H 45

Collection Date: 4/17/2017 2:10:00 PM

Lab ID: 1704733-002

Matrix: MEOH (SOIL)

Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: TOM
Diesel Range Organics (DRO)	12	9.4		mg/Kg	1	4/18/2017 11:47:13 AM	31287
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/18/2017 11:47:13 AM	31287
Surr: DNOP	77.3	70-130		%Rec	1	4/18/2017 11:47:13 AM	31287
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	4/18/2017 10:22:00 AM	31284
Surr: BFB	92.2	54-150		%Rec	1	4/18/2017 10:22:00 AM	31284
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.019		mg/Kg	1	4/18/2017 10:22:00 AM	31284
Toluene	ND	0.037		mg/Kg	1	4/18/2017 10:22:00 AM	31284
Ethylbenzene	ND	0.037		mg/Kg	1	4/18/2017 10:22:00 AM	31284
Xylenes, Total	ND	0.075		mg/Kg	1	4/18/2017 10:22:00 AM	31284
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	4/18/2017 10:22:00 AM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Analytical Report

Lab Order 1704733

Date Reported: 4/19/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-3

Project: Lateral H 45

Collection Date: 4/17/2017 2:20:00 PM

Lab ID: 1704733-003

Matrix: MEOH (SOIL)

Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	15	9.8		mg/Kg	1	4/18/2017 12:15:17 PM	31287
Motor Oil Range Organics (MRO)	54	49		mg/Kg	1	4/18/2017 12:15:17 PM	31287
Surr: DNOP	89.7	70-130		%Rec	1	4/18/2017 12:15:17 PM	31287
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	4/18/2017 10:45:30 AM	31284
Surr: BFB	95.3	54-150		%Rec	1	4/18/2017 10:45:30 AM	31284
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	4/18/2017 10:45:30 AM	31284
Toluene	ND	0.035		mg/Kg	1	4/18/2017 10:45:30 AM	31284
Ethylbenzene	ND	0.035		mg/Kg	1	4/18/2017 10:45:30 AM	31284
Xylenes, Total	ND	0.070		mg/Kg	1	4/18/2017 10:45:30 AM	31284
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	4/18/2017 10:45:30 AM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1704733

Date Reported: 4/19/2017

CLIENT: APEX TITAN

Client Sample ID: S-4

Project: Lateral H 45

Collection Date: 4/17/2017 2:30:00 PM

Lab ID: 1704733-004

Matrix: MEOH (SOIL)

Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	4/18/2017 12:43:38 PM	31287
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/18/2017 12:43:38 PM	31287
Surr: DNOP	81.5	70-130		%Rec	1	4/18/2017 12:43:38 PM	31287
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	4/18/2017 11:09:06 AM	31284
Surr: BFB	93.2	54-150		%Rec	1	4/18/2017 11:09:06 AM	31284
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.017		mg/Kg	1	4/18/2017 11:09:06 AM	31284
Toluene	ND	0.035		mg/Kg	1	4/18/2017 11:09:06 AM	31284
Ethylbenzene	ND	0.035		mg/Kg	1	4/18/2017 11:09:06 AM	31284
Xylenes, Total	ND	0.069		mg/Kg	1	4/18/2017 11:09:06 AM	31284
Surr: 4-Bromofluorobenzene	110	66.6-132		%Rec	1	4/18/2017 11:09:06 AM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1704733

Date Reported: 4/19/2017

CLIENT: APEX TITAN

Client Sample ID: S-5

Project: Lateral H 45

Collection Date: 4/17/2017 2:40:00 PM

Lab ID: 1704733-005

Matrix: MEOH (SOIL)

Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/18/2017 1:12:10 PM	31287
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/18/2017 1:12:10 PM	31287
Surr: DNOP	83.7	70-130		%Rec	1	4/18/2017 1:12:10 PM	31287
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	4/18/2017 1:06:40 PM	31284
Surr: BFB	93.0	54-150		%Rec	1	4/18/2017 1:06:40 PM	31284
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.021		mg/Kg	1	4/18/2017 1:06:40 PM	31284
Toluene	ND	0.042		mg/Kg	1	4/18/2017 1:06:40 PM	31284
Ethylbenzene	ND	0.042		mg/Kg	1	4/18/2017 1:06:40 PM	31284
Xylenes, Total	ND	0.085		mg/Kg	1	4/18/2017 1:06:40 PM	31284
Surr: 4-Bromofluorobenzene	109	66.6-132		%Rec	1	4/18/2017 1:06:40 PM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

**Hall Environmental Analysis Laboratory, Inc.****Analytical Report**

Lab Order 1704733

Date Reported: 4/19/2017

**CLIENT:** APEX TITAN**Client Sample ID:** FP-1a**Project:** Lateral H 45**Collection Date:** 4/17/2017 2:50:00 PM**Lab ID:** 1704733-006**Matrix:** MEOH (SOIL)**Received Date:** 4/18/2017 6:48:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/18/2017 1:35:33 PM	31287
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/18/2017 1:35:33 PM	31287
Surr: DNOP	89.9	70-130		%Rec	1	4/18/2017 1:35:33 PM	31287
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	4/18/2017 1:30:01 PM	31284
Surr: BFB	92.7	54-150		%Rec	1	4/18/2017 1:30:01 PM	31284
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.020		mg/Kg	1	4/18/2017 1:30:01 PM	31284
Toluene	ND	0.040		mg/Kg	1	4/18/2017 1:30:01 PM	31284
Ethylbenzene	ND	0.040		mg/Kg	1	4/18/2017 1:30:01 PM	31284
Xylenes, Total	ND	0.080		mg/Kg	1	4/18/2017 1:30:01 PM	31284
Surr: 4-Bromofluorobenzene	107	66.6-132		%Rec	1	4/18/2017 1:30:01 PM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S % Recovery outside of range due to dilution or matrix	W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

## Analytical Report

Lab Order 1704733

Date Reported: 4/19/2017

CLIENT: APEX TITAN

Client Sample ID: FP-1b

Project: Lateral H 45

Collection Date: 4/17/2017 3:00:00 PM

Lab ID: 1704733-007

Matrix: MEOH (SOIL)

Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/18/2017 1:10:46 PM	31287
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/18/2017 1:10:46 PM	31287
Surr: DNOP	87.9	70-130		%Rec	1	4/18/2017 1:10:46 PM	31287
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	4/18/2017 1:53:21 PM	31284
Surr: BFB	92.9	54-150		%Rec	1	4/18/2017 1:53:21 PM	31284
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.018		mg/Kg	1	4/18/2017 1:53:21 PM	31284
Toluene	ND	0.037		mg/Kg	1	4/18/2017 1:53:21 PM	31284
Ethylbenzene	ND	0.037		mg/Kg	1	4/18/2017 1:53:21 PM	31284
Xylenes, Total	ND	0.074		mg/Kg	1	4/18/2017 1:53:21 PM	31284
Surr: 4-Bromofluorobenzene	108	66.6-132		%Rec	1	4/18/2017 1:53:21 PM	31284

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1704733

19-Apr-17

Client: APEX TITAN

Project: Lateral H 45

Sample ID	MB-31240		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31240		RunNo: 42155					
Prep Date:	4/14/2017		Analysis Date: 4/17/2017		SeqNo: 1324298		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	8.7		10.00		87.0	70	130			

Sample ID	LCS-31287		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31287		RunNo: 42181					
Prep Date:	4/18/2017		Analysis Date: 4/18/2017		SeqNo: 1325111		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.3	63.8	116			
Surr: DNOP	4.3		5.000		85.4	70	130			

Sample ID	MB-31287	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 31287			RunNo: 42181					
Prep Date:	4/18/2017	Analysis Date: 4/18/2017			SeqNo: 1325112		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	8.5		10.00		85.2	70	130			

Sample ID	1704733-001AMS			SampType:	MS		TestCode:	EPA Method 8015M/D: Diesel Range Organics			
Client ID:	S-1			Batch ID:	31287		RunNo:	42181			
Prep Date:	4/18/2017			Analysis Date:	4/18/2017		SeqNo:	1325896			Units: mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	53	9.7	48.59	13.62	80.0	51.6	130				
Surr: DNOP	4.2		4.859		86.7	70	130				

Sample ID	1704733-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	S-1		Batch ID:	31287		RunNo:	42181				
Prep Date:	4/18/2017		Analysis Date:	4/18/2017		SeqNo:	1325897		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	51	9.7	48.45	13.62	78.0	51.6	130	2.13	20		
Surr: DNOP	4.2		4.845		86.2	70	130	0	0		

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1704733

19-Apr-17

Client: APEX TITAN

Project: Lateral H 45

Sample ID	MB-31284		SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID: 31284			RunNo: 42191				
Prep Date:	4/17/2017		Analysis Date: 4/18/2017			SeqNo: 1325839		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.1	54	150			

Sample ID	LCS-31284		SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID: 31284			RunNo: 42191				
Prep Date:	4/17/2017		Analysis Date: 4/18/2017			SeqNo: 1325840		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.1	76.4	125			
Surr: BFB	1000		1000		99.8	54	150			

Sample ID	MB-31275		SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID: 31275			RunNo: 42191				
Prep Date:	4/17/2017		Analysis Date: 4/18/2017			SeqNo: 1325850		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	930		1000		92.8	54	150			

Sample ID	LCS-31275		SampType: LCS			TestCode: EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID: 31275			RunNo: 42191				
Prep Date:	4/17/2017		Analysis Date: 4/18/2017			SeqNo: 1325851		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		101	54	150			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1704733

19-Apr-17

Client: APEX TITAN

Project: Lateral H 45

Sample ID	MB-31284	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: 31284			RunNo: 42191					
Prep Date:	4/17/2017	Analysis Date: 4/18/2017			SeqNo: 1325867		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	66.6	132			

Sample ID	LCS-31284		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31284		RunNo: 42191					
Prep Date:	4/17/2017		Analysis Date: 4/18/2017		SeqNo: 1325868		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.9	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

## Qualifiers:

\* Value exceeds Maximum Contaminant Level.  
D Sample Diluted Due to Matrix  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits  
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank  
E Value above quantitation range  
J Analyte detected below quantitation limits  
P Sample pH Not In Range  
RL Reporting Detection Limit  
W Sample container temperature is out of limit as specified

# Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1704733

RcptNo: 1

Received By: Lindsay Mangin

4/18/2017 6:48:00 AM

*Lindsay Mangin*

Completed By: Lindsay Mangin

4/18/2017 7:19:45 AM

*Lindsay Mangin*

Reviewed By: ENM

04/18/18 17

## Chain of Custody

1. Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
2. Is Chain of Custody complete? Yes ☒ No ☐ Not Present ☐
3. How was the sample delivered? Courier

## Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?  
(Note discrepancies on chain of custody) Yes ☒ No ☐
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?  
(If no, notify customer for authorization.) Yes ☒ No ☐

# of preserved  
bottles checked  
for pH: \_\_\_\_\_  
(<2 or >12 unless noted)  
Adjusted? \_\_\_\_\_  
Checked by: \_\_\_\_\_

## Special Handling (if applicable)

16. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒


Person Notified: \_\_\_\_\_ Date: \_\_\_\_\_  
By Whom: \_\_\_\_\_ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person  
Regarding: \_\_\_\_\_  
Client Instructions: \_\_\_\_\_

17. Additional remarks:

## 18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.7	Good	Yes			

## CHAIN OF CUSTODY RECORD

 <b>APEX</b> Office Location <u>Aztec NM</u>		Laboratory: <u>Hell Env</u>		ANALYSIS REQUESTED <div style="transform: rotate(-45deg); display: inline-block;">APEX 5001 TPH DRO/GPO/PPH 5001</div>										Lab use only Due Date:	
		Address: <u>A36 NM</u>												Temp. of coolers when received (C°): <u>W7</u>	
Project Manager <u>R Sommer</u>		Contact: <u>A Freeman</u>		1 2 3 4 5 Page <u>1</u> of <u>1</u>											
Sampler's Name <u>Chad D. Aganti</u>		PO/ISO #: _____													
Project No. _____		Project Name <u>Lateral H-45</u>				No/Type of Containers _____									
Matrix	Date	Time	COED	G-Red	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L.	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)		
S	4-17-17	1400			S-1						1		X X	1704733-001	
		1410			S-2						1			-002	
		1420			S-3						1			-003	
		1430			S-4						1			-004	
		1440			S-5						1			-005	
		1450			FP-1a						1			-006	
		1500			FP-1b						1			-007	
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush <u>Same Day</u>															
Relinquished by (Signature) <u>[Signature]</u>		Date: <u>4-17-17</u>	Time: <u>1640</u>	Received by (Signature) <u>[Signature]</u>		Date: <u>4/17/17</u>	Time: <u>1640</u>	NOTES: <u>Bill to Bm Long</u> <u>APE N29405</u> <u>Same Day</u>							
Relinquished by (Signature) <u>[Signature]</u>		Date: <u>4/17/17</u>	Time: <u>2020</u>	Received by (Signature) <u>[Signature]</u>		Date: <u>4/18/17</u>	Time: <u>0648</u>								
Relinquished by (Signature) _____		Date: _____	Time: _____	Received by (Signature) _____		Date: _____	Time: _____								
Relinquished by (Signature) _____		Date: _____	Time: _____	Received by (Signature) _____		Date: _____	Time: _____								
Matrix Container    WW - Wastewater    W - Water    S - Soil    SD - Solid    L - Liquid    A - Air Bag    C - Charcoal tube    SL - sludge    O - Oil VOA - 40 ml vial    A/G - Amber / Or Glass 1 Liter    250 ml - Glass wide mouth    P/O - Plastic or other															