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Report Description

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App Number: pJK1424832159

3RP - 1011

ENTERPRISE PRODUCTS OPERATING, LLC

1/19/2017

361

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 Enterprise Field Services, LLC	Contact Thomas Long
Address 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name Lateral 2A-4	Facility Type Natural Gas Gathering Pipeline

Surface Owner BLM	Mineral Owner BLM	Serial No. NM 0009428
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LOCATION OF RELEASE

Unit Letter M	Section 24	Township 27N	Range 10W	Feet from the 1290	North/South Line South	Feet from the 816	East/West Line West	County San Juan
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Latitude 36.556948 Longitude 107.853263 NAD83

NATURE OF RELEASE

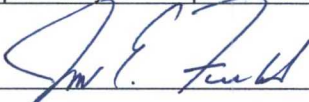
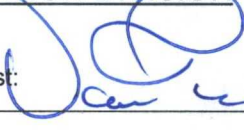
Type of Release Natural Gas and Natural Gas Liquids	Volume of Release 42.70 MCF Gas; 5-7 BBLs Condensate	Volume Recovered None
Source of Release Internal Corrosion	Date and Hour of Occurrence 8/21/2017 @ 9:30 a.m.	Date and Hour of Discovery 8/21/2017 @ 9:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Courtesy Notification Vanessa Fields - NMOCD; Whitney Smith - BLM	
By Whom? Runell Seale	Date and Hour August 23, 2017 @ 9:31 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 Taken.*On August 21, 2017 Enterprise technicians discovered a release on the Lateral 2A-4 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. An area on the ground surface of approximately 120 feet in diameter was misted by release fluids.

Describe Area Affected and Cleanup Action Taken.*Repairs and remediation were completed on September 18, 2017. The final excavation measured approximately 25 feet long by 16 feet wide by 13 feet deep. Approximately 100 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 11/26/18	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 12/20/2017 Phone: (713) 381-6684		

* Attach Additional Sheets If Necessary

NVF 1726327940

54



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

December 20, 2017

New Mexico Oil Conservation Division
District 3 Office
Attention: Vanessa Fields
1000 Rio Brazos Road
Aztec, NM 87410

701603010 0000 0300 5080
Return Receipt Requested

BLM Farmington Field Office
Lands Team
Attn: Whitney Thomas
6251 N. College Blvd. Ste. A
Farmington, NM 87401

7016 3010 0000 0900 5073
Return Receipt Requested

**RE: Lateral 2A-4
San Juan County**

Ms. Fields and Ms. Thomas:

Attached are the final Release Notification and Corrective Action Forms (C-141) for the referenced release along with the Corrective Action Report as prepared by our consultant, Apex TITAN Inc.. Should you have questions or need additional information, please contact our field representative, Thomas Long at 505-599-2286, or me directly at 713-381-6595.

Thank you,

Shiver J. Nolan
Sr. Compliance Administrator

enclosure

OIL CONS. DIV DIST. 3
DEC 29 2017



CORRECTIVE ACTION REPORT

Property:

**Lateral 2A-4 (8/21/17) Pipeline Release
SW 1/4, S24 T27N R10W
San Juan County, New Mexico**

November 14, 2017
Apex Project No. 725040112327

Prepared for:

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

Prepared by:

A handwritten signature in blue ink, reading 'Rane Deechilly', written over a horizontal line.

Rane Deechilly
Project Scientist

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

Kyle Summers, CPG
Branch Manager / Senior Geologist

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Site Description & Background	1
1.2 Project Objective	1
2.0 SITE RANKING	1
3.0 RESPONSE ACTIONS	2
3.1 Soil Excavation Activities	2
3.2 Soil Sampling Program	3
3.3 Laboratory Analytical Methods	3
4.0 DATA EVALUATION	3
4.1 Soil Samples	3
5.0 FINDINGS AND RECOMMENDATIONS	4
6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE	5

LIST OF APPENDICES

Appendix A (Figures):

- Figure 1 – Topographic Map
- Figure 2 – Site Vicinity Map
- Figure 3 – Site Map with Soil Analytical Results

Appendix B: Executed C-138 Solid Waste Acceptance Form

Appendix C: Photographic Documentation

Appendix D: Table

Appendix E: Laboratory Data Sheets &
Chain of Custody Documentation

Appendix F: Regulatory Correspondence

CORRECTIVE ACTION REPORT

Lateral 2A-4 (8/21/17) Pipeline Release

SW 1/4, S24 T27N R10W
San Juan County, New Mexico

Apex Project No. 725040112327

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral 2A-4 (8/21/17) pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 24, Township 27 North, Range 10 West, in rural San Juan County, New Mexico (36.556948N, 107.853263W), 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 northeast to southwest.

On August 21, 2017, a release of natural gas and associated pipeline liquids, was identified on the Lateral 2A-4 pipeline. As a result of the release, a layer of dry silty sand was deposited on the surrounding terrain that encompassed an approximate 50-foot radius from the rupture. On September 7, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential petroleum hydrocarbon impact resulting from the release. The southwestern section of the pipeline was subsequently returned to service and the northeastern section of the Lateral 2A-4 pipeline was removed from 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 ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (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	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	
Total Ranking Score			30

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 578 feet from 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 RESPONSE ACTIONS

3.1 Soil Excavation Activities

On August 21, 2017, a release of natural gas and associated pipeline liquids, was identified on the Lateral 2A-4 pipeline. As a result of the release, a layer of dry silty sand was deposited on the surrounding terrain that encompassed an approximate 50-foot radius from the rupture. On September 7, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential petroleum hydrocarbon impact resulting from the release. The southwestern section of the pipeline was subsequently returned to service and the northeastern section of the Lateral 2A-4 pipeline was removed from 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.

On September 18, 2017, a total of five (5) composite soil samples (CS-1 through CS-5) were collected from the sidewalls and base of the final excavation and one (1) stockpile soil sample (SP-1) was collected from an apparently unaffected portion of the stockpiled soils for laboratory analysis. In addition, three (3) composite soil samples were collected from the "overspray" area for laboratory analysis.

The excavation measured approximately 25 feet long by 16 feet wide, with a total depth of approximately 13 feet bgs. The overspray affected approximately a 50-foot radius from the point of rupture.

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

A total of approximately 100 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm 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 map with soil sample locations that depicts the approximate location of the excavated and overspray 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 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 five (5) composite soil samples (CS-1 through CS-5) from the excavation, three (3) composite samples of the overspray area (OS-1 through OS-3), and one (1) composite stockpile sample (SP-1) from an apparently unaffected portion of the excavated soils for laboratory analysis.

The 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 composite 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 Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final composite soil samples (CS-1 through CS-5, OS-1 through OS-3, and SP-1) to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "30".

- The laboratory analyses of 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 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 composite soil sample CS-5 indicates a combined TPH GRO/DRO/MRO concentration of 123 mg/kg, which is above the New Mexico EMNRD OCD RAL of 100 mg/kg.** The laboratory analyses of the remaining composite soil samples collected from soils remaining in place indicate combined TPH GRO/DRO/MRO concentrations ranging from below PQLs to 76 mg/kg (SP-1), which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "30".

Composite soil sample results are provided in **Table 1** in **Appendix D**.

5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2A-4 (8/21/17) pipeline release site is located within the Enterprise ROW in the SW ¼ of Section 24, 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 northeast to southwest.

On August 21, 2017, a release of natural gas and associated pipeline liquids, was identified on the Lateral 2A-4 pipeline. As a result of the release, a layer of dry silty sand was deposited on the surrounding terrain that encompassed an approximate 50-foot radius from the rupture. On September 7, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential petroleum hydrocarbon impact resulting from the release. The southwestern section of the pipeline was subsequently returned to service and the northeastern section of the Lateral 2A-4 pipeline was removed from 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 unconsolidated silty sand.
- The excavation measured approximately 25 feet long by 16 feet wide, with a total depth of approximately 13 feet bgs. The overspray affected approximately a 50-foot radius from the point of rupture.
- Apex collected five (5) composite soil samples (CS-1 through CS-5) from the excavation, three (3) composite samples of the overspray area (OS-1 through OS-3), and one (1) composite stockpile sample (SP-1) from an apparently unaffected portion of the excavated soils for laboratory analysis. Based on soil analytical results, soils associated with composite soil samples CS-1 through CS-4, OS-1 through OS-3, and SP-1 do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs for a Site ranking of "30".



- **The laboratory analyses of composite soil sample CS-5 indicates a combined TPH GRO/DRO/MRO concentration above the New Mexico EMNRD OCD RAL of 100 mg/kg.**
- A total of approximately 100 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 a laboratory-confirmed portion of the excavated soils, and contoured to surrounding grade.

Based on laboratory analytical results, soils associated with composite soil sample CS-5 exhibited a combined TPH/GRO/DRO concentration (most of which is within MRO carbon range) above the applicable New Mexico EMNRD OCD RAL. Enterprise received regulatory approval on September 20, 2017 to close the Site.

6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

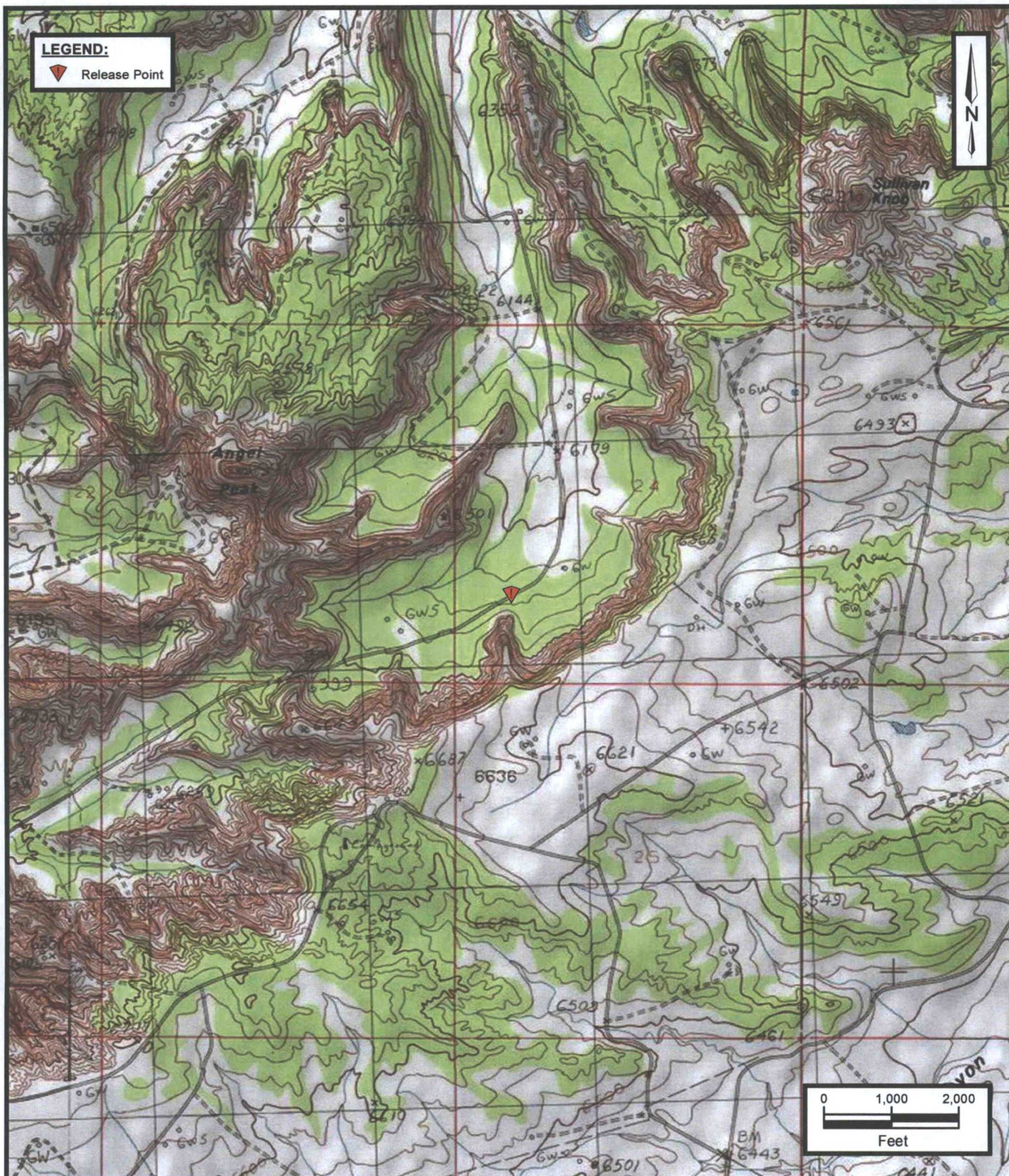
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work 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



Lateral 2A-4 (8/21/17)
 SW 1/4, S24 T27N R10W
 San Juan County, New Mexico
 36.556948 N, 107.853263 W

Project No. 725040112327



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

LEGEND:



Release Point



Lateral 2A-4 (8/21/17)
SW 1/4, S24 T27N R10W
San Juan County, New Mexico
36.556948 N, 107.853263 W

Project No. 725040112327



Apex TITAN, Inc.

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

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FIGURE 2

Site Vicinity Map

Service Layer Credits:

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Aerial Photograph June 2016

LEGEND:

- Excavation Confirmation Composite Soil Sample Location
- Overspray Area Composite Soil Sample Location
- Stockpile Composite Soil Sample Location
- ▼ Release Point
- Approximate Extent of Overspray Area
- ▨ Soil Stockpile Location
- ▨ Extent of Excavation
- Lateral 2A-4 Pipeline Location
- × Abandoned Lateral 2A-4 Pipeline Location
- Lateral 6A-18 Pipeline Location

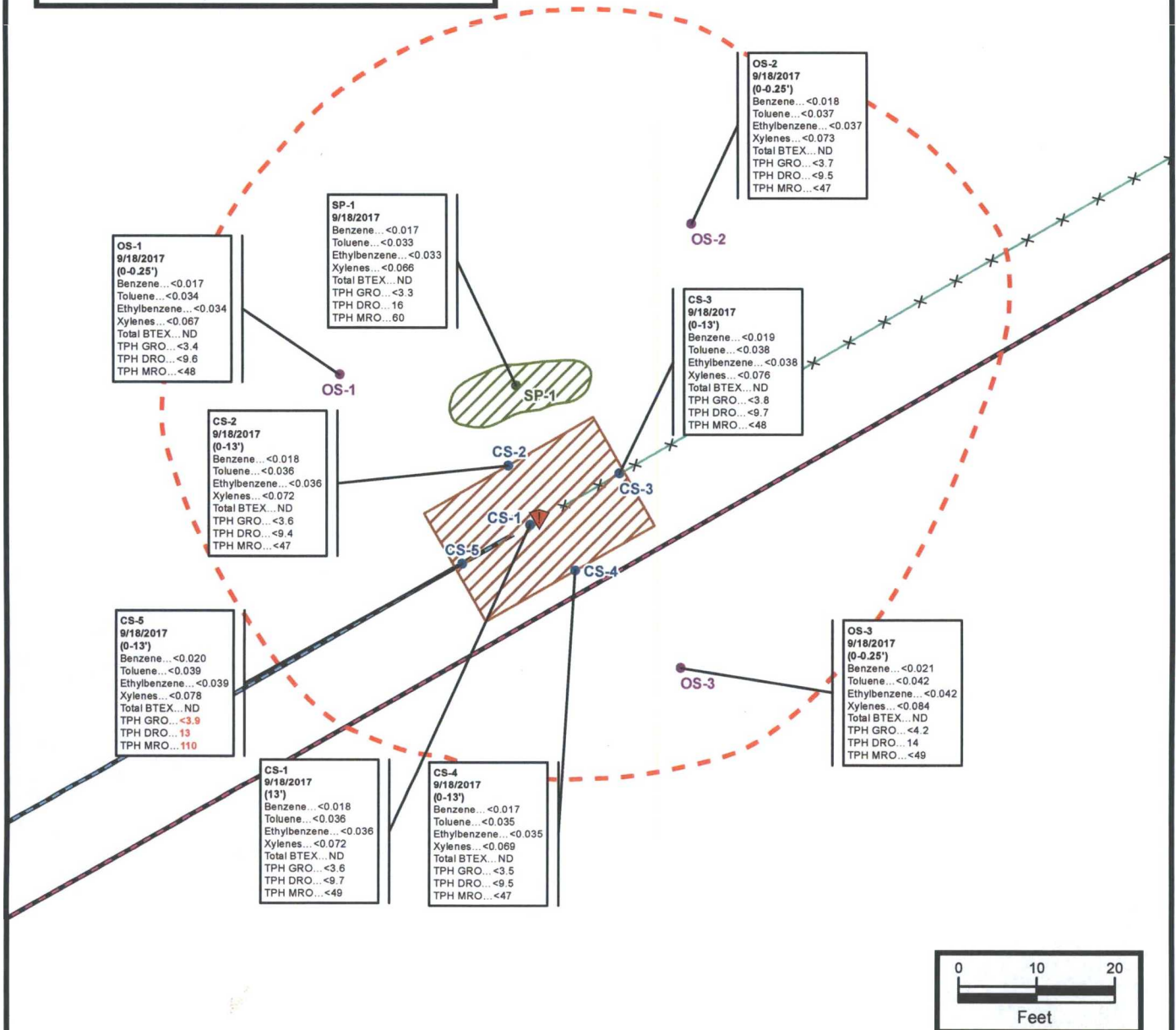
NOTE:

All Concentrations are Listed in mg/Kg.

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

All Depths are Listed in Feet BGS.

ND - Not Detected



Lateral 2A-4 (8/21/17)
SW 1/4, S24 T27N R10W
San Juan County, New Mexico
36.556948 N, 107.853263 W



Apex TITAN, Inc.
606 South Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
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FIGURE 3**Site Map with Soil Analytical Results**

Project No. 725040112327

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

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

97057-0830

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 2A-4 Pipeline

September 2017

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

Unit Letter M, Section 24, T27N, R10W; Lat: 36.55694, Long: -107.85322, San Juan County

4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.

Estimated Volume 50 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) 100 yd³ 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 9-14-17, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete the required
Generator Signature testing/sign the Generator Waste Testing Certification.

I, [Signature], 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, Roberts Trucking

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: 9/14/17

SIGNATURE: [Signature]
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

APPENDIX C

Photographic Documentation

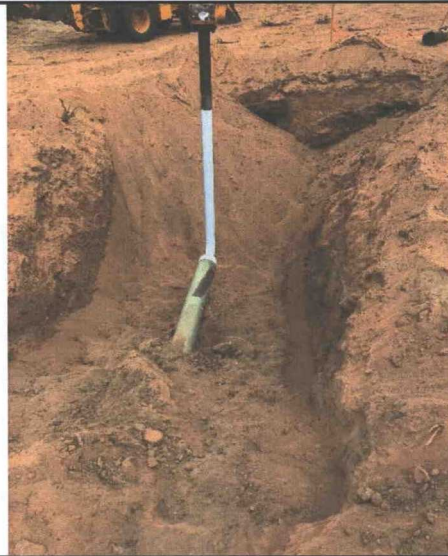
Photograph 1

View of the source area, facing south-west.



Photograph 2

View of the in-process corrective action activities, facing north.



Photograph 3

View of the in-process corrective action activities, facing northwest.



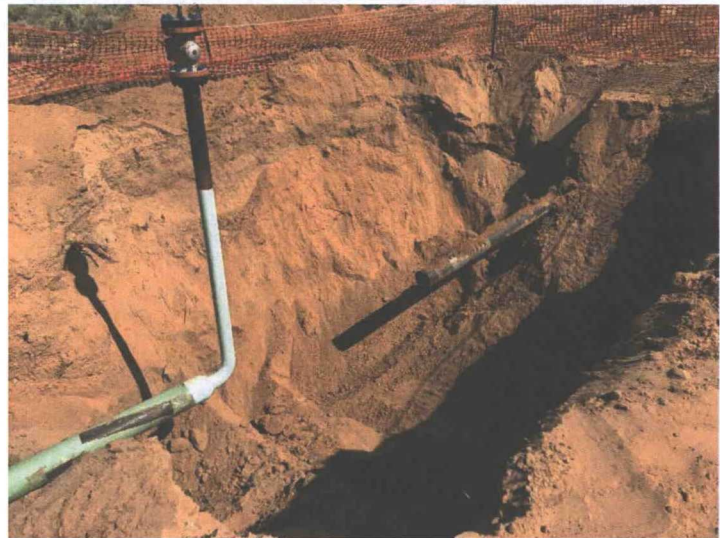
Photograph 4

View of the excavation, facing southwest.



Photograph 5

View of the final excavation, facing north.



APPENDIX D

Table

TABLE 1
Lateral 2A-4 (8/21/17) Pipeline Release
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	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 Sample Collected from Stockpiled Soils											
SP-1	9.18.17	C	Stockpile	<0.017	<0.033	<0.033	<0.066	ND	<3.3	16	60
Overspray Area Soil Samples											
OS-1	9.18.17	C	0 to 0.25	<0.017	<0.034	<0.034	<0.067	ND	<3.4	<9.6	<48
OS-2	9.18.17	C	0 to 0.25	<0.018	<0.037	<0.037	<0.073	ND	<3.7	<9.5	<47
OS-3	9.18.17	C	0 to 0.25	<0.021	<0.042	<0.042	<0.084	ND	<4.2	14	<49
Excavation Confirmation Soil Samples											
CS-1	9.18.17	C	13	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.7	<49
CS-2	9.18.17	C	0 to 13	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.4	<47
CS-3	9.18.17	C	0 to 13	<0.019	<0.038	<0.038	<0.076	ND	<3.8	<9.7	<48
CS-4	9.18.17	C	0 to 13	<0.017	<0.035	<0.035	<0.069	ND	<3.5	<9.5	<47
CS-5	9.18.17	C	0 to 13	<0.020	<0.039	<0.039	<0.078	ND	<3.9	13	110

Note: Concentrations in **bold** and yellow exceed the applicable New Mexico EMNRD 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

September 20, 2017

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

RE: Lateral 2A-4 (8/21/17)

OrderNo.: 1709988

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/19/2017 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 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 1709988

Date Reported: 9/20/2017

CLIENT: APEX TITAN

Client Sample ID: CS-1

Project: Lateral 2A-4 (8/21/17)

Collection Date: 9/18/2017 10:00:00 AM

Lab ID: 1709988-001

Matrix: SOIL

Received Date: 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/19/2017 11:22:02 AM	33938
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/19/2017 11:22:02 AM	33938
Surr: DNOP	97.2	70-130		%Rec	1	9/19/2017 11:22:02 AM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	9/19/2017 10:00:52 AM	33919
Surr: BFB	107	54-150		%Rec	1	9/19/2017 10:00:52 AM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	9/19/2017 10:00:52 AM	33919
Toluene	ND	0.036		mg/Kg	1	9/19/2017 10:00:52 AM	33919
Ethylbenzene	ND	0.036		mg/Kg	1	9/19/2017 10:00:52 AM	33919
Xylenes, Total	ND	0.072		mg/Kg	1	9/19/2017 10:00:52 AM	33919
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	1	9/19/2017 10:00:52 AM	33919

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 1709988

Date Reported: 9/20/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** CS-2**Project:** Lateral 2A-4 (8/21/17)**Collection Date:** 9/18/2017 10:10:00 AM**Lab ID:** 1709988-002**Matrix:** SOIL**Received Date:** 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	9/19/2017 11:44:10 AM	33938
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/19/2017 11:44:10 AM	33938
Surr: DNOP	97.7	70-130		%Rec	1	9/19/2017 11:44:10 AM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	9/19/2017 10:24:10 AM	33919
Surr: BFB	106	54-150		%Rec	1	9/19/2017 10:24:10 AM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	9/19/2017 10:24:10 AM	33919
Toluene	ND	0.036		mg/Kg	1	9/19/2017 10:24:10 AM	33919
Ethylbenzene	ND	0.036		mg/Kg	1	9/19/2017 10:24:10 AM	33919
Xylenes, Total	ND	0.072		mg/Kg	1	9/19/2017 10:24:10 AM	33919
Surr: 4-Bromofluorobenzene	120	66.6-132		%Rec	1	9/19/2017 10:24:10 AM	33919

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 1709988

Date Reported: 9/20/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** CS-3**Project:** Lateral 2A-4 (8/21/17)**Collection Date:** 9/18/2017 10:20:00 AM**Lab ID:** 1709988-003**Matrix:** SOIL**Received Date:** 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	9/19/2017 12:06:10 PM	33938
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/19/2017 12:06:10 PM	33938
Surr: DNOP	95.7	70-130		%Rec	1	9/19/2017 12:06:10 PM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	9/19/2017 10:47:30 AM	33919
Surr: BFB	101	54-150		%Rec	1	9/19/2017 10:47:30 AM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.019		mg/Kg	1	9/19/2017 10:47:30 AM	33919
Toluene	ND	0.038		mg/Kg	1	9/19/2017 10:47:30 AM	33919
Ethylbenzene	ND	0.038		mg/Kg	1	9/19/2017 10:47:30 AM	33919
Xylenes, Total	ND	0.076		mg/Kg	1	9/19/2017 10:47:30 AM	33919
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	1	9/19/2017 10:47:30 AM	33919

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 1709988

Date Reported: 9/20/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-4**Project:** Lateral 2A-4 (8/21/17)**Collection Date:** 9/18/2017 10:30:00 AM**Lab ID:** 1709988-004**Matrix:** SOIL**Received Date:** 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/19/2017 12:28:20 PM	33938
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/19/2017 12:28:20 PM	33938
Surr: DNOP	95.1	70-130		%Rec	1	9/19/2017 12:28:20 PM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	9/19/2017 11:10:51 AM	33919
Surr: BFB	106	54-150		%Rec	1	9/19/2017 11:10:51 AM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	9/19/2017 11:10:51 AM	33919
Toluene	ND	0.035		mg/Kg	1	9/19/2017 11:10:51 AM	33919
Ethylbenzene	ND	0.035		mg/Kg	1	9/19/2017 11:10:51 AM	33919
Xylenes, Total	ND	0.069		mg/Kg	1	9/19/2017 11:10:51 AM	33919
Surr: 4-Bromofluorobenzene	123	66.6-132		%Rec	1	9/19/2017 11:10:51 AM	33919

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 1709988

Date Reported: 9/20/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-5

Project: Lateral 2A-4 (8/21/17)

Collection Date: 9/18/2017 10:40:00 AM

Lab ID: 1709988-005

Matrix: SOIL

Received Date: 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	13	9.9		mg/Kg	1	9/19/2017 12:50:25 PM	33938
Motor Oil Range Organics (MRO)	110	50		mg/Kg	1	9/19/2017 12:50:25 PM	33938
Surr: DNOP	99.0	70-130		%Rec	1	9/19/2017 12:50:25 PM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	9/19/2017 11:34:12 AM	33919
Surr: BFB	102	54-150		%Rec	1	9/19/2017 11:34:12 AM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	9/19/2017 11:34:12 AM	33919
Toluene	ND	0.039		mg/Kg	1	9/19/2017 11:34:12 AM	33919
Ethylbenzene	ND	0.039		mg/Kg	1	9/19/2017 11:34:12 AM	33919
Xylenes, Total	ND	0.078		mg/Kg	1	9/19/2017 11:34:12 AM	33919
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	9/19/2017 11:34:12 AM	33919

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#: 1709988

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33938	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451362	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		92.9	70	130			

Sample ID	LCS-33938	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451448	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	93.1	73.2	114			
Surr: DNOP	4.6		5.000		92.1	70	130			

Sample ID	1709988-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-1	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451846	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.6	48.03	3.286	78.5	55.8	122			
Surr: DNOP	4.4		4.803		92.6	70	130			

Sample ID	1709988-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-1	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451847	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	9.6	47.85	3.286	78.5	55.8	122	0.318	20	
Surr: DNOP	4.3		4.785		90.4	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#: 1709988

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33919	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	33919	RunNo:	45719					
Prep Date:	9/18/2017	Analysis Date:	9/19/2017	SeqNo:	1452000	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	990		1000		99.2	54	150			

Sample ID	LCS-33919	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	33919	RunNo:	45719					
Prep Date:	9/18/2017	Analysis Date:	9/19/2017	SeqNo:	1452001	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	123	76.4	125			
Surr: BFB	1200		1000		121	54	150			

Sample ID	1709988-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	CS-1	Batch ID:	33919	RunNo:	45719					
Prep Date:		Analysis Date:	9/19/2017	SeqNo:	1452002	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.6	17.96	0	111	77.8	128			
Surr: BFB	860		718.4		120	54	150			

Sample ID	1709988-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	CS-1	Batch ID:	33919	RunNo:	45719					
Prep Date:		Analysis Date:	9/19/2017	SeqNo:	1452003	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.6	17.96	0	106	77.8	128	4.46	20	
Surr: BFB	820		718.4		114	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#: 1709988

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33919		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	33919		RunNo:	45719			
Prep Date:	9/18/2017		Analysis Date:	9/19/2017		SeqNo:	1452031		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-33919		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	33919		RunNo:	45719			
Prep Date:	9/18/2017		Analysis Date:	9/19/2017		SeqNo:	1452032		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	114	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.2	0.050	1.000	0	115	80	120			
Xylenes, Total	3.5	0.10	3.000	0	116	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		117	66.6	132			

Sample ID	1709988-002AMS		SampType:	MS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	CS-2		Batch ID:	33919		RunNo:	45719			
Prep Date:			Analysis Date:	9/19/2017		SeqNo:	1452033		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.82	0.018	0.7174	0	114	80.9	132			
Toluene	0.80	0.036	0.7174	0	112	79.8	136			
Ethylbenzene	0.83	0.036	0.7174	0	116	79.4	140			
Xylenes, Total	2.5	0.072	2.152	0	117	78.5	142			
Surr: 4-Bromofluorobenzene	0.88		0.7174		122	66.6	132			

Sample ID	1709988-002AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	CS-2		Batch ID:	33919		RunNo:	45719			
Prep Date:			Analysis Date:	9/19/2017		SeqNo:	1452034		Units: mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.018	0.7174	0	111	80.9	132	3.17	20	
Toluene	0.78	0.036	0.7174	0	109	79.8	136	2.84	20	
Ethylbenzene	0.80	0.036	0.7174	0	111	79.4	140	3.78	20	
Xylenes, Total	2.5	0.072	2.152	0	114	78.5	142	2.68	20	
Surr: 4-Bromofluorobenzene	0.82		0.7174		114	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: 1709988

RcptNo: 1

Received By: Anne Thorne

9/19/2017 8:45:00 AM

Anne Thorne

Completed By: Anne Thorne

9/19/2017 8:51:21 AM

Anne Thorne

Reviewed By: JMO

9/19/17

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 ☒
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	1.0	Good	Yes			



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

September 20, 2017

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

RE: Lateral 2A-4 (8/21/17)

OrderNo.: 1709990

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/19/2017 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 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 1709990

Date Reported: 9/20/2017

CLIENT: APEX TITAN

Client Sample ID: OS-1

Project: Lateral 2A-4 (8/21/17)

Collection Date: 9/18/2017 9:30:00 AM

Lab ID: 1709990-001

Matrix: SOIL

Received Date: 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	9/19/2017 10:29:42 AM	33938
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	9/19/2017 10:29:42 AM	33938
Surr: DNOP	89.4	70-130		%Rec	1	9/19/2017 10:29:42 AM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	9/19/2017 11:57:34 AM	33919
Surr: BFB	101	54-150		%Rec	1	9/19/2017 11:57:34 AM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	9/19/2017 11:57:34 AM	33919
Toluene	ND	0.034		mg/Kg	1	9/19/2017 11:57:34 AM	33919
Ethylbenzene	ND	0.034		mg/Kg	1	9/19/2017 11:57:34 AM	33919
Xylenes, Total	ND	0.067		mg/Kg	1	9/19/2017 11:57:34 AM	33919
Surr: 4-Bromofluorobenzene	115	66.6-132		%Rec	1	9/19/2017 11:57:34 AM	33919

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 1709990

Date Reported: 9/20/2017

CLIENT: APEX TITAN**Client Sample ID:** OS-2**Project:** Lateral 2A-4 (8/21/17)**Collection Date:** 9/18/2017 9:40:00 AM**Lab ID:** 1709990-002**Matrix:** SOIL**Received Date:** 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	9/19/2017 10:57:34 AM	33938
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/19/2017 10:57:34 AM	33938
Surr: DNOP	85.7	70-130		%Rec	1	9/19/2017 10:57:34 AM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	9/19/2017 12:21:08 PM	33919
Surr: BFB	100	54-150		%Rec	1	9/19/2017 12:21:08 PM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	9/19/2017 12:21:08 PM	33919
Toluene	ND	0.037		mg/Kg	1	9/19/2017 12:21:08 PM	33919
Ethylbenzene	ND	0.037		mg/Kg	1	9/19/2017 12:21:08 PM	33919
Xylenes, Total	ND	0.073		mg/Kg	1	9/19/2017 12:21:08 PM	33919
Surr: 4-Bromofluorobenzene	114	66.6-132		%Rec	1	9/19/2017 12:21:08 PM	33919

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 1709990

Date Reported: 9/20/2017

CLIENT: APEX TITAN

Client Sample ID: OS-3

Project: Lateral 2A-4 (8/21/17)

Collection Date: 9/18/2017 9:50:00 AM

Lab ID: 1709990-003

Matrix: SOIL

Received Date: 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	14	9.8		mg/Kg	1	9/19/2017 11:25:21 AM	33938
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	9/19/2017 11:25:21 AM	33938
Surr: DNOP	89.6	70-130		%Rec	1	9/19/2017 11:25:21 AM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	9/19/2017 12:44:31 PM	33919
Surr: BFB	105	54-150		%Rec	1	9/19/2017 12:44:31 PM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	9/19/2017 12:44:31 PM	33919
Toluene	ND	0.042		mg/Kg	1	9/19/2017 12:44:31 PM	33919
Ethylbenzene	ND	0.042		mg/Kg	1	9/19/2017 12:44:31 PM	33919
Xylenes, Total	ND	0.084		mg/Kg	1	9/19/2017 12:44:31 PM	33919
Surr: 4-Bromofluorobenzene	117	66.6-132		%Rec	1	9/19/2017 12:44:31 PM	33919

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#: 1709990

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33938	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451362	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		92.9	70	130			

Sample ID	LCS-33938	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451448	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	93.1	73.2	114			
Surr: DNOP	4.6		5.000		92.1	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#: 1709990

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33919	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	33919	RunNo:	45719					
Prep Date:	9/18/2017	Analysis Date:	9/19/2017	SeqNo:	1452000	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	990		1000		99.2	54	150			

Sample ID	LCS-33919	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	33919	RunNo:	45719					
Prep Date:	9/18/2017	Analysis Date:	9/19/2017	SeqNo:	1452001	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	123	76.4	125			
Surr: BFB	1200		1000		121	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#: 1709990

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33919		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	33919		RunNo:	45719			
Prep Date:	9/18/2017		Analysis Date:	9/19/2017		SeqNo:	1452031		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-33919		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	33919		RunNo:	45719			
Prep Date:	9/18/2017		Analysis Date:	9/19/2017		SeqNo:	1452032		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	114	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.2	0.050	1.000	0	115	80	120			
Xylenes, Total	3.5	0.10	3.000	0	116	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 |



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: 1709990

RcptNo: 1

Received By: Anne Thorne

9/19/2017 8:45:00 AM

Anne Thorne

Completed By: Anne Thorne

9/19/2017 8:56:31 AM

Anne Thorne

Reviewed By:

IMO

9/19/17

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 $>0^{\circ}\text{C}$ 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:	<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	1.0	Good	Yes			

 APEX Office Location _____ <u>Cable S. Rio Grande, Suite A</u> <u>Aztec, NM 87410</u> Project Manager <u>K. Summers</u>						Hall Environmental Laboratory: <u>Analysis Laboratory</u> Address: <u>4901 Hawkins NE</u> <u>Albuquerque, NM 87109</u> Contact: <u>A. Freeman</u> Phone: <u>505-345-3975</u> PO/SO #: <u>See Notes</u>						ANALYSIS REQUESTED <div style="transform: rotate(-90deg); transform-origin: left bottom; position: absolute; left: -100px; bottom: 0;"> 8021 BTX 8015 TPH GRD / PRO / MRO </div>						Lab use only Due Date: _____ Temp. of coolers <u>1.0</u> when received (C°): _____ <div style="display: flex; justify-content: space-between; width: 100%;"> 12345 </div> Page <u>1</u> of <u>1</u>								
Sampler's Name <u>Ranee Doechilly</u>						Sampler's Signature 																				
Proj. No. <u>725040112327</u>			Project Name <u>Lateral 2A-4 (8/21/17)</u>			No./Type of Containers																				
Matrix	Date	Time	COED	GAB	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	9/18/17	930	X		OS-1	0	0.25				1		X X	<u>1709990-00</u>												
S	9/18/17	940	X		OS-2	0	0.25				1		X X	<u>202</u>												
S	9/18/17	950	X		OS-3	0	0.25				1		X X	<u>203</u>												
<p>NES</p>																										
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>9/18/17</u>		Time: <u>1340</u>		Received by (Signature) 			Date: <u>9/18/17</u>		Time: <u>1340</u>		NOTES: <u>Bill to Tom Long (EPRAD)</u> <u>Non AFE N31706</u> <u>SAME DAY</u>												
Relinquished by (Signature) 			Date: <u>9/18/17</u>		Time: <u>1826</u>		Received by (Signature) 			Date: <u>9/19/17</u>		Time: <u>0845</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 VOA - 40 ml vial			W - Water A/G - Amber / Or Glass 1 Liter			S - Soil SD - Solid			L - 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
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Website: www.hallenvironmental.com

September 20, 2017

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

RE: Lateral 2A-4 (8/21/17)

OrderNo.: 1709993

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/19/2017 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 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 1709993

Date Reported: 9/20/2017

CLIENT: APEX TITAN

Client Sample ID: SP-1

Project: Lateral 2A-4 (8/21/17)

Collection Date: 9/18/2017 10:50:00 AM

Lab ID: 1709993-001

Matrix: SOIL

Received Date: 9/19/2017 8:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	16	9.7		mg/Kg	1	9/19/2017 10:01:36 AM	33938
Motor Oil Range Organics (MRO)	60	48		mg/Kg	1	9/19/2017 10:01:36 AM	33938
Surr: DNOP	89.7	70-130		%Rec	1	9/19/2017 10:01:36 AM	33938
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	9/19/2017 1:08:07 PM	33919
Surr: BFB	112	54-150		%Rec	1	9/19/2017 1:08:07 PM	33919
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	9/19/2017 1:08:07 PM	33919
Toluene	ND	0.033		mg/Kg	1	9/19/2017 1:08:07 PM	33919
Ethylbenzene	ND	0.033		mg/Kg	1	9/19/2017 1:08:07 PM	33919
Xylenes, Total	ND	0.066		mg/Kg	1	9/19/2017 1:08:07 PM	33919
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	9/19/2017 1:08:07 PM	33919

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#: 1709993

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33938	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451362	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		92.9	70	130			

Sample ID	LCS-33938	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	33938	RunNo:	45710					
Prep Date:	9/19/2017	Analysis Date:	9/19/2017	SeqNo:	1451448	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	93.1	73.2	114			
Surr: DNOP	4.6		5.000		92.1	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#: 1709993

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33919	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	33919	RunNo:	45719					
Prep Date:	9/18/2017	Analysis Date:	9/19/2017	SeqNo:	1452000	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	990		1000		99.2	54	150			

Sample ID	LCS-33919	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	33919	RunNo:	45719					
Prep Date:	9/18/2017	Analysis Date:	9/19/2017	SeqNo:	1452001	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	123	76.4	125			
Surr: BFB	1200		1000		121	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
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#: 1709993

20-Sep-17

Client: APEX TITAN

Project: Lateral 2A-4 (8/21/17)

Sample ID	MB-33919		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	33919		RunNo:	45719			
Prep Date:	9/18/2017		Analysis Date:	9/19/2017		SeqNo:	1452031		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-33919		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	33919		RunNo:	45719			
Prep Date:	9/18/2017		Analysis Date:	9/19/2017		SeqNo:	1452032		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	114	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.2	0.050	1.000	0	115	80	120			
Xylenes, Total	3.5	0.10	3.000	0	116	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 |



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: 1709993

RcptNo: 1

Received By: Anne Thorne

9/19/2017 8:45:00 AM

Anne Thorne

Completed By: Anne Thorne

9/19/2017 9:08:27 AM

Anne Thorne

Reviewed By:

IMO

9/19/17

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 $>0^{\circ}\text{C}$ 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:	<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	1.0	Good	Yes			



Office Location

606 S. Rio Grande, Suite A

Aztec, NM 87410

Project Manager K. Summers

Hall Environmental
Laboratory: Analysis Laboratory
Address: 4901 Hawkins NE
Albuquerque, NM 87109
Contact: A. Freeman
Phone: 505-345-3975
PO/SO #: see notes

ANALYSIS
REQUESTEDLab use only
Due Date:Temp. of coolers
when received (C°): 10

1 2 3 4 5

Page 1 of 1

Sampler's Name

Rancee Deechilly

Sampler's Signature

Proj. No.

725040112327

Project Name

Lateral 2A-4 (8/21/17)

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

S

9/18/17

1050

X

SP-1

XX

Lab Sample ID (Lab Use Only)

1709993-001

Turn around time

☐ Normal☐ 25% Rush☐ 50% Rush☒ 100% Rush

SAME DAY

Relinquished by (Signature)

Date:

9/18/17

Time:

1340

Received by (Signature)

Date:

9/18/17

Time:

1340

Relinquished by (Signature)

Date:

9/18/17

Time:

1826

Received by (Signature)

Date:

9/19/17

Time:

0845

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Date:

Time:

Relinquished by (Signature)

Date:

Time:

Received by (Signature)

Date:

Time:

NOTES:

Bill to Tom Long (EPROD)

Non AFE N31706

SAME DAY

Matrix
ContainerWW - Wastewater
VOA - 40 ml vialW - Water
A/G - Amber / Or Glass 1 Liter

S - Soil

SD - Solid

L - Liquid
250 ml - Glass wide mouth

A - Air Bag

C - Charcoal tube
P/O - Plastic or other

SL - sludge

O - Oil

APPENDIX F

Regulatory Correspondence

From: [Thomas, Leigh](#)
To: [Fields, Vanessa, EMNRD](#)
Cc: [Long, Thomas](#); [Smith, Cory, EMNRD](#); [Stone, Brian](#); [Abiodun Adeloye](#)
Subject: Re: Lateral 2A-4 UL M Section 24-T27N-R10W ; 36.55694,-107.8532
Date: Wednesday, September 20, 2017 7:43:30 AM
Attachments: [image001.gif](#)

Tom,

The BLM agrees with OCD's variance approval.

Thank you

Whitney Thomas
Natural Resource Specialist
Farmington Field Office
6251 North College Boulevard
Suite A
Farmington, NM 87402
Office: 505-564-7680
Cell: 505-635-9796
email: l1thomas@blm.gov

On Wed, Sep 20, 2017 at 7:29 AM, Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us> wrote:

Good morning Tom,

Per our phone conversation the OCD grants a variance on sample SC-5. Enterprise may backfill as requested.

OCD approval does not relieve operator of approvals from other agencies.

Thank you,

Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources

1000 Rio Brazos, Aztec, NM 87410

(505)334-6178 ext 119

Cell: (505) 419-0463

vanessa.fields@state.nm.us

From: Long, Thomas [mailto:tjlong@eprod.com]

Sent: Tuesday, September 19, 2017 3:31 PM

To: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; 11thomas@blm.gov

Cc: Stone, Brian <bmstone@eprod.com>

Subject: FW: Lateral 2A-4 UL M Section 24-T27N-R10W ; 36.55694,-107.8532

Vanessa/Whitney,

Please find the attached site sketch and laboratory reports for the excavation at the Lateral 2A-4 release site. All sample results are below the site specific remediation standard, except for SC-5 (south wall). The sample result for SC-5 is 13 ppm DRO and 110 ppm MRO for a sum of 123 ppm TPH. Enterprise requests to backfill the excavation with this result. If you have any questions or concerns, please call or email.

Sincerely,

Tom Long

505-599-2286 (office)

505-215-4727 (Cell)

tjlong@eprod.com

From: Long, Thomas
Sent: Wednesday, August 23, 2017 9:31 AM
To: Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us); l1thomas@blm.gov; 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)'
Cc: Stone, Brian
Subject: Lateral 2A-4 UL M Section 24-T27N-R10W ; 36.55694,-107.8532

Vanessa/Whitney,

This email is to notify you that Enterprise had a release of natural gas and condensate on the Lateral 2A-4 pipeline on August 21, 2017 at approximately 9:30 A.M. No water ways were affected. An area of approximately 120 feet in diameter was misted by condensate. The pipeline has been isolated, depressurized, locked out and tagged out. The release site is located at UL M Section 24-T27N-R10W ; 36.55694,-107.8532. I will keep you informed as to when the repairs and remediation is scheduled. 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



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

Rec
9/28/17 OGD

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 Blanco Plant D-Turbine	Facility Type Natural Gas Compressor Station

Surface Owner BLM	Mineral Owner BLM	Serial Number: NM 0 014706
--------------------------	--------------------------	-----------------------------------

LOCATION OF RELEASE

Unit Letter O	Section 11	Township 29N	Range 11W	Feet from the 620	North/South Line South	Feet from the 152	East/West Line West	County San Juan
-------------------------	----------------------	------------------------	---------------------	--------------------------------	-------------------------------------	--------------------------------	----------------------------------	---------------------------

Latitude 36.803020 Longitude 107.921590 NAD83

NATURE OF RELEASE

Type of Release Natural Gas and Lubrication Oil	Volume of Release 63.376 MCF Gas; 50-10 BBLs of Oil	Volume Recovered None
Source of Release Facility Blowdown Vent Pipe	Date and Hour of Occurrence 8/28/2017 @ 11:30 a.m.	Date and Hour of Discovery 8/28/2017 @ 11:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?: Notification to Vanessa Fields – NMOCD; Whitney Smith - BLM	
By Whom? Thomas Long	Date and Hour September 12, 2017 @ 10:10 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 Taken.* On August 28, 2016, a release of lubrication oil from the facility blowdown vent pipe was discovered. The release was a result of residual lubrication seal oil being ejected from the blowdown vent pipe. Enterprise collected soil samples for laboratory analysis to determine the magnitude of the release and reporting requirements. Upon receipt of laboratory analysis, Enterprise determined that this release was reportable on September 21, 2017 due to the volume of impacted soil.

Describe Area Affected and Cleanup Action Taken.* An area of approximately 130 feet long by 30 feet wide was impacted with lubrication oil. The remediation is in the scheduling process. The contaminant mass will be removed by mechanical excavation. 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.

OIL CONSERVATION DIVISION

Signature:

Printed Name: **Jon E. Fields**

Title: **Director, Environmental**

E-mail Address: **jefields@eprod.com**

Date:
6684

9/21/2017

Phone: (713) 381-

Approved by Environmental Specialist

Approval Date: **10/3/17**

Expiration Date:

Conditions of Approval:

Attached ☐

* Attach Additional Sheets If Necessary

NVF 1726539900

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 Enterprise Field Services, LLC	Contact Thomas Long
Address 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name Blanco Plant D-Turbine	Facility Type Natural Gas Compressor Station

Surface Owner BLM	Mineral Owner BLM	Serial Number: NM 0 014706 Form C-141
--------------------------	--------------------------	--

LOCATION OF RELEASE

Unit Letter O	Section 11	Township 29N	Range 11W	Feet from the 620	North/South Line South	Feet from the 152	East/West Line West	County San Juan
----------------------	-------------------	---------------------	------------------	--------------------------	-------------------------------	--------------------------	----------------------------	------------------------

Latitude 36.803020 Longitude 107.921590 NAD83

NATURE OF RELEASE

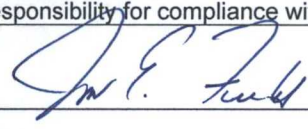
Type of Release Natural Gas and Lubrication Oil	Volume of Release 63.376 MCF Gas; 5-10 BBLs of Oil	Volume Recovered None
Source of Release Facility Blowdown Vent Pipe	Date and Hour of Occurrence 8/28/2017 @ 11:30 a.m.	Date and Hour of Discovery 8/28/2017 @ 11:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Notification to Vanessa Fields - NMOCD; Whitney Smith - BLM	
By Whom? Thomas Long	Date and Hour September 12, 2017 @ 10:10 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 Taken.* On August 28, 2016, a release of lubrication oil from the facility blowdown vent pipe was discovered. The release was a result of residual lubrication seal oil being ejected from the blowdown vent pipe. Enterprise collected soil samples for laboratory analysis to determine the magnitude of the release and reporting requirements. Upon receipt of laboratory analysis, Enterprise determined that this release was reportable on September 12, 2017 due to the volume of impacted soil.

Describe Area Affected and Cleanup Action Taken.* The contaminant mass was removed by mechanical excavation. The final excavation dimensions measured approximately 165 feet long by 64 feet wide by 1.5 feet deep. Approximately 288 cubic yards of hydrocarbon impacted soil were excavated and transported to a 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: 		OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields		Approved by Environmental Specialist:	
Title: Director, Environmental		Approval Date: 1/26/18	Expiration Date:
E-mail Address: jefields@eprod.com		Conditions of Approval:	
Date: 12/20/2017 6684	Phone: (713) 381-	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

NVR 1726539900

51



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

December 20, 2017

New Mexico Oil Conservation Division
District 3 Office
Attention: Vanessa Fields
1000 Rio Brazos Road
Aztec, NM 87410

701603010 0000 0300 5080
Return Receipt Requested

BLM Farmington Field Office
Lands Team
Attn: Whitney Thomas
6251 N. College Blvd. Ste. A
Farmington, NM 87401

7016 3010 0000 0900 5073
Return Receipt Requested

**RE: Blanco Plant D-Turbine
San Juan County**

Ms. Fields and Ms. Thomas:

Attached are the final Release Notification and Corrective Action Forms (C-141) for the referenced release along with the Corrective Action Report as prepared by our consultant, Apex TITAN Inc.. Should you have questions or need additional information, please contact our field representative, Thomas Long at 505-599-2286, or me directly at 713-381-6595.

Thank you,

Shiver J. Nolan
Sr. Compliance Administrator

enclosure

OIL CONS. DIV DIST. 3

DEC 29 2017



CORRECTIVE ACTION REPORT

Property:

**Blanco Plant D-Turbine Lube Oil Release (8/28/17)
SE 1/4, S11 T29N R11W
San Juan County, New Mexico**

November 30, 2017
Apex Project No. 725040112328

Prepared for:

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

Prepared by:


Rane Deechilly
Project Scientist

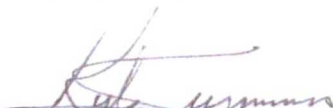

Kyle Summers, CPG
Branch Manager / Senior Project
Manager

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Site Description & Background.....	1
1.2	Project Objective.....	1
2.0	SITE RANKING	1
3.0	RESPONSE ACTIONS.....	2
3.1	Soil Excavation Activities	2
3.2	Soil Sampling Program.....	3
3.3	Laboratory Analytical Methods	3
4.0	DATA EVALUATION	3
4.1	Confirmation Soil Samples.....	3
5.0	FINDINGS AND RECOMMENDATIONS.....	4
6.0	STANDARD OF CARE, LIMITATIONS, AND RELIANCE	5

LIST OF APPENDICES

Appendix A	Figures
	Figure 1 Topographic Map
	Figure 2 Site Vicinity Map
	Figure 3 Site Map with Soil Analytical Results
Appendix B:	Executed C-138 Solid Waste Acceptance Form
Appendix C:	Photographic Documentation
Appendix D	Tables
	Table 1 Soil Analytical Summary – BTEX and TPH
	Table 2 Waste Characterization Sample
Appendix E:	Laboratory Data Sheets & Chain of Custody Documentation

CORRECTIVE ACTION REPORT

Blanco Plant D-Turbine Lube Oil Release (8/28/17)
SE 1/4, S11 T29N R11W
San Juan County, New Mexico

Apex Project No. 725040112328

1.0 INTRODUCTION

1.1 Site Description & Background

The Blanco Plant D-Turbine lube oil release site is located north of the Enterprise Field Services, LLC (Enterprise) Blanco Storage Facility in the southeast (SE) ¼ of Section 11, Township 29 North, Range 11 West, near Bloomfield, San Juan County, New Mexico (36.734594N, 107.960446W), referred to hereinafter as the "Site". The Site is located on public land managed by the United States Bureau of Land Management (BLM). The Site is surrounded by rangeland and oil and gas production and gathering facilities.

On August 28, 2017, a release from the D-Turbine vent stack resulted in the ejection of lubrication seal oil from the blow down vent pipe during an emergency shutdown at the Blanco Plant facility. Lubrication seal oil that had accumulated in the gas compressor and associated piping was emitted through the blowdown vent stack during the depressurization event. Apex TITAN, Inc. (Apex) implemented initial Site investigation activities on August 30, 2017, when three (3) overspray composite samples (OS-1 through OS-3) were collected and analyzed for total benzene, toluene, ethylbenzene, and total xylenes (BTEX) and total petroleum hydrocarbon (TPH) gasoline range organics (GRO), diesel range organics (DRO), motor oil/lube oil range organics (MRO). Sample OS-1 was also analyzed for Resource Recovery and Conservation Act (RCRA) 8 Metals to facilitate waste characterization. Laboratory analytical results identified combined TPH GRO/DRO/MRO concentrations that exceeded applicable New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) *Remediation Action Levels* (RALs). On September 25, 2017, Enterprise initiated corrective action activities to remediate the petroleum hydrocarbon impact that resulted from the release.

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 EMNRD OCD 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	10
	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			30

Based on Apex's evaluation of the scoring criteria, the Site would have a Total Ranking Score of 30 this ranking is based on the following:

- Eight (8) registered OSE water wells are identified within a one (1) mile radius of the Site. The nearest water well with a recorded depth to water is located approximately 4,000 feet from the Site, at a lower elevation, with a depth to water of 48 feet below grade surface (bgs). However, based on information from a groundwater monitoring well network within 200 feet of the Site, the depth to groundwater in the vicinity of the release is anticipated to be approximately 75 feet bgs, resulting in a ranking score of "10" 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 200 feet west of a small ephemeral channel 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 "20".

3.0 RESPONSE ACTIONS

3.1 Soil Excavation Activities

On September 25, 2017, Enterprise initiated corrective action activities to remediate petroleum hydrocarbon impact that was confirmed by the preliminary sampling event (samples OS-1 through OS-3). During the corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support, and Apex provided environmental support.

The overspray area was excavated, and three (3) five-aliquot composite soil samples (OS-4 through OS-6) were collected for laboratory analysis. Subsequent laboratory analytical results indicated soil associated with composite soil samples OS-5 and OS-6 still exhibited COC concentrations above the applicable New Mexico EMNRD OCD RALs. On September 29, 2017, a portion of the overspray area (from the central section to the western extent) was further excavated to remove the residual petroleum hydrocarbon impact. Two (2) five-aliquot composite confirmation soil samples (OS-7 and OS-8) were collected for laboratory analysis.

The overall final excavation measured approximately 135 feet long by 64 feet wide at the maximum extents. The maximum depth of the excavation was approximately 1.5 feet bgs. The lithology encountered during the completion of corrective action activities consisted primarily of semi-consolidated silty sand.

A total of approximately 288 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm 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 imported fill and then contoured to surrounding grade.

Figure 3 is a map with soil sample locations that depicts the approximate excavated area (**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[®] hydrocarbon analyzer system to guide excavation extents.

Apex's soil sampling program included the collection of eight (8) composite soil samples (OS-1 through OS-8).

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 BTEX using EPA SW-846 Method #8021, and TPH GRO/DRO/MRO using EPA SW-846 Method #8015. Sample OS-1 was also analyzed for RCRA 8 metals using EPA methods 7471 and 6010 for waste characterization.

Laboratory results are summarized in **Table 1** and **Table 2**, 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 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 (OS-4, OS-7, and OS-8) to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "30". Soils associated with composite soil samples OS-1, OS-2, OS-3, OS-5, and OS-6 were excavated and transported to the Envirotech landfarm for disposal/treatment, and are not included in the following discussion.

- The laboratory analyses of the final 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 final 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 final confirmation composite soil samples 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.

Confirmation composite soil sample laboratory analytical results are provided in **Table 1** and waste characterization analytical results are provided in **Table 2 (Appendix D)**.

5.0 FINDINGS AND RECOMMENDATIONS

The Blanco Plant D-Turbine lube oil release Site is located north of the Enterprise Blanco Storage Facility in the SE ¼ of Section 11, Township 29 North, Range 11 West, near Bloomfield, San Juan County, New Mexico. The Site is located on public land managed by the BLM. The Site is surrounded by rangeland and oil and gas production and gathering facilities.

On August 28, 2017, a release from the D-Turbine vent stack resulted in the ejection of lubrication seal oil from the blow down vent pipe during an emergency shutdown at the Blanco Plant facility. Lubrication seal oil that had accumulated in the gas compressor and associated piping was emitted through the blowdown vent stack during the depressurization event. Apex implemented initial Site investigation activities on August 30, 2017, when three (3) overspray composite samples (OS-1 through OS-3) were collected and analyzed for total BTEX, TPH GRO/GRO/MRO, and RCRA 8 Metals. Laboratory analytical results identified combined TPH GRO/DRO/MRO concentrations that exceeded applicable New Mexico EMNRD OCD standards. On September 25, 2017, Enterprise initiated corrective action activities to remediate the petroleum hydrocarbon impact that resulted from the release.

- 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 semi-consolidated silty sand.
- The final excavation measured approximately 135 feet long by 64 feet wide at the maximum extents. The maximum depth of the excavation was approximately 1.5 feet bgs.
- Prior to backfilling, three (3) confirmation 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 "30".



- A total of approximately 288 cubic yards of soil were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with 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

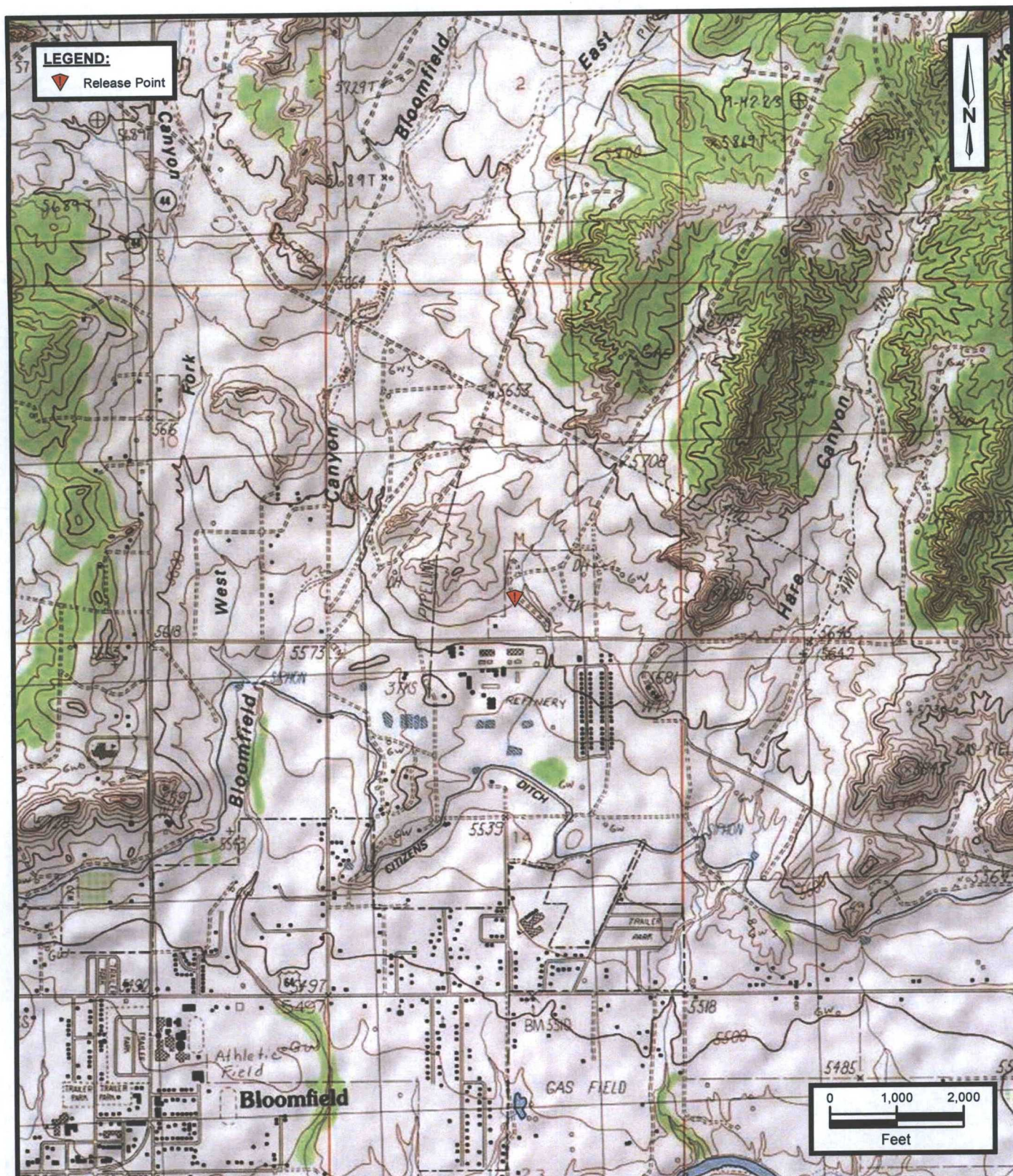
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed or described herein. Additionally, Apex does not warrant 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



Blanco Plant D-Turbine
Lube Oil Release (8/28/2017)
SE 1/4, Sec 11 T29N R11W
San Juan County, New Mexico
36.734594 N, 107.960446 W

Project No. 725040112328



Apex TITAN, Inc.

606 South Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
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 Aztec New Mexico 7.5-Minute Quadrangles 1985



**Blanco Plant D-Turbine
Lube Oil Release (8/28/2017)**
SE 1/4, Sec 11 T29N R11W
San Juan County, New Mexico
36.734594 N, 107.960446 W

Project No. 725040112328



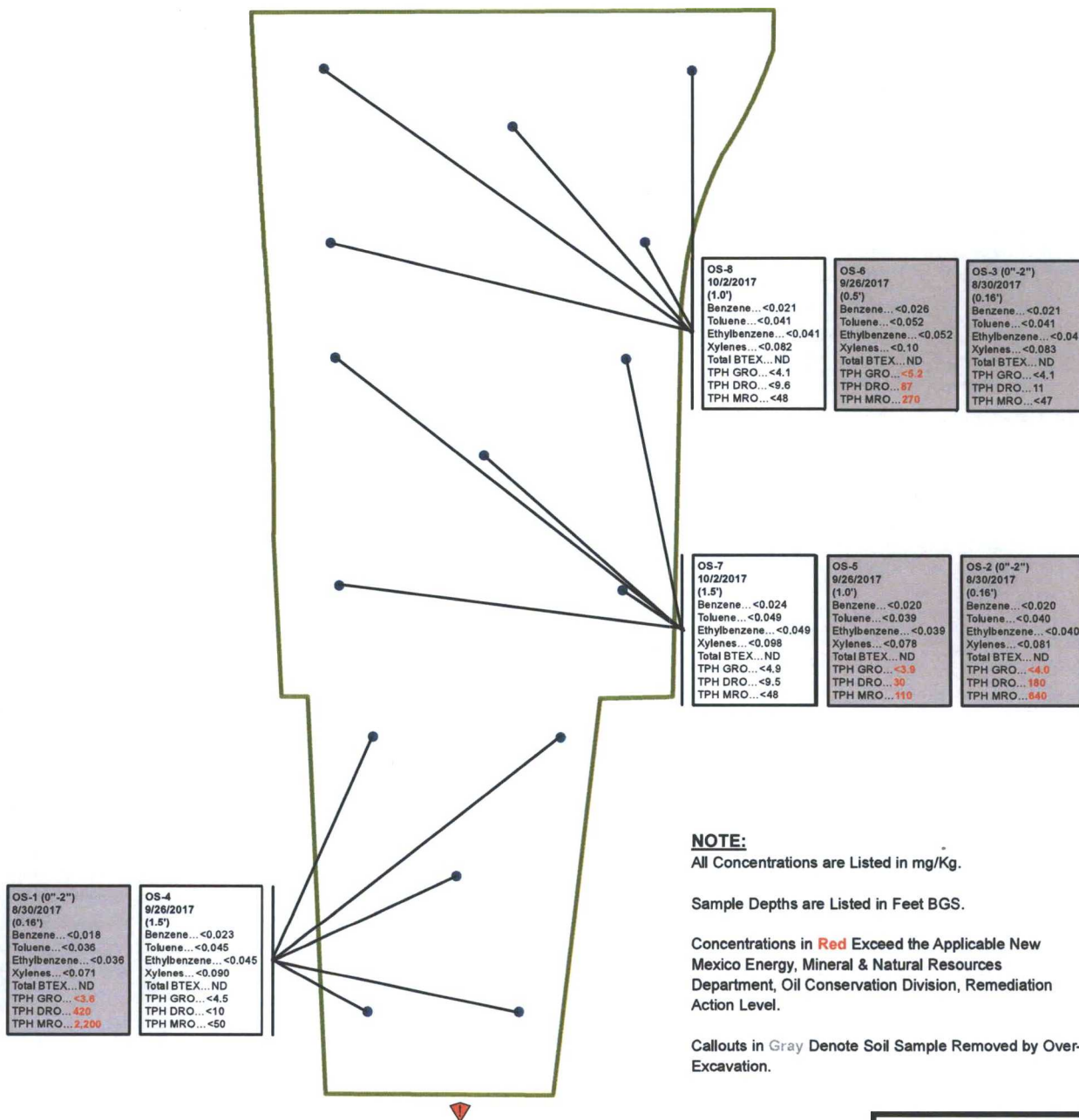
Apex TITAN, Inc.
606 South Rio Grande, Suite A
Aztec, New Mexico 87410
Phone: (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

FIGURE 2
Site Vicinity Map

Service Layer Credits:
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Aerial Photograph 2017

LEGEND:

-  Release Point
-  Approximate Aliquot Soil Sample Location
-  Overspray Area



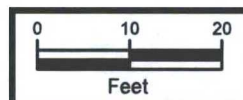
NOTE:

All Concentrations are Listed in mg/Kg.

Sample Depths are Listed in Feet BGS.

Concentrations in **Red** Exceed the Applicable New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level.

Callouts in Gray Denote Soil Sample Removed by Over-Excavation.



Blanco Plant D-Turbine
Lube Oil Release (8/28/2017)
SE 1/4, Sec 11 T29N R11W
San Juan County, New Mexico
36.734594 N, 107.960446 W



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FIGURE 3

Site Map with Soil Analytical Results

Project No. 725040112328

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 97057-0860
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: Blanco Plant D-Turbine Lube Oil Release Site
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter O Section 11 Township 29 North Range 11 West; 36.734617, -107.960433 Sep/Oct 2017
4. Source and Description of Waste: Hydrocarbon impacted soil from a lubrication oil release.
5. Estimated Volume 50 yd ³ bbls Known Volume (to be entered by the operator at the end of the haul) 288 yd ³ 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* 9-22-17, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to
Generator Signature
complete the required testing/sign the Generator Waste Testing Certification.

I, [Signature] 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: West States Energy Contractors HBL, Flying M

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: 9/26/17

SIGNATURE: [Signature]
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

APPENDIX C

Photographic Documentation

Photograph 1

View of the overspray area, facing west.



Photograph 2

View of the initial excavation.



Photograph 3

View of in-process excavation activities.



Photograph 4

View of the excavation.



APPENDIX D

Tables

TABLE 1
Blanco Plant D-Turbine Lube Oil Release (8/28/17)
SOIL ANALYTICAL SUMMARY - BTEX AND TPH

Sample I.D.	Date	Sample Type C- Composite G - Grab	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		
Overspray Confirmation Soil Samples Removed By Over-Excavation											
OS-1 (0"-2")	8.30.17	C	0.16	<0.018	<0.036	<0.036	<0.071	ND	<3.6	420	2,200
OS-2 (0"-2")	8.30.17	C	0.16	<0.020	<0.040	<0.040	<0.081	ND	<4.0	180	640
OS-3 (0"-2")	8.30.17	C	0.16	<0.021	<0.041	<0.041	<0.083	ND	<4.1	11	<47
OS-5	9.26.17	C	1.0	<0.020	<0.039	<0.039	<0.078	ND	<3.9	30	110
OS-6	9.26.17	C	0.5	<0.026	<0.052	<0.052	<0.10	ND	<5.2	87	270
Overspray Confirmation Soil Samples											
OS-4	9.26.17	C	1.5	<0.023	<0.045	<0.045	<0.090	ND	<4.5	<10	<50
OS-7	10.02.17	C	1.5	<0.024	<0.049	<0.049	<0.098	ND	<4.9	<9.5	<48
OS-8	10.02.17	C	1.0	<0.021	<0.041	<0.041	<0.082	ND	<4.1	<9.6	<48

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



TABLE 2
Blanco Plant D-Turbine Lube Oil Release (8/28/17)
Waste Characterization Sample

Sample I.D.	Date	Sample Depth (feet)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)
OS-1 0"-2"	8.30.17	0.16	2.6	130	<0.097	5.8	2.9	0.12	<2.4	<0.24

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

September 07, 2017

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

RE: Blanco Lube Oil (8-28-17)

OrderNo.: 1708H28

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 6 sample(s) on 8/31/2017 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 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 1708H28

Date Reported: 9/7/2017

CLIENT: APEX TITAN**Client Sample ID:** OS-1 0"-2"**Project:** Blanco Lube Oil (8-28-17)**Collection Date:** 8/30/2017 11:30:00 AM**Lab ID:** 1708H28-001**Matrix:** SOIL**Received Date:** 8/31/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7471: MERCURY							Analyst: ELS
Mercury	0.12	0.033		mg/Kg	1	9/7/2017 9:42:32 AM	33741
EPA METHOD 6010B: SOIL METALS							Analyst: MED
Arsenic	2.6	2.4		mg/Kg	1	9/5/2017 12:36:51 PM	33667
Barium	130	0.097		mg/Kg	1	9/5/2017 12:36:51 PM	33667
Cadmium	ND	0.097		mg/Kg	1	9/5/2017 12:36:51 PM	33667
Chromium	5.8	0.29		mg/Kg	1	9/5/2017 12:36:51 PM	33667
Lead	2.9	0.24		mg/Kg	1	9/5/2017 12:36:51 PM	33667
Selenium	ND	2.4		mg/Kg	1	9/5/2017 12:36:51 PM	33667
Silver	ND	0.24		mg/Kg	1	9/5/2017 12:36:51 PM	33667
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	420	97		mg/Kg	10	9/1/2017 10:55:09 AM	33650
Motor Oil Range Organics (MRO)	2200	490		mg/Kg	10	9/1/2017 10:55:09 AM	33650
Surr: DNOP	0	70-130	S	%Rec	10	9/1/2017 10:55:09 AM	33650
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	8/31/2017 12:11:10 PM	33627
Surr: BFB	111	54-150		%Rec	1	8/31/2017 12:11:10 PM	33627
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	8/31/2017 12:11:10 PM	33627
Toluene	ND	0.036		mg/Kg	1	8/31/2017 12:11:10 PM	33627
Ethylbenzene	ND	0.036		mg/Kg	1	8/31/2017 12:11:10 PM	33627
Xylenes, Total	ND	0.071		mg/Kg	1	8/31/2017 12:11:10 PM	33627
Surr: 4-Bromofluorobenzene	119	66.6-132		%Rec	1	8/31/2017 12:11:10 PM	33627

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 1708H28

Date Reported: 9/7/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** OS-2 0"-2"**Project:** Blanco Lube Oil (8-28-17)**Collection Date:** 8/30/2017 11:40:00 AM**Lab ID:** 1708H28-002**Matrix:** SOIL**Received Date:** 8/31/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	180	94		mg/Kg	10	9/1/2017 9:59:18 AM	33650
Motor Oil Range Organics (MRO)	640	470		mg/Kg	10	9/1/2017 9:59:18 AM	33650
Surr: DNOP	0	70-130	S	%Rec	10	9/1/2017 9:59:18 AM	33650
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	8/31/2017 12:35:08 PM	33627
Surr: BFB	78.4	54-150		%Rec	1	8/31/2017 12:35:08 PM	33627
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	8/31/2017 12:35:08 PM	33627
Toluene	ND	0.040		mg/Kg	1	8/31/2017 12:35:08 PM	33627
Ethylbenzene	ND	0.040		mg/Kg	1	8/31/2017 12:35:08 PM	33627
Xylenes, Total	ND	0.081		mg/Kg	1	8/31/2017 12:35:08 PM	33627
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	1	8/31/2017 12:35:08 PM	33627

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 1708H28

Date Reported: 9/7/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** OS-3 0"-2"**Project:** Blanco Lube Oil (8-28-17)**Collection Date:** 8/30/2017 11:50:00 AM**Lab ID:** 1708H28-003**Matrix:** SOIL**Received Date:** 8/31/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	11	9.3		mg/Kg	1	9/1/2017 10:27:10 AM	33650
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	9/1/2017 10:27:10 AM	33650
Surr: DNOP	71.5	70-130		%Rec	1	9/1/2017 10:27:10 AM	33650
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	8/31/2017 12:59:05 PM	33627
Surr: BFB	76.0	54-150		%Rec	1	8/31/2017 12:59:05 PM	33627
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	8/31/2017 12:59:05 PM	33627
Toluene	ND	0.041		mg/Kg	1	8/31/2017 12:59:05 PM	33627
Ethylbenzene	ND	0.041		mg/Kg	1	8/31/2017 12:59:05 PM	33627
Xylenes, Total	ND	0.083		mg/Kg	1	8/31/2017 12:59:05 PM	33627
Surr: 4-Bromofluorobenzene	115	66.6-132		%Rec	1	8/31/2017 12:59:05 PM	33627

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#: 1708H28

07-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	LCS-33650		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 33650		RunNo: 45364					
Prep Date:	8/31/2017		Analysis Date: 9/1/2017		SeqNo: 1437547		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	98.0	73.2	114			
Surr: DNOP	4.8		5.000		95.4	70	130			

Sample ID	MB-33650		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 33650		RunNo: 45364					
Prep Date:	8/31/2017		Analysis Date: 9/1/2017		SeqNo: 1437548		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		107	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#: 1708H28

07-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-33627	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	33627	RunNo:	45344					
Prep Date:	8/30/2017	Analysis Date:	8/31/2017	SeqNo:	1437225	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		80.8	54	150			

Sample ID	LCS-33627	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	33627	RunNo:	45344					
Prep Date:	8/30/2017	Analysis Date:	8/31/2017	SeqNo:	1437226	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	95.3	76.4	125			
Surr: BFB	890		1000		88.5	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
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#: 1708H28

07-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-33627		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	33627		RunNo:	45344			
Prep Date:	8/30/2017		Analysis Date:	8/31/2017		SeqNo:	1437243		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		121	66.6	132			

Sample ID	LCS-33627		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	33627		RunNo:	45344			
Prep Date:	8/30/2017		Analysis Date:	8/31/2017		SeqNo:	1437244		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	112	80	120			
Toluene	1.1	0.050	1.000	0	112	80	120			
Ethylbenzene	1.1	0.050	1.000	0	111	80	120			
Xylenes, Total	3.4	0.10	3.000	0	114	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		124	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#: 1708H28

07-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-33741	SampType: MBLK		TestCode: EPA Method 7471: Mercury						
Client ID:	PBS	Batch ID: 33741		RunNo: 45473						
Prep Date:	9/7/2017	Analysis Date: 9/7/2017		SeqNo: 1441230		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-33741	SampType: LCS			TestCode: EPA Method 7471: Mercury					
Client ID:	LCSS	Batch ID: 33741			RunNo: 45473					
Prep Date:	9/7/2017	Analysis Date: 9/7/2017			SeqNo: 1441245		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.17	0.033	0.1667	0	101	80	120			

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#: 1708H28

07-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-33667		SampType: MBLK		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	PBS		Batch ID: 33667		RunNo: 45407					
Prep Date:			Analysis Date: 9/5/2017		SeqNo: 1438708		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								

Sample ID	LCS-33667		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 33667		RunNo: 45407					
Prep Date:	9/1/2017		Analysis Date: 9/5/2017		SeqNo: 1438709		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	25	2.5	25.00	0	100	80	120			
Barium	26	0.10	25.00	0	102	80	120			
Cadmium	26	0.10	25.00	0	103	80	120			
Chromium	26	0.30	25.00	0	103	80	120			
Lead	24	0.25	25.00	0	98.0	80	120			
Selenium	23	2.5	25.00	0	92.6	80	120			
Silver	5.2	0.25	5.000	0	104	80	120			

Sample ID	1708H28-001BMS	SampType: MS			TestCode: EPA Method 6010B: Soil Metals					
Client ID:	OS-1 0"-2"	Batch ID: 33667			RunNo: 45407					
Prep Date:	9/1/2017	Analysis Date: 9/5/2017			SeqNo: 1438711		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	24	2.5	24.64	2.592	85.8	75	125			
Barium	140	0.099	24.64	127.5	48.8	75	125			S
Cadmium	21	0.099	24.64	0.07402	83.1	75	125			
Chromium	26	0.30	24.64	5.824	83.3	75	125			
Lead	21	0.25	24.64	2.907	71.5	75	125			S
Selenium	15	2.5	24.64	0	62.7	75	125			S
Silver	3.9	0.25	4.927	0	79.2	75	125			

Sample ID	1708H28-001BMSD		SampType: MSD		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	OS-1 0"-2"		Batch ID: 33667		RunNo: 45407					
Prep Date:	9/1/2017		Analysis Date: 9/5/2017		SeqNo: 1438712		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	22	2.4	24.05	2.592	81.3	75	125	6.89	20	

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#: 1708H28

07-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	1708H28-001BMSD	SampType:	MSD	TestCode: EPA Method 6010B: Soil Metals						
Client ID:	OS-1 0"-2"	Batch ID:	33667	RunNo: 45407						
Prep Date:	9/1/2017	Analysis Date:	9/5/2017	SeqNo: 1438712		Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	140	0.096	24.05	127.5	39.6	75	125	1.81	20	S
Cadmium	20	0.096	24.05	0.07402	81.3	75	125	4.55	20	
Chromium	25	0.29	24.05	5.824	80.3	75	125	4.72	20	
Lead	20	0.24	24.05	2.907	70.5	75	125	3.19	20	S
Selenium	15	2.4	24.05	0	61.2	75	125	4.72	20	S
Silver	3.7	0.24	4.810	0	76.8	75	125	5.49	20	

Sample ID	1708H28-001BPS	SampType:	PS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	OS-1 0"-2"	Batch ID:	33667	RunNo:	45407					
Prep Date:		Analysis Date:	9/5/2017	SeqNo:	1438713	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	150	0.097	24.35	127.5	79.5	80	120			S
Lead	21	0.24	24.35	2.907	74.3	80	120			S
Selenium	15	2.4	24.35	0	63.4	80	120			S

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 Hawks 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: 1708H28

RcptNo: 1

Received By: Anne Thorne

8/31/2017 7:10:00 AM

Anne Thorne

Completed By: Anne Thorne

8/31/2017 7:57:09 AM

Anne Thorne

Reviewed By:

[Signature]

8/31/17

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°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 ☒


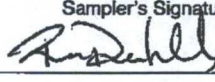
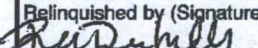
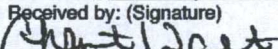
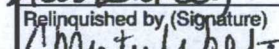
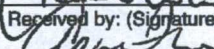
Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			

CHAIN OF CUSTODY RECORD

 APEX		Laboratory: <u>Hall Environmental Analysis Laboratory</u>		ANALYSIS REQUESTED BTEX 8021 TPH GED/PRO/HRO 8015 PCRA 8 metals A-08/31/17		Lab use only Due Date:								
		Address: <u>4901 Hawkins NE</u> <u>Albuquerque, NM 87109</u>				Temp. of coolers when received (C°): <u>1.8</u>								
Office Location <u>606 S. Rio Grande, Suite A</u> <u>Aztec, NM 87410</u>		Contact: <u>A. Freeman</u>		Phone: <u>505-345-3975</u>		Page <u>1</u> of <u>1</u>								
Project Manager <u>K. Summers</u>		PO/SO #: <u>See Notes</u>												
Sampler's Name <u>Ranee Deechilly</u>		Sampler's Signature 												
Proj. No. <u>725040112328</u>		Project Name <u>Blanco Lube Oil (8-28-17)</u>		No/Type of Containers										
Matrix	Date	Time	COOP	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)	
S	8/30/17	1130	X		OS-1 0"-2"						2		X X X	MeOH Kit 1708 H 28 -001
S	8/30/17	1140	X		OS-2 0"-2"						2		X X	MeOH Kit 202
S	8/30/17	1150	X		OS-3 0"-2"						2		X X	MeOH Kit 203
S	8/30/17	1200	X		OS-1 2"-4"						2			on hold 204
S	8/30/17	1210	X		OS-2 2"-4"						2			on hold 205
S	8/30/17	1220	X		OS-3 2"-4"						2			on hold 206
NFS														
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush <u>Nextday - Friday 9/1/17</u>														
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:	NOTES: Bill to Tom Long (EPROD) Turn Around <u>9/1/07 Friday</u>						
		8/30/17	1456			8/30/17	1456							
Relinquished by (Signature)		Date:	Time:	Received by (Signature)		Date:	Time:							
		8/30/17	1905			8/31/17	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
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

September 28, 2017

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

RE: Blanco Lube Oil (8-28-17)

OrderNo.: 1709E82

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 3 sample(s) on 9/27/2017 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 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 1709E82

Date Reported: 9/28/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: OS-4

Project: Blanco Lube Oil (8-28-17)

Collection Date: 9/26/2017 12:00:00 PM

Lab ID: 1709E82-001

Matrix: SOIL

Received Date: 9/27/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	9/27/2017 10:01:33 AM	34095
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	9/27/2017 10:01:33 AM	34095
Surr: DNOP	89.4	70-130		%Rec	1	9/27/2017 10:01:33 AM	34095
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	9/27/2017 9:58:28 AM	34082
Surr: BFB	89.6	54-150		%Rec	1	9/27/2017 9:58:28 AM	34082
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	9/27/2017 9:58:28 AM	34082
Toluene	ND	0.045		mg/Kg	1	9/27/2017 9:58:28 AM	34082
Ethylbenzene	ND	0.045		mg/Kg	1	9/27/2017 9:58:28 AM	34082
Xylenes, Total	ND	0.090		mg/Kg	1	9/27/2017 9:58:28 AM	34082
Surr: 4-Bromofluorobenzene	105	66.6-132		%Rec	1	9/27/2017 9:58:28 AM	34082

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 1709E82

Date Reported: 9/28/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** OS-5**Project:** Blanco Lube Oil (8-28-17)**Collection Date:** 9/26/2017 12:10:00 PM**Lab ID:** 1709E82-002**Matrix:** SOIL**Received Date:** 9/27/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	30	9.6		mg/Kg	1	9/27/2017 10:29:19 AM	34095
Motor Oil Range Organics (MRO)	110	48		mg/Kg	1	9/27/2017 10:29:19 AM	34095
Surr: DNOP	87.7	70-130		%Rec	1	9/27/2017 10:29:19 AM	34095
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	9/27/2017 10:21:53 AM	34082
Surr: BFB	87.3	54-150		%Rec	1	9/27/2017 10:21:53 AM	34082
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	9/27/2017 10:21:53 AM	34082
Toluene	ND	0.039		mg/Kg	1	9/27/2017 10:21:53 AM	34082
Ethylbenzene	ND	0.039		mg/Kg	1	9/27/2017 10:21:53 AM	34082
Xylenes, Total	ND	0.078		mg/Kg	1	9/27/2017 10:21:53 AM	34082
Surr: 4-Bromofluorobenzene	103	66.6-132		%Rec	1	9/27/2017 10:21:53 AM	34082

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 1709E82

Date Reported: 9/28/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: OS-6

Project: Blanco Lube Oil (8-28-17)

Collection Date: 9/26/2017 12:20:00 PM

Lab ID: 1709E82-003

Matrix: SOIL

Received Date: 9/27/2017 7:20:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	87	9.4		mg/Kg	1	9/27/2017 10:56:46 AM	34095
Motor Oil Range Organics (MRO)	270	47		mg/Kg	1	9/27/2017 10:56:46 AM	34095
Surr: DNOP	93.4	70-130		%Rec	1	9/27/2017 10:56:46 AM	34095
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.2		mg/Kg	1	9/27/2017 10:45:18 AM	34082
Surr: BFB	89.5	54-150		%Rec	1	9/27/2017 10:45:18 AM	34082
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.026		mg/Kg	1	9/27/2017 10:45:18 AM	34082
Toluene	ND	0.052		mg/Kg	1	9/27/2017 10:45:18 AM	34082
Ethylbenzene	ND	0.052		mg/Kg	1	9/27/2017 10:45:18 AM	34082
Xylenes, Total	ND	0.10		mg/Kg	1	9/27/2017 10:45:18 AM	34082
Surr: 4-Bromofluorobenzene	104	66.6-132		%Rec	1	9/27/2017 10:45:18 AM	34082

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#: 1709E82

28-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	LCS-34095		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34095		RunNo: 45918					
Prep Date:	9/27/2017		Analysis Date: 9/27/2017		SeqNo: 1459257		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	89.3	73.2	114			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID	MB-34095	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 34095			RunNo: 45918					
Prep Date:	9/27/2017	Analysis Date: 9/27/2017			SeqNo: 1459258		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	9.9		10.00		98.8	70	130			

Sample ID	1709E82-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	OS-4		Batch ID: 34095		RunNo: 45919					
Prep Date:	9/27/2017		Analysis Date: 9/27/2017		SeqNo: 1459684		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.8	49.21	0	101	55.8	122			
Surr: DNOP	4.4		4.921		90.0	70	130			

Sample ID	1709E82-001AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	OS-4		Batch ID: 34095		RunNo: 45919					
Prep Date:	9/27/2017		Analysis Date: 9/27/2017		SeqNo: 1459685		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	9.8	49.21	0	105	55.8	122	4.16	20	
Surr: DNOP	4.5		4.921		90.5	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#: 1709E82

28-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-34082	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459919	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		91.6	54	150			

Sample ID	LCS-34082	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459930	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	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
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#: 1709E82

28-Sep-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-34082	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459967	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		105	66.6	132			

Sample ID	LCS-34082	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	34082	RunNo:	45928					
Prep Date:	9/26/2017	Analysis Date:	9/27/2017	SeqNo:	1459968	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	106	80	120			
Toluene	1.0	0.050	1.000	0	105	80	120			
Ethylbenzene	1.1	0.050	1.000	0	109	80	120			
Xylenes, Total	3.3	0.10	3.000	0	111	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	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



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: 1709E82

RcptNo: 1

Received By: Anne Thorne

9/27/2017 7:20:00 AM

Anne Thorne

Completed By: Anne Thorne

9/27/2017 7:28:12 AM

Anne Thorne

Reviewed By:

Dennis Long 9/27/17

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°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	1.4	Good	Yes			



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

October 04, 2017

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

RE: Blanco Lube Oil (8-28-17)

OrderNo.: 1710048

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/3/2017 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 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 1710048

Date Reported: 10/4/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** 05-7**Project:** Blanco Lube Oil (8-28-17)**Collection Date:** 10/2/2017 11:15:00 AM**Lab ID:** 1710048-001**Matrix:** SOIL**Received Date:** 10/3/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/3/2017 11:17:18 AM	34198
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/3/2017 11:17:18 AM	34198
Surr: DNOP	98.0	70-130		%Rec	1	10/3/2017 11:17:18 AM	34198
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/3/2017 9:52:08 AM	34177
Surr: BFB	87.6	54-150		%Rec	1	10/3/2017 9:52:08 AM	34177
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	10/3/2017 9:52:08 AM	34177
Toluene	ND	0.049		mg/Kg	1	10/3/2017 9:52:08 AM	34177
Ethylbenzene	ND	0.049		mg/Kg	1	10/3/2017 9:52:08 AM	34177
Xylenes, Total	ND	0.098		mg/Kg	1	10/3/2017 9:52:08 AM	34177
Surr: 4-Bromofluorobenzene	95.5	66.6-132		%Rec	1	10/3/2017 9:52:08 AM	34177

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 1710048

Date Reported: 10/4/2017

CLIENT: APEX TITAN

Client Sample ID: 05-8

Project: Blanco Lube Oil (8-28-17)

Collection Date: 10/2/2017 11:25:00 AM

Lab ID: 1710048-002

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/3/2017 11:42:01 AM	34198
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/3/2017 11:42:01 AM	34198
Surr: DNOP	99.5	70-130		%Rec	1	10/3/2017 11:42:01 AM	34198
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	10/3/2017 10:15:29 AM	34177
Surr: BFB	89.1	54-150		%Rec	1	10/3/2017 10:15:29 AM	34177
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	10/3/2017 10:15:29 AM	34177
Toluene	ND	0.041		mg/Kg	1	10/3/2017 10:15:29 AM	34177
Ethylbenzene	ND	0.041		mg/Kg	1	10/3/2017 10:15:29 AM	34177
Xylenes, Total	ND	0.082		mg/Kg	1	10/3/2017 10:15:29 AM	34177
Surr: 4-Bromofluorobenzene	97.0	66.6-132		%Rec	1	10/3/2017 10:15:29 AM	34177

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#: 1710048

04-Oct-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	LCS-34198		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34198		RunNo: 46047					
Prep Date:	10/3/2017		Analysis Date: 10/3/2017		SeqNo: 1464200		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	86.4	73.2	114			
Surr: DNOP	4.5		5.000		89.1	70	130			

Sample ID	MB-34198	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	34198		RunNo:	46047				
Prep Date:	10/3/2017	Analysis Date:	10/3/2017		SeqNo:	1464201	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	9.7		10.00		96.8	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#: 1710048

04-Oct-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-34177	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	34177	RunNo:	46053					
Prep Date:	10/2/2017	Analysis Date:	10/3/2017	SeqNo:	1465128	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	870		1000		86.9	54	150			

Sample ID	LCS-34177		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	34177		RunNo:	46053				
Prep Date:	10/2/2017		Analysis Date:	10/3/2017		SeqNo:	1465129		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	30	5.0	25.00	0	119	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
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#: 1710048

04-Oct-17

Client: APEX TITAN

Project: Blanco Lube Oil (8-28-17)

Sample ID	MB-34177	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	34177	RunNo:	46053					
Prep Date:	10/2/2017	Analysis Date:	10/3/2017	SeqNo:	1465161	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	0.94		1.000		93.9	66.6	132			

Sample ID	LCS-34177	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	34177	RunNo:	46053					
Prep Date:	10/2/2017	Analysis Date:	10/3/2017	SeqNo:	1465162	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	102	80	120			
Toluene	1.0	0.050	1.000	0	102	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.2	0.10	3.000	0	105	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		100	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: 1710048

RcptNo: 1

Received By: Anne Thorne

10/3/2017 7:10:00 AM

Anne Thorne

Completed By: Anne Thorne

10/3/2017 7:24:12 AM

Anne Thorne

Reviewed By:

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°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

 APEX Office Location _____ <u>606 S. Rio Grande Suite A</u> <u>Aztec, NM 87410</u> Project Manager <u>K. Summers</u>		Laboratory: <u>Hall Environmental Analysis Laboratory</u> Address: <u>4901 Hawkins NE</u> <u>Albuquerque, NM 87109</u> Contact: <u>A. Freeman</u> Phone: <u>505-345-3975</u> PO/SO #: <u>See notes</u>		ANALYSIS REQUESTED <div style="border: 1px solid black; padding: 5px; transform: rotate(-90deg); transform-origin: left top; position: absolute; left: 50%; top: 50%;"> 8021 BTEX 8015 TPH CRO/DEQ/MED </div>										Lab use only Due Date: _____ Temp. of coolers when received (C°): <u>1.0</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																	
Sampler's Name: <u>Ranee Deechilly</u> Sampler's Signature: <u>[Signature]</u> Proj. No.: <u>725040112328</u> Project Name: <u>Bianco Wbe Oil (8-28-17)</u> No/Type of Containers: _____																							

Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	10/2/17	1115	X		OS-7						1		1710048-001
S	10/2/17	1125	X		OS-8						1		202
<div style="position: relative; width: 100%; height: 100%;"> NFS </div>													

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

Relinquished by (Signature): <u>[Signature]</u>	Date: <u>10/2/17</u>	Time: <u>1500</u>	Received by (Signature): <u>[Signature]</u>	Date: <u>10/2/17</u>	Time: <u>1500</u>	NOTES: <u>Bill to Tom Long (EPROD)</u> <u>SAME DAY</u>
Relinquished by (Signature): <u>[Signature]</u>	Date: <u>10/2/17</u>	Time: <u>1840</u>	Received by (Signature): <u>[Signature]</u>	Date: <u>10/03/17</u>	Time: <u>0210</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 VOA - 40 ml vial	W - Water A/G - Amber / Or Glass 1 Liter	S - Soil SD - Solid	L - Liquid 250 ml - Glass wide mouth	A - Air Bag	C - Charcoal tube P/O - Plastic or other	SL - sludge	O - Oil
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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 Enterprise Field Services, LLC	Contact Thomas Long
Address 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name Potter Compressor Station	Facility Type Natural Gas Compressor Station

Surface Owner BLM	Mineral Owner BLM	Serial No. NM 097488
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LOCATION OF RELEASE

Unit Letter A	Section 19	Township 30N	Range 10W	Feet from the 470	North South Line	Feet from the 1522	East West Line	County San Juan
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Latitude 36.803361 Longitude 107.920709 NAD83

NATURE OF RELEASE

Type of Release Condensate	Volume of Release 8-10 BBLs of Condensate	Volume Recovered None
Source of Release Over Filling of a Tank	Date and Hour of Occurrence 8/27/2017 @ 1:30 p.m.	Date and Hour of Discovery 8/27/2017 @ 1:30 p.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Courtesy Notification Cory Smith - NMOCD; Whitney Smith - BLM	
By Whom? Thomas Long	Date and Hour November 27, 2017 @ 2:30 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 Taken.* **On November 27, 2017, during pigging operations, the tank in which the condensate in captured was overfilled releasing approximately 8-10 barrels of condensate to the ground surface.**

Describe Area Affected and Cleanup Action Taken.* **An area of approximately 65 feet long by 20 feet wide was impacted by condensate. Remediation of the release is in the scheduling process. 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:

Printed Name: **Jon E. Fields**

Title: **Director, Environmental**

E-mail Address: **jefields@eprod.com**

Date: **1-22-2018** Phone: (713) 381-6684

OIL CONSERVATION DIVISION

Approved by Environmental Specialist:

Approval Date: **2/6/18**

Expiration Date:

Conditions of Approval: **Sample For**

Attached ☒

* Attach Additional Sheets If Necessary

#NCS 180 3730428

③

Operator/Responsible Party,

1-22-18 - 2-6-18

The OCD has received the form C-141 you provided on _____ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1751403730 428 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before N/A. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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1625 N. French Dr., Hobbs, NM 88240
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State of New Mexico
Energy Minerals and Natural
Resources
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

OIL CONS. DIV DIST. 3

FEB 05 2018

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

Form C-141
Revised April 3, 2017

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 Payne A #1E	Facility Type Natural Gas Metering Gathering Pipeline

Surface Owner Private	Mineral Owner BLM	Serial No. 41 see April 3, 2017
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LOCATION OF RELEASE

Unit Letter D	Section 30	Township 29N	Range 10W	Feet from the 935	North /South Line	Feet from the 1115	East /West Line	County San Juan
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Latitude 36.701549 Longitude -107.93045 NAD83

NATURE OF RELEASE

Type of Release Natural Gas	Volume of Release Unknown	Volume Recovered None
Source of Release Suspected Internal Corrosion	Date and Hour of Occurrence 1/18/2018 @ 1:30 p.m.	Date and Hour of Discovery 1/18/2018 @ 1:30 p.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	
By Whom? Thomas Long	Date and Hour January 19, 2018 @ 8:08 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 Taken.* On January 18, 2018 Enterprise technicians discovered and release on the Payne A#1E well tie. Enterprise confirmed the release and isolated, depressurized, locked out and tagged out the pipeline.

Describe Area Affected and Cleanup Action Taken.* No fluids were observed on the ground surface. Repairs and remediation activities are in progress. Enterprise determined this release reportable per NMOCD regulation on January 24, 2018 due to the potential threat to groundwater. 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 2/7/18	Expiration Date: 2/7/18
E-mail Address: jefields@eprod.com	Conditions of Approval: Sample for	Attached <input checked="" type="checkbox"/>
Date: 1/29/2018	Phone: (713) 381-6684	

* Attach Additional Sheets If Necessary

#NCS 1803828756

3

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 2/5/18 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number NCS 1803828 756 . has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before N/A . If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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

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

OIL CONS. DIV DIST. 3
FEB 03 2018

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
Facility Name Sullivan Frame B#1	Facility Type Natural Gas Metering Gathering Pipeline

Surface Owner Private	Mineral Owner BLM	Serial No.
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LOCATION OF RELEASE

Unit Letter D	Section 30	Township 29N	Range 10W	Feet from the 1157	<u>North</u> /South Line	Feet from the 918	<u>East</u> /West Line	County San Juan
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Latitude 36.701549 Longitude -107.931041 NAD83

NATURE OF RELEASE

Type of Release Natural Gas and Condensate	Volume of Release Unknown	Volume Recovered None
Source of Release Open Valve	Date and Hour of Occurrence 1/24/2018 @ 10:50 a.m.	Date and Hour of Discovery 1/24/2018 @ 10:50 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	
By Whom? Thomas Long	Date and Hour January 26, 2018 @ 9:16 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 Taken.* On January 24, 2018 Enterprise technicians reported a condensate spill on the Sullivan Frame B#1 well tie and meter tube. Enterprise confirmed the release and isolated, depressurized, locked out and tagged out the pipeline.

Describe Area Affected and Cleanup Action Taken.* An area or approximately 30 feet long by 30 feet wide was impacted by the released fluids. Remediation activities are in progress. 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: <u>2/7/18</u>	Expiration Date:
E-mail Address: <u>jefields@eprod.com</u>	Conditions of Approval: <u>Sample for</u>	Attached <input checked="" type="checkbox"/>
Date: <u>1/31/2018</u>	Phone: (713) 381-6684	<u>TPH, BTEX, Benzene</u>

* Attach Additional Sheets If Necessary

#NCS 1803829147

3

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 2/5/18 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number ACS 1803829147 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before N/A. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
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- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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State of New Mexico
Energy Minerals and Natural
Resources

Oil Conservation Division
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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	
Facility Name Richardson #100	Facility Type Natural Gas Metering Tube/Well Site	
Surface Owner Navajo Tribal	Mineral Owner Navajo Tribal	Serial No.

LOCATION OF RELEASE

Unit Letter P	Section 2	Township 27N	Range 13W	Feet from the 697	North South Line	Feet from the 763	East West Line	County San Juan
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Latitude 36.5988 Longitude -108.1822 NAD83

NATURE OF RELEASE

Type of Release Condensate/Water	Volume of Release Estimated 3-5 BBLs of Condensate/Water	Volume Recovered None
Source of Release Meter Tube Freeze	Date and Hour of Occurrence 11/20/2017 @ 2:30 p.m.	Date and Hour of Discovery 11/20/2017 @ 2:30 p.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 Cory Smith – NMOCD; Steve Austin - NNEPA	
By Whom? Thomas Long	Date and Hour November 21, 2017 @ 3:23 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 Taken.* On November 20, 2017, a third party reported and leaking meter tube at the Richardson #100 well site. Enterprise confirmed the release and isolated, depressurized, locked out and tagged out the meter tube.

Describe Area Affected and Cleanup Action Taken.* An area on the well pad of approximately 40 feet long by 15 feet wide was impacted with fluids. The contaminant mass was removed by mechanical excavation. Approximately 8 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: 		OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields		Approved by Environmental Specialist: 	
Title: Director, Environmental		Approval Date: 2/26/18	Expiration Date:
E-mail Address: jefields@eprod.com		Conditions of Approval:	
Date: 1/15/2018	Phone: (713) 381-6684	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary

#NOUF 1735233522

37



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

January 15, 2018

EMNRD Oil Conservation Division
Aztec District III Office
Attn: Cory Smith
1000 Rio Brazos Road
Aztec, NM 87410

7016 3010 0000 0901 3764
Return Receipt Requested

Navajo Nation Environmental Protection Agency
Attn: Steve Austin
P. O. Drawer 1999
Shiprock, New Mexico 87420

7016 3010 0000 0901 3771
Return Receipt Requested

**RE: Richardson #100
San Juan County**

OIL CONS. DIV DIST. 3

JAN 22 2018

Mr. Smith & Mr. Austin:

Attached is the final Release Notification/Corrective Action Report (C-141) for reference release. Should have questions or need additional information, please contact our field representative, Thomas Long at 505-599-2286.

Thank you,

Jon E. Fields
Director, Field Environmental

/bjm
enclosures

Enterprise Products

Richardson #100 Meter Tube Release: Release Assessment and Closure Sampling Report

Latitude 36.5988197°, Longitude -108.1822739°
SE 1/4 of SE 1/4 of Section 2, T27N, R13W
San Juan County, New Mexico

December 28, 2017



Submitted To:
Enterprise Products
Field Environmental-San Juan Basin
614 Reilly Avenue
Farmington, NM 87401

Submitted By:
Souder, Miller & Associates
401 West Broadway
Farmington, NM 87401

(505) 325-7535



Table of Contents

1.0	Executive Summary	1
2.0	Introduction.....	1
3.0	Site Ranking and Land Jurisdiction	2
4.0	Summary of Field Activities	2
5.0	Conclusions and Recommendations.....	3
6.0	Closure and Limitations.....	4

Figures:

Figure 1: Vicinity Map

Figure 2: Site Map

Figure 3: Soil Sample Location Map

Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

Appendices:

Appendix A: Site Photography

Appendix B: Laboratory Analytical Reports

1.0 Executive Summary

On November 21, 2017, Souder, Miller & Associates (SMA) was contacted by Enterprise's Field Representative regarding a potential hydrocarbon release associated with a natural gas metering tube located at the Richardson #100 well site. On November 29, 2017, SMA performed initial screening and collected subsurface soil samples from around the metering tube and throughout the visually impacted area. On December 20, 2017 SMA oversaw excavation of contaminated soils from the hydrocarbon impacted area. The table below summarizes information about the remediation activities.

TABLE 1: RELEASE INFORMATION				
Name	Richardson #100 Well Site			
Location	Latitude/Longitude		Section, Township, Range	
	36.5988197	-108.1822739	SE¼ of SE ¼ Section 2	T 27N, R 13W
Date Reported	December 1, 2017			
Enterprise Contact	Thomas Long			
Land Owner	Navajo Nation Tribal			
Reported To	New Mexico Oil Conservation Division (NMOCD) and Navajo Tribal			
Source(s) of Release	Natural gas metering tube			
Volume of Tank(s)	N/A			
Release Contents	Condensate/water			
Release Volume: Liquids/Condensate	3-5 barrels			
Nearest Waterway	Unnamed arroyo ~475 feet south and downgradient of location			
Depth to Groundwater	Greater than 100 feet			
Nearest Domestic Water Source	Greater than 1000 feet			
NMOCD Ranking	10			
SMA Response Dates	November 29, 2017 & December 20, 2017			
Subcontractors	OFT Construction Inc.			
Disposal Facility	Envirotech Landfarm			
Yd ³ Contaminated Soil Excavated and Disposed	~8			

2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes excavation and final closure of a hydrocarbon release associated with a natural gas metering tube at the Richardson #100 well site. The release was likely

due to the metering tube freezing. Approximately 3-5 barrels of condensate and water was released. The release was reported on November 21, 2017, and is located in SE ¼ of SE ¼ Section 2, Township 27 North, Range 13 West, N36.5988197°, W108.1822739°, San Juan County, New Mexico.

Figure 1, Vicinity Map, and Figure 2, Site Location Map, illustrate the location of the release.

3.0 Site Ranking and Land Jurisdiction

A site ranking score for the release site was determined using the 1993 NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*. According to the NMOCD C-144 Form for the Richardson #100 pit registration, depth to groundwater is estimated to be greater than 100 feet below ground surface (bgs) (sub-site rank score = 0).

Using the New Mexico Tech Petroleum Recovery Research Center (PRRC) online mapping tool, Google Earth Pro, and the 1985 USGS East Fork Kutz Canyon Quadrangle (7.5-minute series), the nearest surface water is an unnamed arroyo located approximately 479 feet to the south (sub-site rank score = 10).

According to the NMOCD C-144 Form for the Richardson #100 pit registration, the nearest known water source for wellhead protections is greater than 1000 feet and greater than 200 feet for a private domestic water source (sub-site rank score = 0).

The physical location of this release is on land owned by the Navajo Nation and within the jurisdiction of the NMOCD. This release location has been assigned an NMOCD total site ranking score of 10, which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm total benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 1,000 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

4.0 Summary of Field Activities

Initial Screening and Excavation Activities

On November 29, 2017, SMA performed initial field screening by collecting surface soil samples around the release site and throughout the visible surface stained area. Soil samples were field-screened using a calibrated MiniRAE 3000 photoionization detector (PID). Results indicated that the top 2 inches of soil were impacted. The impacted area was then delineated and divided into approximately 25-foot by 25-foot sample blocks, as illustrated in Figure 3.

Soil samples were collected by hand tools to a maximum depth of three inches. Composite samples were collected from each sample block and submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for laboratory analysis.

Laboratory samples confirmed contamination below NMOCD regulatory standards for a site ranked as 10 in sample areas CS-3 and CS-4. Laboratory samples confirmed contamination exceeded NMOCD regulatory standards for a site ranked as 10 in sample areas CS-1 and CS-2.

On December 20, 2017, a front loader was utilized to remove the top 3 inches of soil across the CS-2 sample area. Hand tools were used to remove approximately 7 inches of soil around the meter tube and surrounding equipment in CS-1 sample area. In total, approximately 8 cubic yards of soil were removed from the site.

Confirmation soil samples were collected by hand tools. Soil samples were field-screened using a calibrated MiniRAE 3000 photoionization detector (PID). Composite samples were collected from each sample block and submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for laboratory analysis. All samples submitted for laboratory analysis were analyzed utilizing United States Environmental Protection Agency (EPA) Methods: 8021 for benzene, toluene, ethylbenzene, and total xylenes (BTEX), 8015 for diesel, gasoline, and motor oil range organics (DRO/GRO/MRO), and 300.0 for chlorides.

Laboratory samples confirmed contamination below NMOCD regulatory standards for a site ranked as 10 in sample areas CS-5 and CS-6.

A summary of the laboratory results is displayed in Table 3. Laboratory reports are included in the attachments.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 10: 10 ppm benzene, 50 ppm total BTEX, and 1,000 ppm TPH.

Laboratory analytical results for confirmation samples collected during the November 29, 2017 initial assessment and the December 20, 2017 excavation activity indicate concentrations below NMOCD Guidelines.

A summary of laboratory analysis is included in Table 3, sample locations are illustrated in Figure 3, and Hall laboratory reports are included in Appendix C.

SMA recommends no further actions related to the hydrocarbon impacted soils from the Richardson #100 well site.

6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary release assessment, regulatory liaison, oversight and control of remediation operations, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

If there are any questions regarding this report, please contact either myself or Shawna Chubbuck at 505-325-7535.

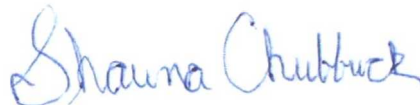
Submitted by:

SOUDER, MILLER & ASSOCIATES



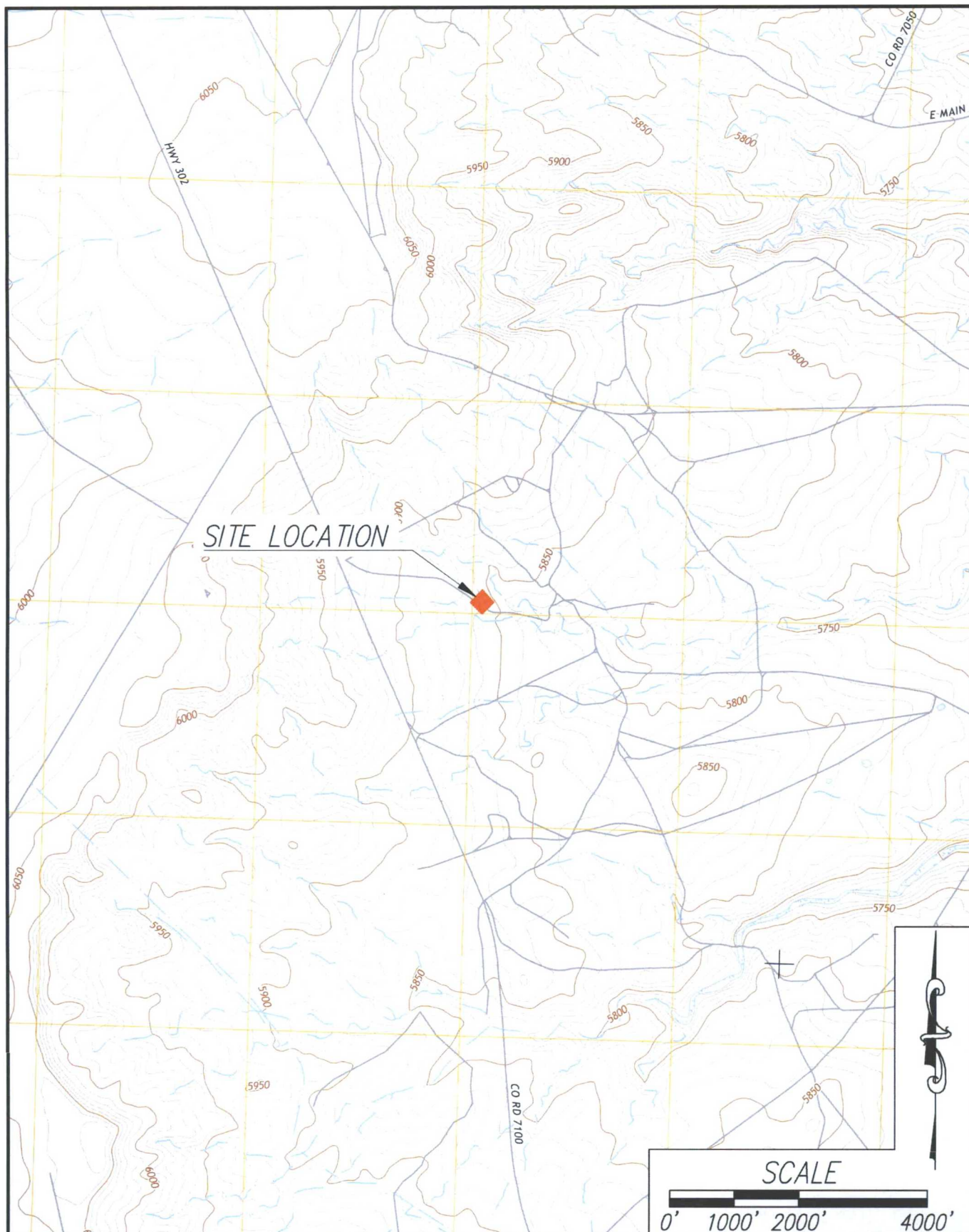
Ashley Maxwell
Staff Scientist

Reviewed by:



Shawna Chubbuck
Senior Scientist

Figures



Souder, Miller & Associates

401 West Broadway Avenue
Farmington, NM 87401-5907

Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045

www.soudermiller.com

Serving the Southwest & Rocky Mountains

ENTERPRISE

FARMINGTON, NEW MEXICO

VICINITY MAP
RICHARDSON #100
SECTION 2, T27N, R13W

Designed AP Drawn DJB Checked RSA

Date: December 2017

Scale: Horiz: 1" = 2000'
Vert: NA

Project No: 5125760

Figure 1

SAN JUAN COUNTY



SITE LOCATION

SCALE

0' 150' 300' 600'



SOUDER, MILLER & ASSOCIATES
401 W. BROADWAY
FARMINGTON, NM 87401

Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045
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ENTERPRISE

FARMINGTON, NEW MEXICO

SITE LOCATION MAP
RICHARDSON #100
SECTION 2, T27N, R13W

SAN JUAN COUNTY, NEW MEXICO

Designed AP	Drawn DJB	Checked RSA
Date: December 2017		
Scale: Horiz: 1"=300'		
Vert: N/A		
Project No: 5125760		

Figure 2

THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED

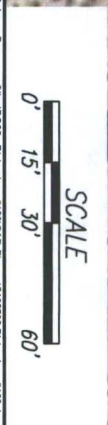


Figure 3 SOIL SAMPLE LOCATION MAP RICHARDSON #100 METER TUBE RELEASE SECTION 2, T27N, R13W		ENTERPRISE FARMINGTON, NEW MEXICO		Rev #	Date	Description
SOUDER, MILLER & ASSOCIATES 401 West Broadway Avenue Farmington, NM 87401-5907 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains		SAN JUAN COUNTY				

Tables

Enterprise Products
Table 2: Site Ranking

Richardson #100
Meter Tube Release
December 28, 2017

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20		C-144 BGT registration	Records estimate depth to water >100 feet.
50' to 99' = 10			
>100' = 0	0		
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20		Verified using Google Earth and USGS topo maps.	Nearest surface water is unnamed tributary located ~237 feet to the northeast.
200' - 1000' = 10	10		
>1000' = 0			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0		C-144 BGT registration	Records estimate distance from water source >2000' and >200' from a private domestic water source.
	0		
Total Site Ranking	10		
Soil Remediation Standards	0	10	20+
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM



Enterprise Products
Table 3: Summary of Laboratory Analysis
Results in mg/Kg

Richardson #100
Meter Tube Release
December 28, 2017

Date	Time	Sample ID	Sample Depth (Inches BGS)	Method 8015 GRO	Method 8015 MRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chloride
NMOCD Guidelines		NMOCD Site Ranking: 10		1,000 ppm			10 ppm	50 ppm	
11/29/2017	12:27	CS-1	0-3	<4.7	2100	590	<0.024	<0.213	80
11/29/2017	12:31	CS-2	0-3	<4.8	1500	490	<0.024	<0.216	69
11/29/2017	12:35	CS-3	0-3	<4.8	50	18	<0.024	<0.216	66
11/29/2017	12:40	CS-4	0-3	<4.6	<48	19	<0.023	<0.207	78
12/20/2017	9:41	CS-5	7	<4.1	<49	21	<0.021	<0.186	<30
12/20/2017	9:54	CS-6	3	<3.8	<49	<9.8	<0.019	<0.170	<30



Appendix A

Site Photography

SITE PHOTOGRAPHS

ENTERPRISE RICHARDSON #100 METER TUBE RELEASE



View of release point.



View west of flow path.



Excavated area at release point.



Surface scraped area along flow path.

Appendix B
Laboratory Analytical Reports



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

December 12, 2017

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-5667
FAX (505) 327-1496

RE: Richardson 100

OrderNo.: 1711E60

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 4 sample(s) on 11/30/2017 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 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 1711E60

Date Reported: 12/12/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-1

Project: Richardson 100

Collection Date: 11/29/2017 12:27:00 PM

Lab ID: 1711E60-001

Matrix: SOIL

Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	80	30		mg/Kg	20	12/7/2017 1:42:09 PM	35378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	590	98		mg/Kg	10	12/5/2017 2:00:02 PM	35299
Motor Oil Range Organics (MRO)	2100	490		mg/Kg	10	12/5/2017 2:00:02 PM	35299
Surr: DNOP	0	70-130	S	%Rec	10	12/5/2017 2:00:02 PM	35299
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	12/4/2017 9:30:14 PM	35265
Surr: BFB	85.3	15-316		%Rec	1	12/4/2017 9:30:14 PM	35265
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/4/2017 9:30:14 PM	35265
Toluene	ND	0.047		mg/Kg	1	12/4/2017 9:30:14 PM	35265
Ethylbenzene	ND	0.047		mg/Kg	1	12/4/2017 9:30:14 PM	35265
Xylenes, Total	ND	0.095		mg/Kg	1	12/4/2017 9:30:14 PM	35265
Surr: 4-Bromofluorobenzene	78.6	80-120	S	%Rec	1	12/4/2017 9:30:14 PM	35265

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 1711E60

Date Reported: 12/12/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-2

Project: Richardson 100

Collection Date: 11/29/2017 12:31:00 PM

Lab ID: 1711E60-002

Matrix: SOIL

Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	69	30		mg/Kg	20	12/7/2017 1:54:34 PM	35378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	490	100		mg/Kg	10	12/5/2017 1:35:48 PM	35299
Motor Oil Range Organics (MRO)	1500	500		mg/Kg	10	12/5/2017 1:35:48 PM	35299
Surr: DNOP	0	70-130	S	%Rec	10	12/5/2017 1:35:48 PM	35299
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/4/2017 9:53:24 PM	35265
Surr: BFB	79.4	15-316		%Rec	1	12/4/2017 9:53:24 PM	35265
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/4/2017 9:53:24 PM	35265
Toluene	ND	0.048		mg/Kg	1	12/4/2017 9:53:24 PM	35265
Ethylbenzene	ND	0.048		mg/Kg	1	12/4/2017 9:53:24 PM	35265
Xylenes, Total	ND	0.096		mg/Kg	1	12/4/2017 9:53:24 PM	35265
Surr: 4-Bromofluorobenzene	74.3	80-120	S	%Rec	1	12/4/2017 9:53:24 PM	35265

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 1711E60

Date Reported: 12/12/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-3

Project: Richardson 100

Collection Date: 11/29/2017 12:35:00 PM

Lab ID: 1711E60-003

Matrix: SOIL

Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	66	30		mg/Kg	20	12/7/2017 2:31:46 PM	35378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	18	9.5		mg/Kg	1	12/5/2017 5:14:04 PM	35299
Motor Oil Range Organics (MRO)	50	47		mg/Kg	1	12/5/2017 5:14:04 PM	35299
Surr: DNOP	107	70-130		%Rec	1	12/5/2017 5:14:04 PM	35299
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	12/4/2017 10:16:33 PM	35265
Surr: BFB	82.9	15-316		%Rec	1	12/4/2017 10:16:33 PM	35265
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	12/4/2017 10:16:33 PM	35265
Toluene	ND	0.048		mg/Kg	1	12/4/2017 10:16:33 PM	35265
Ethylbenzene	ND	0.048		mg/Kg	1	12/4/2017 10:16:33 PM	35265
Xylenes, Total	ND	0.096		mg/Kg	1	12/4/2017 10:16:33 PM	35265
Surr: 4-Bromofluorobenzene	76.9	80-120	S	%Rec	1	12/4/2017 10:16:33 PM	35265

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 1711E60

Date Reported: 12/12/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-4

Project: Richardson 100

Collection Date: 11/29/2017 12:40:00 PM

Lab ID: 1711E60-004

Matrix: SOIL

Received Date: 11/30/2017 7:40:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	78	30		mg/Kg	20	12/7/2017 2:44:11 PM	35378
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	19	9.7		mg/Kg	1	12/5/2017 4:49:51 PM	35299
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/5/2017 4:49:51 PM	35299
Surr: DNOP	117	70-130		%Rec	1	12/5/2017 4:49:51 PM	35299
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	12/4/2017 10:39:41 PM	35265
Surr: BFB	80.7	15-316		%Rec	1	12/4/2017 10:39:41 PM	35265
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	12/4/2017 10:39:41 PM	35265
Toluene	ND	0.046		mg/Kg	1	12/4/2017 10:39:41 PM	35265
Ethylbenzene	ND	0.046		mg/Kg	1	12/4/2017 10:39:41 PM	35265
Xylenes, Total	ND	0.092		mg/Kg	1	12/4/2017 10:39:41 PM	35265
Surr: 4-Bromofluorobenzene	75.8	80-120	S	%Rec	1	12/4/2017 10:39:41 PM	35265

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#: 1711E60

12-Dec-17

Client: Souder, Miller and Associates

Project: Richardson 100

Sample ID	MB-35378		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 35378		RunNo: 47600					
Prep Date:	12/7/2017		Analysis Date: 12/7/2017		SeqNo: 1521997		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-35378		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 35378		RunNo: 47600					
Prep Date:	12/7/2017		Analysis Date: 12/7/2017		SeqNo: 1521998		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

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#: 1711E60

12-Dec-17

Client: Souder, Miller and Associates

Project: Richardson 100

Sample ID	LCS-35299		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35299		RunNo: 47518					
Prep Date:	12/4/2017		Analysis Date: 12/5/2017		SeqNo: 1517358		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	89.4	73.2	114			
Surr: DNOP	4.6		5.000		92.8	70	130			

Sample ID	MB-35299		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35299		RunNo: 47518					
Prep Date:	12/4/2017		Analysis Date: 12/5/2017		SeqNo: 1517360		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		108	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#: 1711E60

12-Dec-17

Client: Souder, Miller and Associates

Project: Richardson 100

Sample ID	MB-35265		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range			
Client ID:	PBS		Batch ID:	35265		RunNo:	47501			
Prep Date:	12/1/2017		Analysis Date:	12/4/2017		SeqNo:	1517086		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		88.2	15	316			

Sample ID	LCS-35265		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range			
Client ID:	LCSS		Batch ID:	35265		RunNo:	47501			
Prep Date:	12/1/2017		Analysis Date:	12/4/2017		SeqNo:	1517087		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	75.9	131			
Surr: BFB	1000		1000		101	15	316			

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#: 1711E60
12-Dec-17

Client: Souder, Miller and Associates
Project: Richardson 100

Sample ID	MB-35265		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	35265		RunNo:	47501			
Prep Date:	12/1/2017		Analysis Date:	12/4/2017		SeqNo:	1517123	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	0.82		1.000		82.2	80	120			

Sample ID	LCS-35265		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	35265		RunNo:	47501			
Prep Date:	12/1/2017		Analysis Date:	12/4/2017		SeqNo:	1517124	Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	93.4	77.3	128			
Toluene	0.93	0.050	1.000	0	92.7	79.2	125			
Ethylbenzene	0.92	0.050	1.000	0	91.8	80.7	127			
Xylenes, Total	2.8	0.10	3.000	0	92.4	81.6	129			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.3	80	120			

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: SMA-FARM

Work Order Number: 1711E60

ReptNo: 1

Received By: Anne Thorne 11/30/2017 7:40:00 AM

Completed By: Erin Melendrez 11/30/2017 3:50:45 PM

Reviewed By: DDS/ENM 11/30/17

Anne Thorne
Erin Melendrez

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°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	1.3	Good	Yes			

Chain-of-Custody Record

Client: SMA

Mailing Address: 401 West Broadway
Farmington, NM 87401

Phone #: 505 325-7535

email or Fax#: Ashley Maxwell

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☒ Standard ☐ Rush

Project Name:

Richardson #100

Project #:

Project Manager:

Ashley Maxwell

Sampler: APM

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.3



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA B Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	300.0 Chlorides	Air Ruthles (Y or N)
11/29/17	12:27	Soil	CS-1	403		1711E60	X	X										X	
	12:31	Soil	CS-2			-002	X	X										X	
	12:35	Soil	CS-3			-003	X	X										X	
	12:40	Soil	CS-4			-004	X	X										X	

Date: 11/29/17 Time: 1623 Relinquished by: [Signature]

Received by: [Signature] Date: 11/29/17 Time: 1623

Date: 11/29/17 Time: 2010 Relinquished by: [Signature]

Received by: [Signature] Date: 11/30/17 Time: 0740

Remarks: cc Tom Long
Invoice Enterprise

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

December 27, 2017

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Richardson 100

OrderNo.: 1712C49

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/21/2017 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 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 1712C49

Date Reported: 12/27/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-5

Project: Richardson 100

Collection Date: 12/20/2017 9:41:00 AM

Lab ID: 1712C49-001

Matrix: SOIL

Received Date: 12/21/2017 6:12:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	21	9.8		mg/Kg	1	12/21/2017 9:23:21 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/21/2017 9:23:21 AM
Surr: DNOP	99.8	70-130		%Rec	1	12/21/2017 9:23:21 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	30		mg/Kg	20	12/21/2017 1:24:23 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: AG
Benzene	ND	0.021		mg/Kg	1	12/21/2017 12:15:05 PM
Toluene	ND	0.041		mg/Kg	1	12/21/2017 12:15:05 PM
Ethylbenzene	ND	0.041		mg/Kg	1	12/21/2017 12:15:05 PM
Xylenes, Total	ND	0.083		mg/Kg	1	12/21/2017 12:15:05 PM
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	12/21/2017 12:15:05 PM
Surr: Toluene-d8	95.2	70-130		%Rec	1	12/21/2017 12:15:05 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: AG
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	12/21/2017 12:15:05 PM
Surr: BFB	110	70-130		%Rec	1	12/21/2017 12:15:05 PM

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	Page 1 of 6
	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 1712C49

Date Reported: 12/27/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-6

Project: Richardson 100

Collection Date: 12/20/2017 9:54:00 AM

Lab ID: 1712C49-002

Matrix: SOIL

Received Date: 12/21/2017 6:12:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/21/2017 9:50:54 AM
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/21/2017 9:50:54 AM
Surr: DNOP	87.8	70-130		%Rec	1	12/21/2017 9:50:54 AM
EPA METHOD 300.0: ANIONS						Analyst: CJS
Chloride	ND	30		mg/Kg	20	12/21/2017 1:36:48 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: AG
Benzene	ND	0.019		mg/Kg	1	12/21/2017 12:38:04 PM
Toluene	ND	0.038		mg/Kg	1	12/21/2017 12:38:04 PM
Ethylbenzene	ND	0.038		mg/Kg	1	12/21/2017 12:38:04 PM
Xylenes, Total	ND	0.075		mg/Kg	1	12/21/2017 12:38:04 PM
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/21/2017 12:38:04 PM
Surr: Toluene-d8	97.6	70-130		%Rec	1	12/21/2017 12:38:04 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: AG
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	12/21/2017 12:38:04 PM
Surr: BFB	104	70-130		%Rec	1	12/21/2017 12:38:04 PM

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#: 1712C49

27-Dec-17

Client: Souder, Miller and Associates

Project: Richardson 100

Sample ID	MB-35656		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 35656		RunNo: 47960					
Prep Date:	12/21/2017		Analysis Date: 12/21/2017		SeqNo: 1537422		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-35656		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 35656		RunNo: 47960					
Prep Date:	12/21/2017		Analysis Date: 12/21/2017		SeqNo: 1537423		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	90.9	90	110			

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#: 1712C49

27-Dec-17

Client: Souder, Miller and Associates

Project: Richardson 100

Sample ID	LCS-35648		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35648		RunNo: 47948					
Prep Date:	12/21/2017		Analysis Date: 12/21/2017		SeqNo: 1536262		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.7	73.2	114			
Surr: DNOP	4.6		5.000		91.5	70	130			

Sample ID	MB-35648	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 35648			RunNo: 47948					
Prep Date:	12/21/2017	Analysis Date: 12/21/2017			SeqNo: 1536263		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			

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#: 1712C49
27-Dec-17

Client: Souder, Miller and Associates
Project: Richardson 100

Sample ID rb	SampType: MBLK		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: PBS	Batch ID: R47955		RunNo: 47955							
Prep Date:	Analysis Date: 12/21/2017		SeqNo: 1536390		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		0.5000		0	70	130			S
Surr: 4-Bromofluorobenzene	0.49		0.5000		98.6	70	130			
Surr: Dibromofluoromethane	0		0.5000		0	70	130			S
Surr: Toluene-d8	0.51		0.5000		101	70	130			

Sample ID 100ng btex lcs	SampType: LCS4		TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: BatchQC	Batch ID: R47955		RunNo: 47955							
Prep Date:	Analysis Date: 12/21/2017		SeqNo: 1536893		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	122	80	120			S
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.2	70	130			
Surr: Toluene-d8	0.51		0.5000		101	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#: 1712C49

27-Dec-17

Client: Souder, Miller and Associates

Project: Richardson 100

Sample ID	rb	SampType: MBLK			TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID:	PBS	Batch ID: A47955			RunNo: 47955						
Prep Date:		Analysis Date: 12/21/2017			SeqNo: 1536322		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		500		500.0		99.9	70	130			

Sample ID	2.5ug gro lcs	SampType: LCS			TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID:	LCSS	Batch ID: A47955			RunNo: 47955						
Prep Date:		Analysis Date: 12/21/2017			SeqNo: 1536894		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	70	130				
Surr: BFB	480		500.0		95.5	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



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: SMA-FARM

Work Order Number: 1712C49

RcptNo: 1

Received By: Anne Thorne

12/21/2017 6:12:00 AM

Anne Thorne

Completed By: Anne Thorne

12/21/2017 6:34:58 AM

Anne Thorne

Reviewed By: DDS

12/21/17

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°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: _____

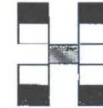
Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Turn-Around Time:	<input type="checkbox"/> Standard	<input checked="" type="checkbox"/> Rush <u>SAMEDAY</u>
Project Name:	<u>Richardson #100</u>	
Project #:		
Project Manager:	<u>Ashley maxwell</u>	
Sampler:	<u>AM</u>	
On Ice:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Sample Temperature:	<u>1.3</u>	



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

Date: 12/20/17	Time: 11:30	Relinquished by: [Signature]	Received by: [Signature]	Date: 12/20/17	Time: 11:30
Date: 12/20/17	Time: 1804	Relinquished by: [Signature]	Received by: [Signature]	Date: 12/21/17	Time: 0612

Remarks:	cc Tom Long Invoice Enterprise N32919
----------	--

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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 Enterprise Field Services, LLC	Contact Thomas Long	
Address 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286	
Facility Name Johnson #2 FRT	Facility Type Natural Gas Metering Tube/Well Site	
Surface Owner BLM	Mineral Owner BLM	Serial No. NM 086649

LOCATION OF RELEASE

Unit Letter I	Section 21	Township 27N	Range 10W	Feet from the 1604	North South Line	Feet from the 1091	East West Line	County San Juan
-------------------------	----------------------	------------------------	---------------------	---------------------------------	--------------------------------	---------------------------------	------------------------------	---------------------------

Latitude 36.5579 Longitude 107.8957 NAD83

NATURE OF RELEASE

Type of Release Condensate/Water	Volume of Release Estimated 3-5 BBLs of Condensate/Water	Volume Recovered None
Source of Release Meter Tube Freeze	Date and Hour of Occurrence 11/20/2017 @ 2:00 p.m.	Date and Hour of Discovery 11/20/2017 @ 2:00 p.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 Cory Smith – NMOCD	
By Whom? Thomas Long	Date and Hour November 21, 2017 @ 3:11 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 Taken.* On November 20, 2017, a third party reported and leaking meter tube at the Johnson #2 FRT well site. Enterprise confirmed the release and isolated, depressurized, locked out and tagged out the meter tube.

Describe Area Affected and Cleanup Action Taken.* An area on the well pad of approximately 30 feet long by 15 feet wide was impacted with fluids. In addition, fluids ran down hill approximately 80 feet to the north along drainage feature. Approximately 2 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: 	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 2/26/18	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	
Date: 1/15/2018 6684	Phone: (713) 381-	Attached <input type="checkbox"/>

* Attach Additional Sheets If Necessary

#NCS 1801655901

(35)



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

January 15, 2018

EMNRD Oil Conservation Division
Aztec District III Office
Attn: Cory Smith
1000 Rio Brazos Road
Aztec, NM 87410

7016 3010 0000 0901 3740
Return Receipt Requested

BLM Farmington Field Office
Lands Team
Attn: Whitney Thomas
6251 College Blvd.
Farmington, NM 87401

7016 3010 0000 0901 3757
Return Receipt Requested

OIL CONS. DIV DIST. 3



JAN 22 2018

**RE: Johnson #2 FRT
San Juan County**

Mr. Smith & Ms. Thomas:

Attached is the final Release Notification/Corrective Action Report (C-141) for reference release. Should have questions or need additional information, please contact our field representative, Thomas Long at 505-599-2286.

Thank you,

Jon E. Fields
Director, Field Environmental

/bjm
enclosures

Enterprise Products

Johnson #2 FRT Meter Tube Release: Release Assessment and Closure Sampling Report

Latitude 36.5579°, Longitude -107.8957°
NE 1/4 of SE 1/4 of Section 21, T27N, R10W
San Juan County, New Mexico

December 21, 2017



Submitted To:
Enterprise Products
Field Environmental-San Juan Basin
614 Reilly Avenue
Farmington, NM 87401

Submitted By:
Souder, Miller & Associates
401 West Broadway
Farmington, NM 87401

(505) 325-7535



Table of Contents

1.0	Executive Summary	1
2.0	Introduction.....	1
3.0	Site Ranking and Land Jurisdiction	2
4.0	Summary of Field Activities	2
5.0	Conclusions and Recommendations.....	3
6.0	Closure and Limitations	3

Figures:

Figure 1: Vicinity Map

Figure 2: Site Map

Figure 3: Soil Sample Location Map

Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

Appendices:

Appendix A: Site Photography

Appendix B: Laboratory Analytical Reports

1.0 Executive Summary

On November 21, 2017 Souder, Miller & Associates (SMA) was contacted by Enterprise's Field Representative regarding a potential hydrocarbon release associated with a natural gas metering tube located at the Johnson #2 FRT well site. On December 6, 2017, SMA performed initial screening and collected subsurface soil samples from around the metering tube and throughout the visually impacted area. SMA oversaw excavation of contaminated soils from the hydrocarbon impacted area. The table below summarizes information about the remediation activities.

TABLE 1: RELEASE INFORMATION

Name	Johnson #2 FRT Well Site			
Location	Latitude/Longitude		Section, Township, Range	
	36.5579	-107.8957	NE¼ of SE ¼ Section 21	T 27N, R 10W
Date Reported	November 21, 2017			
Enterprise Contact	Thomas Long			
Land Owner	Bureau of Land Management (BLM)			
Reported To	New Mexico Oil Conservation Division (NMOCD) and BLM			
Source(s) of Release	Natural gas metering tube			
Volume of Tank(s)	N/A			
Release Contents	Condensate/water			
Release Volume: Liquids/Condensate	3-5 barrels			
Nearest Waterway	Unnamed arroyo ~475 feet south and downgradient of location			
Depth to Groundwater	134 feet			
Nearest Domestic Water Source	2.67 miles north			
NMOCD Ranking	10			
SMA Response Dates	December 6, 2017			
Subcontractors	OFT Construction Inc.			
Disposal Facility	Industrial Ecosystems Inc. (IEI) landfarm			
Yd ³ Contaminated Soil Excavated and Disposed	~2			

2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes excavation and final closure of a hydrocarbon release associated with a natural gas metering tube, at the Johnson #2 FRT well site. The release was likely

due to the metering tube freezing. Approximately 3-5 barrels of condensate and water was released. The release was reported on November 21, 2017, and is located in NE ¼ of SE ¼ Section 21, Township 27 North, Range 10 West, N36.5579°, W107.8957°, San Juan County, New Mexico.

Figure 1, Vicinity Map, and Figure 2, Site Location Map, illustrate the location of the release.

3.0 Site Ranking and Land Jurisdiction

A site ranking score for the release site was determined using the 1993 NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*. According to the NMOCD C-144 Form for the Johnson #2 pit registration, depth to groundwater is estimated to be at 134 feet below ground surface (bgs) (sub-site rank score = 0).

Using the New Mexico Tech Petroleum Recovery Research Center (PRRC) online mapping tool, Google Earth Pro, and the 1985 USGS East Fork Kutz Canyon Quadrangle (7.5-minute series), the nearest surface water is an unnamed arroyo located approximately 479 feet to the south (sub-site rank score = 10).

The nearest known water source for wellhead protection is located approximately 2.6 miles to the north (sub-site rank score = 0), according to the New Mexico Office of the State Engineer (NMOSE) online water well database.

The physical location of this release is within the jurisdiction of BLM and NMOCD. This release location has been assigned an NMOCD total site ranking score of 10, which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm total benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 1,000 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

4.0 Summary of Field Activities

Initial Screening and Excavation Activities

On December 6, 2017, SMA performed initial field screening by collecting surface soil samples around the release site and throughout the visible surface stained area. Soil samples were analyzed using a calibrated MiniRAE 3000 photoionization detector (PID). Results indicated that the top 2 inches of soil were impacted. The impacted area was then delineated and divided into approximately 25-foot by 25-foot sample blocks, as illustrated in Figure 3.

A front loader was utilized to remove the top 2 inches of soil across the stained area. Hand tools were used to excavate around surface piping and vegetation. Soil samples

were collected by hand tools. Soil samples were analyzed using a calibrated MiniRAE 3000 photoionization detector (PID). Composite samples were collected from each sample block and submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for laboratory analysis. Samples were analyzed utilizing United States Environmental Protection Agency (EPA) Methods: 8021 for benzene, toluene, ethylbenzene, and total xylenes (BTEX), 8015 for diesel, gasoline, and motor oil range organics (DRO/GRO/MRO), and 300.0 for chlorides.

Laboratory samples confirmed contamination below NMOCD regulatory standards for a site ranked as 10. In total, approximately 2 cubic yards of soil were removed from the site.

A summary of the laboratory results is displayed in Table 3. Laboratory reports are included in the attachments.

5.0 Conclusions and Recommendations

NMOCD Guidelines for Remediation of Leaks, Spills, and Releases have established the following action levels for contaminants of concern with a site ranking of 10: 10 ppm benzene, 50 ppm total BTEX, and 1,000 ppm TPH.

Laboratory analytical results for all final samples collected during the December 6, 2017 excavation activity indicate concentrations below NMOCD Guidelines.

A summary of laboratory analysis is included in Table 3, final sample locations are illustrated in Figure 3, and Hall laboratory reports are included in Appendix C.

SMA recommends no further actions related to the hydrocarbon impacted soils from the Johnson #2 FRT well site.

6.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary release assessment, regulatory liaison, oversight and control of remediation operations, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

If there are any questions regarding this report, please contact either myself or Shawna Chubbuck at 505-325-7535.

Submitted by:

SOUDER, MILLER & ASSOCIATES



Ashley Maxwell
Staff Scientist

Reviewed by:



Shawna Chubbuck
Senior Scientist

Figures



Souder, Miller & Associates

401 West Broadway Avenue
Farmington, NM 87401-5907
Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045
www.soudermiller.com
Serving the Southwest & Rocky Mountains

ENTERPRISE

FARMINGTON, NEW MEXICO

VICINITY MAP
NOVEMBER 14, 2017
JOHNSON #2 RFT
SECTION 21, T27N, R10W

SAN JUAN COUNTY

Designed AP Drawn DJB Checked RSA

Date: December 2017

Scale: Horiz: 1" = 2000'

Vert: NA

Project No: 5125760

Figure 1



SITE LOCATION

SCALE

0' 250' 500' 1000'



SOUDER, MILLER & ASSOCIATES
401 W. BROADWAY
FARMINGTON, NM 87401

Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045
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ENTERPRISE

FARMINGTON, NEW MEXICO

SITE LOCATION MAP
NOVEMBER 14, 2017
JOHNSON #2 RFT
SECTION 21, T27N, R10W

SAN JUAN COUNTY, NEW MEXICO

Designed AP	Drawn DJB	Checked RSA
Date: December 2017		
Scale: Horiz: 1"=500'		
Vert: N/A		
Project No: 5125760		

Figure 2

THIS DRAWING IS INCOMPLETE AND NOT TO
BE USED FOR CONSTRUCTION UNLESS IT IS
STAMPED, SIGNED AND DATED



SCALE
0' 10' 20' 40'

Figure 3



Souder, Miller & Associates
401 West Broadway Avenue
Farmington, NM 87401-5907
Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045
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ENTERPRISE FARMINGTON, NEW MEXICO
SOIL SAMPLE LOCATION MAP
NOVEMBER 14, 2017 RELEASE SITE
JOHNSON #2 RFT
SECTION 21, T27N, R10W
SAN JUAN COUNTY

Rev #	Date	Description

Tables

Enterprise Products
Table 2: Site Ranking

Johnson #2 FRT
Meter Tube Release
December 13, 2017

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20		C-144 BGT registration	Records estimate depth to water 134 feet.
50' to 99' = 10			
>100' = 0	0		
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20		PRRC mapping tool. Verified using Google Earth and USGS topo maps.	Nearest surface water is unnamed arroyo located ~479 feet to south. Field verified.
200' - 1000' = 10	10		
>1000' = 0			
Ranking Criteria for Horizontal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' from a private domestic water source? YES OR NO to BOTH. YES = 20, NO = 0		NMOSE online water well data base.	Nearest water source located ~2.71 miles to north.
	0		
Total Site Ranking	10		
Soil Remediation Standards	0	10	20+
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM



SMA Project # 5125760 BG 85

Enterprise Products
Table 3: Summary of Laboratory Analysis
Results in mg/Kg

Johnson #2 FRT
Meter Tube Release
December 21, 2017

Date	Time	Sample ID	Sample Depth (Inches BGS)	Method 8015 GRO	Method 8015 MRO	Method 8015 DRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chloride
NMOCD Guidelines		NMOCD Site Ranking: 10		1,000 ppm			10 ppm	50 ppm	
12/6/2017	10:32	CS-1	2	<19	120	18	<0.097	<0.217	40
12/6/2017	10:41	CS-2	2	<21	<47	<9.5	<0.10	<0.232	<30
12/6/2017	10:45	CS-3	2	<18	570	79	<0.091	<0.203	<30
12/6/2017	10:46	CS-4	2	<17	170	31	<0.087	<0.194	<30
12/6/2017	10:47	CS-5	2	<18	250	46	<0.092	<0.205	<30
12/6/2017	11:50	CS-7	4	<19	130	30	<0.096	<0.214	<30



Appendix A

Site Photography

SITE PHOTOGRAPHS
ENTERPRISE JOHNSON #2 FRT METER TUBE RELEASE



View South of release point and flow path.



View North of flow path.



View of Meter tube release point.

Appendix B
Laboratory Analytical Reports



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

December 11, 2017

Ashley Maxwell
Souder, Miller and Associates
401 W. Broadway
Farmington, NM 87401
TEL: (505) 325-7535
FAX

RE: Johnson #2

OrderNo.: 1712357

Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/7/2017 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 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 1712357

Date Reported: 12/11/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-1

Project: Johnson #2

Collection Date: 12/6/2017 10:32:00 AM

Lab ID: 1712357-001

Matrix: SOIL

Received Date: 12/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	12/7/2017 8:57:32 AM
Motor Oil Range Organics (MRO)	120	48		mg/Kg	1	12/7/2017 8:57:32 AM
Surr: DNOP	94.2	70-130		%Rec	1	12/7/2017 8:57:32 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	12/7/2017 9:46:39 AM
Surr: BFB	92.4	15-316		%Rec	5	12/7/2017 9:46:39 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.097		mg/Kg	5	12/7/2017 9:46:39 AM
Toluene	ND	0.19		mg/Kg	5	12/7/2017 9:46:39 AM
Ethylbenzene	ND	0.19		mg/Kg	5	12/7/2017 9:46:39 AM
Xylenes, Total	ND	0.39		mg/Kg	5	12/7/2017 9:46:39 AM
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	5	12/7/2017 9:46:39 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	40	30		mg/Kg	20	12/7/2017 9:58:46 AM

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 1712357

Date Reported: 12/11/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-2

Project: Johnson #2

Collection Date: 12/6/2017 10:41:00 AM

Lab ID: 1712357-002

Matrix: SOIL

Received Date: 12/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	12/7/2017 9:19:31 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	12/7/2017 9:19:31 AM
Surr: DNOP	93.0	70-130		%Rec	1	12/7/2017 9:19:31 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	21		mg/Kg	5	12/7/2017 10:10:01 AM
Surr: BFB	94.6	15-316		%Rec	5	12/7/2017 10:10:01 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	12/7/2017 10:10:01 AM
Toluene	ND	0.21		mg/Kg	5	12/7/2017 10:10:01 AM
Ethylbenzene	ND	0.21		mg/Kg	5	12/7/2017 10:10:01 AM
Xylenes, Total	ND	0.41		mg/Kg	5	12/7/2017 10:10:01 AM
Surr: 4-Bromofluorobenzene	89.0	80-120		%Rec	5	12/7/2017 10:10:01 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	12/7/2017 10:11:11 AM

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 1712357

Date Reported: 12/11/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-3

Project: Johnson #2

Collection Date: 12/6/2017 10:45:00 AM

Lab ID: 1712357-003

Matrix: SOIL

Received Date: 12/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	79	9.3		mg/Kg	1	12/7/2017 9:41:24 AM
Motor Oil Range Organics (MRO)	570	47		mg/Kg	1	12/7/2017 9:41:24 AM
Surr: DNOP	94.1	70-130		%Rec	1	12/7/2017 9:41:24 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	12/7/2017 10:33:32 AM
Surr: BFB	92.6	15-316		%Rec	5	12/7/2017 10:33:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.091		mg/Kg	5	12/7/2017 10:33:32 AM
Toluene	ND	0.18		mg/Kg	5	12/7/2017 10:33:32 AM
Ethylbenzene	ND	0.18		mg/Kg	5	12/7/2017 10:33:32 AM
Xylenes, Total	ND	0.36		mg/Kg	5	12/7/2017 10:33:32 AM
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	5	12/7/2017 10:33:32 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	12/7/2017 10:23:36 AM

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 1712357

Date Reported: 12/11/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-4

Project: Johnson #2

Collection Date: 12/6/2017 10:46:00 AM

Lab ID: 1712357-004

Matrix: SOIL

Received Date: 12/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	31	9.5		mg/Kg	1	12/7/2017 11:31:28 AM
Motor Oil Range Organics (MRO)	170	48		mg/Kg	1	12/7/2017 11:31:28 AM
Surr: DNOP	91.8	70-130		%Rec	1	12/7/2017 11:31:28 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	17		mg/Kg	5	12/7/2017 10:56:59 AM
Surr: BFB	91.4	15-316		%Rec	5	12/7/2017 10:56:59 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.087		mg/Kg	5	12/7/2017 10:56:59 AM
Toluene	ND	0.17		mg/Kg	5	12/7/2017 10:56:59 AM
Ethylbenzene	ND	0.17		mg/Kg	5	12/7/2017 10:56:59 AM
Xylenes, Total	ND	0.35		mg/Kg	5	12/7/2017 10:56:59 AM
Surr: 4-Bromofluorobenzene	86.1	80-120		%Rec	5	12/7/2017 10:56:59 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	12/7/2017 10:36:01 AM

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 1712357

Date Reported: 12/11/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-5

Project: Johnson #2

Collection Date: 12/6/2017 10:47:00 AM

Lab ID: 1712357-005

Matrix: SOIL

Received Date: 12/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	46	9.1		mg/Kg	1	12/7/2017 10:25:29 AM
Motor Oil Range Organics (MRO)	250	46		mg/Kg	1	12/7/2017 10:25:29 AM
Surr: DNOP	92.4	70-130		%Rec	1	12/7/2017 10:25:29 AM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	12/7/2017 11:20:30 AM
Surr: BFB	92.6	15-316		%Rec	5	12/7/2017 11:20:30 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.092		mg/Kg	5	12/7/2017 11:20:30 AM
Toluene	ND	0.18		mg/Kg	5	12/7/2017 11:20:30 AM
Ethylbenzene	ND	0.18		mg/Kg	5	12/7/2017 11:20:30 AM
Xylenes, Total	ND	0.37		mg/Kg	5	12/7/2017 11:20:30 AM
Surr: 4-Bromofluorobenzene	88.4	80-120		%Rec	5	12/7/2017 11:20:30 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	12/7/2017 10:48:26 AM

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 1712357

Date Reported: 12/11/2017

CLIENT: Souder, Miller and Associates

Client Sample ID: CS-7

Project: Johnson #2

Collection Date: 12/6/2017 11:50:00 PM

Lab ID: 1712357-006

Matrix: SOIL

Received Date: 12/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	30	9.6		mg/Kg	1	12/7/2017 12:15:18 PM
Motor Oil Range Organics (MRO)	130	48		mg/Kg	1	12/7/2017 12:15:18 PM
Surr: DNOP	91.9	70-130		%Rec	1	12/7/2017 12:15:18 PM
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	19		mg/Kg	5	12/7/2017 11:44:08 AM
Surr: BFB	90.7	15-316		%Rec	5	12/7/2017 11:44:08 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.096		mg/Kg	5	12/7/2017 11:44:08 AM
Toluene	ND	0.19		mg/Kg	5	12/7/2017 11:44:08 AM
Ethylbenzene	ND	0.19		mg/Kg	5	12/7/2017 11:44:08 AM
Xylenes, Total	ND	0.38		mg/Kg	5	12/7/2017 11:44:08 AM
Surr: 4-Bromofluorobenzene	85.8	80-120		%Rec	5	12/7/2017 11:44:08 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	12/7/2017 11:00:50 AM

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#: 1712357

11-Dec-17

Client: Souder, Miller and Associates

Project: Johnson #2

Sample ID	MB-35378		SampType: mblk		TestCode: EPA Method 300.0: Anions					
Client ID:	PBS		Batch ID: 35378		RunNo: 47600					
Prep Date:	12/7/2017		Analysis Date: 12/7/2017		SeqNo: 1521997		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-35378		SampType: lcs		TestCode: EPA Method 300.0: Anions					
Client ID:	LCSS		Batch ID: 35378		RunNo: 47600					
Prep Date:	12/7/2017		Analysis Date: 12/7/2017		SeqNo: 1521998		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.6	90	110			

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#: 1712357

11-Dec-17

Client: Souder, Miller and Associates
Project: Johnson #2

Sample ID	LCS-35273		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35273		RunNo: 47491					
Prep Date:	12/1/2017		Analysis Date: 12/5/2017		SeqNo: 1517262		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.5	70	130			

Sample ID	MB-35273		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35273		RunNo: 47491					
Prep Date:	12/1/2017		Analysis Date: 12/5/2017		SeqNo: 1517264		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4		10.00		93.9	70	130			

Sample ID	LCS-35308		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35308		RunNo: 47518					
Prep Date:	12/4/2017		Analysis Date: 12/5/2017		SeqNo: 1518368		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.8		5.000		95.2	70	130			

Sample ID	MB-35308		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35308		RunNo: 47518					
Prep Date:	12/4/2017		Analysis Date: 12/5/2017		SeqNo: 1518370		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		104	70	130			

Sample ID	LCS-35333		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35333		RunNo: 47491					
Prep Date:	12/5/2017		Analysis Date: 12/6/2017		SeqNo: 1518687		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.5	70	130			

Sample ID	MB-35333		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35333		RunNo: 47491					
Prep Date:	12/5/2017		Analysis Date: 12/6/2017		SeqNo: 1518689		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		95.5	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#: 1712357

11-Dec-17

Client: Souder, Miller and Associates
Project: Johnson #2

Sample ID	LCS-35371		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35371		RunNo: 47491					
Prep Date:	12/7/2017		Analysis Date: 12/7/2017		SeqNo: 1520257		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	83.5	73.2	114			
Surr: DNOP	3.8		5.000		75.9	70	130			

Sample ID	MB-35371	SampType:		MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:		35371		RunNo: 47491				
Prep Date:	12/7/2017	Analysis Date:		12/7/2017		SeqNo: 1520259		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		93.9	70	130			

Sample ID	LCS-35365		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 35365		RunNo: 47518					
Prep Date:	12/6/2017		Analysis Date: 12/7/2017		SeqNo: 1520345		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.5		5.000		89.3	70	130			

Sample ID	MB-35365		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 35365		RunNo: 47518					
Prep Date:	12/6/2017		Analysis Date: 12/7/2017		SeqNo: 1520346		Units: %Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.8		10.00		98.2	70	130			

Sample ID	1712357-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-1		Batch ID: 35371		RunNo: 47491					
Prep Date:	12/7/2017		Analysis Date: 12/7/2017		SeqNo: 1521107		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.7	48.40	17.67	62.0	55.8	125			
Surr: DNOP	4.2		4.840		86.0	70	130			

Sample ID	1712357-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	CS-1		Batch ID:	35371		RunNo:	47491				
Prep Date:	12/7/2017		Analysis Date:	12/7/2017		SeqNo:	1521108		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	51	9.6	48.08	17.67	68.6	55.8	125	6.08	20		

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#: 1712357

11-Dec-17

Client: Souder, Miller and Associates

Project: Johnson #2

Sample ID	1712357-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-1	Batch ID:	35371	RunNo:	47491					
Prep Date:	12/7/2017	Analysis Date:	12/7/2017	SeqNo:	1521108	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		4.808		90.9	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#: 1712357

11-Dec-17

Client: Souder, Miller and Associates

Project: Johnson #2

Sample ID RB	SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID: G47603		RunNo: 47603							
Prep Date:	Analysis Date: 12/7/2017		SeqNo: 1521390		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	970		1000		96.7	15	316			

Sample ID 2.5UG GRO LCS	SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: LCSS	Batch ID: G47603		RunNo: 47603							
Prep Date:	Analysis Date: 12/7/2017		SeqNo: 1521391		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.4	75.9	131			
Surr: BFB	1100		1000		107	15	316			

Sample ID 1712357-001AMS	SampType: MS		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: CS-1	Batch ID: G47603		RunNo: 47603							
Prep Date:	Analysis Date: 12/7/2017		SeqNo: 1521392		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	92	19	97.05	0	95.2	77.8	128			
Surr: BFB	4100		3882		105	15	316			

Sample ID 1712357-001AMSD	SampType: MSD		TestCode: EPA Method 8015D: Gasoline Range							
Client ID: CS-1	Batch ID: G47603		RunNo: 47603							
Prep Date:	Analysis Date: 12/7/2017		SeqNo: 1521393		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	99	19	97.05	0	102	77.8	128	7.25	20	
Surr: BFB	4100		3882		105	15	316	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#: 1712357

11-Dec-17

Client: Souder, Miller and Associates
Project: Johnson #2

Sample ID RB	SampType: MBLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS	Batch ID: B47603	RunNo: 47603								
Prep Date:	Analysis Date: 12/7/2017	SeqNo: 1521427 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		90.2	80	120			

Sample ID 100NG BTEX LCS	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: B47603	RunNo: 47603								
Prep Date:	Analysis Date: 12/7/2017	SeqNo: 1521428 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	88.5	77.3	128			
Toluene	0.89	0.050	1.000	0	89.5	79.2	125			
Ethylbenzene	0.88	0.050	1.000	0	88.3	80.7	127			
Xylenes, Total	2.7	0.10	3.000	0	89.2	81.6	129			
Surr: 4-Bromofluorobenzene	0.90		1.000		90.3	80	120			

Sample ID 1712357-002AMS	SampType: MS	TestCode: EPA Method 8021B: Volatiles								
Client ID: CS-2	Batch ID: B47603	RunNo: 47603								
Prep Date:	Analysis Date: 12/7/2017	SeqNo: 1521429 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.8	0.10	4.132	0	92.2	80.9	132			
Toluene	3.9	0.21	4.132	0	93.5	79.8	136			
Ethylbenzene	3.8	0.21	4.132	0	92.8	79.4	140			
Xylenes, Total	12	0.41	12.40	0	94.1	78.5	142			
Surr: 4-Bromofluorobenzene	3.6		4.132		86.3	80	120			

Sample ID 1712357-002AMSD	SampType: MSD	TestCode: EPA Method 8021B: Volatiles								
Client ID: CS-2	Batch ID: B47603	RunNo: 47603								
Prep Date:	Analysis Date: 12/7/2017	SeqNo: 1521430 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.7	0.10	4.132	0	90.7	80.9	132	1.66	20	
Toluene	3.8	0.21	4.132	0	91.4	79.8	136	2.30	20	
Ethylbenzene	3.8	0.21	4.132	0	91.5	79.4	140	1.38	20	
Xylenes, Total	11	0.41	12.40	0	92.7	78.5	142	1.45	20	
Surr: 4-Bromofluorobenzene	3.5		4.132		84.8	80	120	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: SMA-FARM

Work Order Number: 1712357

RcptNo: 1

Received By: Anne Thorne

12/7/2017 7:00:00 AM

Anne Thorne

Completed By: Anne Thorne

12/7/2017 7:11:32 AM

Anne Thorne

Reviewed By: DPS

12/7/17

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°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	1.3	Good	Yes			

Chain-of-Custody Record		Turn-Around Time:	
Client: <u>SMA</u>		<input type="checkbox"/> Standard <input checked="" type="checkbox"/> Rush <u>Same day</u>	
Mailing Address: <u>401 W Broadway</u> <u>Farmington, NM 87401</u>		Project Name: <u>Johnson #2</u>	
Phone #: <u>505-825-7535</u>		Project #:	
email or Fax#: <u>Ashley Maxwell</u>		Project Manager:	
QA/QC Package: <input type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)		Sampler:	
Accreditation <input type="checkbox"/> NELAP <input type="checkbox"/> Other _____		On Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> EDD (Type)		Sample Temperature: <u>AT 1.3</u>	

☐ Standard ☒ Rush *Same day*

Johnson #2

Project Manager:

Sampler:

On Ice: ☒ Yes ☐ No

Sample Temperature: *AT* 1.3

Container
Type and #Preservative
Type

HEAL No.

1712357

Meat
403 lb

 COO^+

782

202

205

202

205

102

Received by:

Date	Time
------	------

Received by:

Date _____ Time _____

Remarks:	
----------	--

cc Tom Long

Invoice Enterprise

Rev. Mr. TP# GRO PRO/MCO, AT 12/6/11



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

[illegible]

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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.

OIL CONSERV. DIV DIST. 3

OCT 12 2017

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 K-7	Facility Type Natural Gas Gathering Pipeline
Surface Owner BLM	Mineral Owner BLM
Serial No. 5370116	

LOCATION OF RELEASE

Unit Letter C	Section 22	Township 26N	Range 7W	Feet from the 775	North /South Line	Feet from the 1577	East/ West Line	County Rio Arriba
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Latitude 36.477253 Longitude -107.566568NAD83

NATURE OF RELEASE

Type of Release Natural Gas and Natural Gas Liquids	Volume of Release Unknown	Volume Recovered None
Source of Release: Suspected Internal Corrosion	Date and Hour of Occurrence 9/26/2017 @11:30 a.m.	Date and Hour of Discovery 9/26/2017 @11:30 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? : Courtesy Notification Vanessa Fields - NMOCD; Whitney Smith - BLM	
By Whom? Thomas Long	Date and Hour September 26, 2017 @ 4:20 p.m.	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully.* The Lateral K-7 pipeline crosses Palluche Wash. The release was discovered on the west side of the wash. Minimal fluids were observed on the ground surface.		
Describe Cause of Problem and Remedial Action Taken.* On August 21, 2017 Enterprise technicians discovered a release on the Lateral K-7 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Minimal fluids were observed on the ground surface.		
Describe Area Affected and Cleanup Action Taken.* Repairs and remediation are in the scheduling process. The contaminant mass will be removed by mechanical excavation. 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 10/12/2017	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval: Sample Area 8015/ 8021	Attached <input type="checkbox"/>
Date: 10/6/2017 6684	Phone: (713) 381-	

* Attach Additional Sheets If Necessary

NVF 1727054995

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

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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	
Facility Name Lateral 2C-79	Facility Type Natural Gas Gathering Pipeline	
Surface Owner Jicarilla Apache Tribe	Mineral Owner Jicarilla Apache Tribe	Serial Number:

LOCATION OF RELEASE

Unit Letter I	Section 21	Township 23N	Range 3W	Feet from the NA	North/South Line	Feet from the NA	East/West Line	County Rio Arriba
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Latitude 36.205296 Longitude 107.163270 NAD83

NATURE OF RELEASE

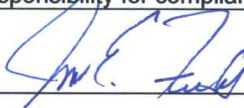

Type of Release: Natural Gas and Condensate	Volume of Release Unknown	Volume Recovered None
Source of Release Facility Blowdown Vent Pipe	Date and Hour of Occurrence 9/19/2017 @ 4:45 p.m.	Date and Hour of Discovery 9/19/2017 @ 4:45 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Notification to Vanessa Fields – NMOCD; Hobson Sandoval	
By Whom? Thomas Long	Date and Hour 9/20/2017 @ 0757	
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 September 19, 2017, a third party discovered a release on the Lateral 2C-79 pipeline. A minimal amount of condensate and produced water was observed on the ground surface. Repairs and remediation were initiated on October 3, 2017 and Enterprise determined that this release was reportable on October 4, 2017 due to the volume of impacted subsurface soil.

Describe Area Affected and Cleanup Action Taken.* The remediation is in progress. The contaminant mass will be removed by mechanical excavation. 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 10/23/17	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval: Sample for TPH, BTEX, benzene.	Attached <input checked="" type="checkbox"/>
Date: 10/13/2017 6684	Phone: (713) 381-	

* Attach Additional Sheets If Necessary **#NCS 1729630601**

4

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Monday, October 23, 2017 8:35 AM
To: Long, Thomas (tjlong@eprod.com)
Cc: Fields, Vanessa, EMNRD
Subject: Lateral 2C-79 C-141 Approval.
Attachments: C-141 Conditions Lateral 2C-79.pdf

Tom,

OCD has approved the C-141 received on 10/19/17 with the following conditions of Approval.

- Enterprise indicates that Dig and Haul will be used, remediation must start no later than November 19, 2017
- Enterprise will sample for TPH(GRO-DRO-MRO/ORO), BTEX, Benzene
- Enterprise will provide the OCD at least 24 hour notice before the collection of confirmation samples.

If you have any questions please give Vanessa or I a call

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

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 10/19/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 155729630601 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before N/A. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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 Enterprise Field Services, LLC	Contact Thomas Long	
Address 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286	
Facility Name Lindrith Compressor Station	Facility Type Natural Gas Compressor Station	
Surface Owner Jicarilla Apache Tribe	Mineral Owner Jicarilla Apache Tribe	Serial Number:

LOCATION OF RELEASE

Unit Letter I	Section 18	Township 24N	Range 5W	Feet from the 1707	North/South Line South	Feet from the 735	East/West Line East	County Rio Arriba
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Latitude 36.310191 Longitude 107.395614 NAD83

NATURE OF RELEASE

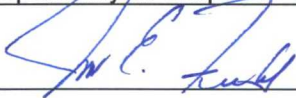
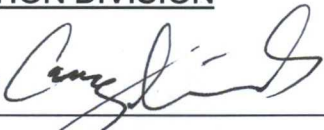
Type of Release: Condensate and Produced Water	Volume of Release 10-15 BBLs of Condensate/Water	Volume Recovered None
Source of Release Facility Blowdown Vent Pipe	Date and Hour of Occurrence 9/27/2017 @ 8:30 a.m.	Date and Hour of Discovery 9/27/2017 @ 8:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Notification to Vanessa Fields – NMOCD; Hobson Sandoval	
By Whom? Thomas Long	Date and Hour 10/12/2017 @ 0830	
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 September 27, 2017, condensate and produced water was released from the facility blowdown vent pipe during ESD testing. Upon receipt of laboratory analysis, Enterprise determined that this release was reportable on October 11, 2017 due to the volume of impacted soil.

Describe Area Affected and Cleanup Action Taken.* An area of approximately 35 feet long by 35 feet wide was impacted by condensate and produced water. The remediation is in the scheduling process. The contaminant mass will be removed by mechanical excavation. 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 10/23/17	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: 10/13/2017 6684	Phone: (713) 381-	

* Attach Additional Sheets If Necessary **#NES 1728530935**

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Monday, October 23, 2017 9:30 AM
To: Long, Thomas (tjlong@eprod.com)
Cc: Fields, Vanessa, EMNRD
Subject: Lindrith C-141 Approval.
Attachments: C-141 Conditions Lindrith.pdf

Tom,

OCD has approved the C-141 received on 10/19/17 with the following conditions of Approval.

- Enterprise indicates that Dig and Haul will be used, remediation must start no later than November 27, 2017
- Enterprise will sample for TPH(GRO-DRO-MRO/ORO), BTEX, Benzene
- Enterprise will provide the OCD at least 72 hour but no more than a week notice prior to the start of work.
- Enterprise will provide the OCD at least 24 hour notice before the collection of confirmation samples.

If you have any questions please give Vanessa or I a call

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

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 10/19/17 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number NS1728534955 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before _____. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
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- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief

1220 South St. Francis Drive

Santa Fe, New Mexico 87505

505-476-3465

jim.griswold@state.nm.us

District I
1625 N. French Dr., Hobbs, NM 88240
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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
Facility Name : MA 16 Inch Pig Receiver	Facility Type MA 16 Inch Pig Receiver

Surface Owner BLM	Mineral Owner BLM	Serial No. NM 080782
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LOCATION OF RELEASE

Unit Letter H	Section 22	Township 30N	Range 7W	Feet from the 1411	North South Line	Feet from the 903	East West Line	County Rio Arriba
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Latitude 36.801549 Longitude -107.552406 NAD83

NATURE OF RELEASE

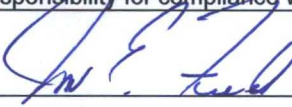

Type of Release Produced Water	Volume of Release Greater than 25 BBLs	Volume Recovered None
Source of Release Human Error	Date and Hour of Occurrence 3/29/2017 @ 5:30 p.m.	Date and Hour of Discovery 3/29/2017 @ 5:30 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? : Courtesy Notification Cory Smith – NMOCD; Whitney Thomas - BLM	
By Whom? Thomas Long	Date and Hour March 30, 2017 @ 2:50 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 Taken On March 29, 2017, Employee was waiting at the Sims Mesa pig receiver for the MA 16" pig to arrive. While waiting, the employee decided to repair a pig signal on the upstream (pressurized) side of the pig receiver barrel. The removed the bolts secured the signal to the piping. Once removed, the pig signal and produced water was ejected out of the top of the piping.

Describe Area Affected and Cleanup Action Taken.* A sampling plan has been submitted to New Mexico Oil Conservation Division (NMOCD) and subsequently approved. Upon favorable weather conditions, soil samples for laboratory analysis were collected from affected areas to evaluated impacts and determine potential remediation action. The laboratory analyses of the flow path soil composite samples indicate combined GRO/DRO/MRO concentrations ranging from 413 mg/kg to 2,380 mg/kg , which are exceed the NMOCD site specific remediation standard for TPH. No benzene concentrations exceeded the NMOCD site specific remediation standard. Enterprise received email approval for closure from the NMOCD on June 19, 2017. A third party investigation 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: <u>11/3/17</u>	Expiration Date: <u> </u>
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>9/25/2017</u>	Phone: (713) 381-6684	

* Attach Additional Sheets If Necessary

#NCS1713152930

31



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

September 25, 2017

New Mexico Oil Conservation Division
District 3 Office
Attn: Cory Smith
1000 Rio Brazos Road
Aztec, New Mexico 87410

7014 3010 0000 0901 4587
Return Receipt Requested

BLM Farmington Field Office
Lands Team
Attention: Whitney Thomas
6251 College Blvd.
Farmington, New Mexico 87401

7016 3010 0000 0901 4570
Return Receipt Requested

OIL CONS. DIV DIST. 3
SEP 29 2017

**RE: Lateral MA-11 16 Inch
Rio Arriba County**

Mr. Smith and Ms. Thomas:

Attached is a final Release Notification/Corrective Action Report (C-141) for this release that occurred on March 29 along with the report from Apex TITAN Inc. Should have questions or need additional information, please contact our field representative, Thomas Long at 505-599-2286.

Thank you,

Shiver J. Nolan
Sr. Compliance Administrator

enclosures

/sjn
enclosures



CORRECTIVE ACTION REPORT

Property:

**Lateral MA-11 16 Inch Pig Receiver Release
NE 1/4, S22 T30N R7W
Rio Arriba County, New Mexico**

August 30, 2017
Apex Project No. 725040112275

OIL CONS. DIV DIST. 3
SEP 29 2017

Prepared for:

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

Prepared by:


Chad D'Apointi
Project Scientist



Kyle Summers, CPG
Branch Manager / Senior Geologist

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Site Description & Background.....	1
1.2	Project Objective.....	1
2.0	SITE RANKING	1
3.0	RESPONSE ACTIONS.....	2
3.1	Flow Path Soil Sampling.....	2
3.2	Soil Sampling Program.....	3
3.3	Laboratory Analytical Methods	3
4.0	DATA EVALUATION	3
4.1	Confirmation Soil Samples.....	3
5.0	FINDINGS AND RECOMMENDATIONS	4
6.0	STANDARD OF CARE, LIMITATIONS, AND RELIANCE	5

LIST OF APPENDICES

Appendix A:	Figure 1	Topographic Map
	Figure 2	Site Vicinity Map
	Figure 3	Flow Path Sampling Map
Appendix B:	Table	
Appendix C:	Laboratory Data Sheets & Chain of Custody Documentation	
Appendix D:	New Mexico EMNRD OCD Correspondence	

CORRECTIVE ACTION REPORT

Lateral MA-11 16 Inch Pig Receiver Release NE 1/4, S22 T30N R7W Rio Arriba County, New Mexico

Apex Project No. 725040112275

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral MA-11 16 Inch Pig Receiver release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northeast (NE) ¼ of Section 22, Township 30 North, Range 7 West, in Rio Arriba County, New Mexico (36.801549N, 107.552406W), referred to hereinafter as the "Site". The release Site is located approximately 80 feet southwest of the Enterprise Simms Mesa Compressor Station on land managed by the United States Bureau of Land Management (BLM). The area surrounded the Site is predominantly rangeland, periodically interrupted by oil and gas gathering facilities.

A release of produced water from the Lateral MA-11 16 Inch Pig Receiver occurred on March 29, 2017. Produced water from the pig receiver migrated northeast approximately 280 feet into the Simms Mesa Compressor Station.

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 Site Investigation (ESI) was to evaluate if constituents of concern (COCs) from the surface release affected the shallow soils at concentrations above applicable regulatory standards.

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	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 have a Total Ranking Score of "20". This ranking is based on the following:

- One (1) water well (SJ 02698) was identified within a mile of the Site on the OSE website with a depth to water of 255 feet below grade surface (bgs). Based on this information, the depth to groundwater at the Site is anticipated to be greater than 100 feet 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 release is located within 200 feet 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 Flow Path Soil Sampling

On April 6, 2017, Apex collected a total of four (4) composite soil samples (FP-1 through FP-4) along the primary release flow path. Each composite flow path sample comprised of five (5) aliquots collected at approximately 10- to 30-foot increments along the flow path. A representative from the New Mexico EMNRD OCD was present during the flow path soil sampling activities. Subsequent laboratory analytical results indicate that soils associated with flow path sample FP-2 through FP-4 exhibit petroleum hydrocarbon impact above New Mexico EMNRD OCD standards.

The extent of the total flow path measured approximately 280 feet in length and 3 feet to 30 feet in width.

Figure 3 is a **Flow Path Sampling Map** that indicates the approximate soil sample locations in relation to the flow path (**Appendix A**).

3.2 Soil Sampling Program

Apex screened head-space samples of the flow path soils with a photoionization detector (PID) fitted with a 10.6 eV lamp.

Apex's soil sampling program included the collection of four composite (4) soil samples (FP-1 through FP-4) from the flow path for laboratory analyses.

The flow path 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 composite soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using Environmental Protection Agency (EPA) SW-846 Method #8021, 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, and chlorides using EPA Method #300.0.

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

4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to oil and gas 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 flow path composite soil samples to the New Mexico EMNRD OCD *RALs* for sites having a total ranking score of "20".

- The laboratory analyses of the flow path soil composite samples 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 flow path soil composite 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 flow path soil composite sample FP-1 does not indicate a combined TPH GRO/DRO/MRO concentration above the PQLs, which is below the New

Mexico EMNRD OCD *RAL* of 100 mg/kg. **The laboratory analyses of the flow path soil composite samples (FP-2 through FP-4) indicate combined TPH GRO/DRO/MRO concentrations ranging from 413 mg/kg (FP-2) to 2,380 mg/kg (FP-4), which are above the New Mexico EMNRD OCD *RAL* of 100 mg/kg.**

- The laboratory analyses of the flow path soil composite samples from soils remaining in place do not indicate chloride concentrations above the PQLs.

Flow path soil sample laboratory analytical results are provided in **Table 1** in **Appendix B**, and are included on **Figure 3 (Appendix A)**.

5.0 FINDINGS AND RECOMMENDATIONS

The Lateral MA-11 16 Inch Pig Receiver release Site is located within the Enterprise pipeline ROW in the NE ¼ of Section 22, Township 30 North, Range 7 West, in Rio Arriba County, New Mexico. The release Site is located approximately 80 feet southwest of the Enterprise Simms Mesa Compressor Station on land managed by the United States Bureau of Land Management (BLM). The area surrounded the Site is predominantly rangeland, periodically interrupted by oil and gas gathering facilities.

A release of produced water from the Lateral MA-11 16 Inch Pig Receiver occurred on March 29, 2017. Produced water from the pig receiver migrated northeast approximately 280 feet into the Simms Mesa Compressor Station.

- The primary objective of the ESI was to evaluate if COCs from the surface release affected the shallow soils with petroleum hydrocarbons at concentrations above applicable regulatory standards.
- A total of four (4) composite flow path soil samples were collected from the primary flow path for laboratory analyses. Based on analytical results, soils associated with flow path soil composite sample FP-1 do not exhibit COC concentrations above the New Mexico EMNRD OCD *RAL*s for a Site ranking of "20".
- **The laboratory analyses of the flow path soil composite samples (FP-2 through FP-4) indicate combined TPH GRO/DRO/MRO concentrations ranging from 413 mg/kg (FP-2) to 2,380 mg/kg (FP-4), which are above the New Mexico EMNRD OCD *RAL* of 100 mg/kg.**

No benzene concentrations were identified in the soils remaining in place. Soils associated with flow path composite soil samples FP-2 through FP-4 exhibit TPH concentrations (most of which is within the MRO carbon range) above the applicable New Mexico EMNRD OCD standard. Enterprise received email approval for closure from the New Mexico EMNRD OCD on June 19, 2017.



6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

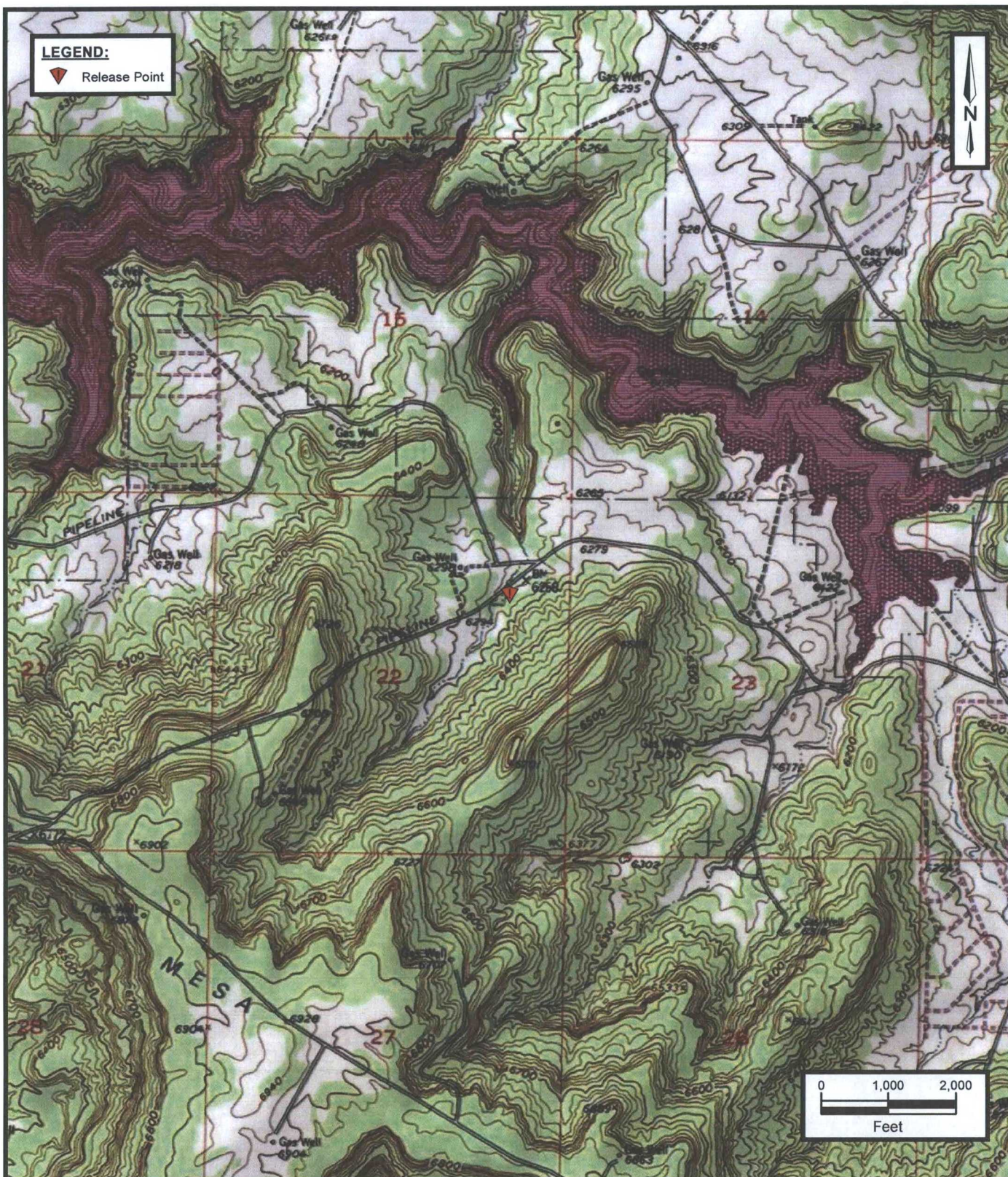
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed or described herein. Additionally, Apex does not warrant 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



Lateral MA-11 16 Inch Pig Receiver
 NE 1/4, S22 T30N R7W
 Rio Arriba County, New Mexico
 36.801549 N, 107.552406 W



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

FIGURE 1
Topographic Map

Service Layer Credits:
 Copyright: © 2013 National Geographic Society, i-cubed, Navajo
 Dam New Mexico 7.5-Minute Quadrangle 1971

Project No. 725040112275



Google

Imagery ©2017, DigitalGlobe; NMRGIS, USDA Farm Service Agency

Lateral MA-11 16 Inch Pig Receiver
 NE 1/4, S22 T30N R7W
 Rio Arriba County, New Mexico
 36.801549 N, 107.552406 W

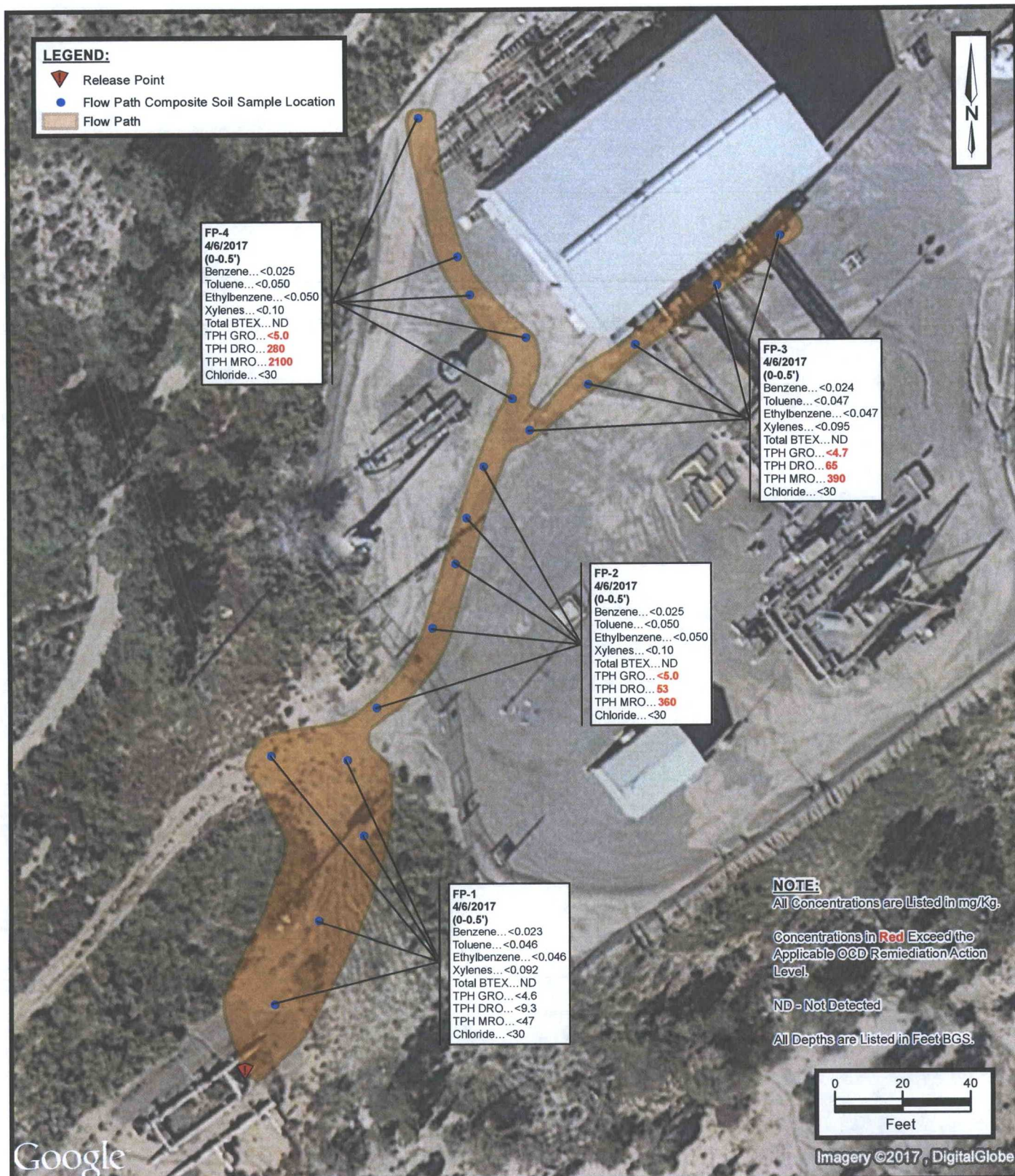


Apex TITAN, Inc.
 606 South Rio Grande, Suite A
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 A Subsidiary of Apex Companies, LLC

FIGURE 2
Site Vicinity Map

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

Project No. 725040112275



Google

Lateral MA-11 16 Inch Pig Receiver
NE 1/4, S22 T30N R7W
Rio Arriba County, New Mexico
36.801549 N, 107.552406 W



Apex TITAN, Inc.

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

A Subsidiary of Apex Companies, LLC

FIGURE 3

Flow Path Sampling Map

Service Layer Credits:

Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Aerial Photograph October 2016

Project No. 725040112275

APPENDIX B

Table

TABLE 1
Lateral MA-11 16 Inch Pig Receiver
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)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100			NE
Soil Samples Collected from the Primary Flow Path											
FP-1	4.06.17	0 to 0.5	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<9.3	<47	<30
FP-2	4.06.17	0 to 0.5	<0.025	<0.050	<0.050	<0.10	ND	<5.0	53	360	<30
FP-3	4.06.17	0 to 0.5	<0.024	<0.047	<0.047	<0.095	ND	<4.7	65	390	<30
FP-4	4.06.17	0 to 0.5	<0.025	<0.050	<0.050	<0.10	ND	<5.0	280	2,100	<30

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 C

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

April 13, 2017

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

RE: M 16 Pig Receiver

OrderNo.: 1704288

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/7/2017 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 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 1704288

Date Reported: 4/13/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** FP-1**Project:** M 16 Pig Receiver**Collection Date:** 4/6/2017 10:00:00 AM**Lab ID:** 1704288-001**Matrix:** SOIL**Received Date:** 4/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	4/12/2017 3:17:59 PM	31203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	4/11/2017 7:04:31 PM	31157
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/11/2017 7:04:31 PM	31157
Surr: DNOP	117	70-130		%Rec	1	4/11/2017 7:04:31 PM	31157
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	4/10/2017 3:15:54 PM	31130
Surr: BFB	93.1	54-150		%Rec	1	4/10/2017 3:15:54 PM	31130
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	4/10/2017 3:15:54 PM	31130
Toluene	ND	0.046		mg/Kg	1	4/10/2017 3:15:54 PM	31130
Ethylbenzene	ND	0.046		mg/Kg	1	4/10/2017 3:15:54 PM	31130
Xylenes, Total	ND	0.092		mg/Kg	1	4/10/2017 3:15:54 PM	31130
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	4/10/2017 3:15:54 PM	31130

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 1704288

Date Reported: 4/13/2017

CLIENT: APEX TITAN**Client Sample ID:** FP-2**Project:** M 16 Pig Receiver**Collection Date:** 4/6/2017 10:05:00 AM**Lab ID:** 1704288-002**Matrix:** SOIL**Received Date:** 4/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	4/12/2017 3:30:24 PM	31203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	53	9.6		mg/Kg	1	4/12/2017 6:04:27 PM	31157
Motor Oil Range Organics (MRO)	360	48		mg/Kg	1	4/12/2017 6:04:27 PM	31157
Surr: DNOP	126	70-130		%Rec	1	4/12/2017 6:04:27 PM	31157
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/10/2017 7:09:02 PM	31130
Surr: BFB	91.5	54-150		%Rec	1	4/10/2017 7:09:02 PM	31130
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	4/10/2017 7:09:02 PM	31130
Toluene	ND	0.050		mg/Kg	1	4/10/2017 7:09:02 PM	31130
Ethylbenzene	ND	0.050		mg/Kg	1	4/10/2017 7:09:02 PM	31130
Xylenes, Total	ND	0.10		mg/Kg	1	4/10/2017 7:09:02 PM	31130
Surr: 4-Bromofluorobenzene	116	66.6-132		%Rec	1	4/10/2017 7:09:02 PM	31130

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 1704288

Date Reported: 4/13/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: FP-3

Project: M 16 Pig Receiver

Collection Date: 4/6/2017 10:10:00 AM

Lab ID: 1704288-003

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	4/12/2017 3:42:48 PM	31203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	65	9.2		mg/Kg	1	4/12/2017 6:49:18 PM	31157
Motor Oil Range Organics (MRO)	390	46		mg/Kg	1	4/12/2017 6:49:18 PM	31157
Surr: DNOP	128	70-130		%Rec	1	4/12/2017 6:49:18 PM	31157
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/10/2017 7:32:24 PM	31130
Surr: BFB	90.3	54-150		%Rec	1	4/10/2017 7:32:24 PM	31130
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	4/10/2017 7:32:24 PM	31130
Toluene	ND	0.047		mg/Kg	1	4/10/2017 7:32:24 PM	31130
Ethylbenzene	ND	0.047		mg/Kg	1	4/10/2017 7:32:24 PM	31130
Xylenes, Total	ND	0.095		mg/Kg	1	4/10/2017 7:32:24 PM	31130
Surr: 4-Bromofluorobenzene	113	66.6-132		%Rec	1	4/10/2017 7:32:24 PM	31130

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 1704288

Date Reported: 4/13/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** FP-4**Project:** M 16 Pig Receiver**Collection Date:** 4/6/2017 10:15:00 AM**Lab ID:** 1704288-004**Matrix:** SOIL**Received Date:** 4/7/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	30		mg/Kg	20	4/12/2017 3:55:12 PM	31203
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	280	97		mg/Kg	10	4/11/2017 8:11:45 PM	31157
Motor Oil Range Organics (MRO)	2100	480		mg/Kg	10	4/11/2017 8:11:45 PM	31157
Surr: DNOP	0	70-130	S	%Rec	10	4/11/2017 8:11:45 PM	31157
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/10/2017 7:55:43 PM	31130
Surr: BFB	88.4	54-150		%Rec	1	4/10/2017 7:55:43 PM	31130
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	4/10/2017 7:55:43 PM	31130
Toluene	ND	0.050		mg/Kg	1	4/10/2017 7:55:43 PM	31130
Ethylbenzene	ND	0.050		mg/Kg	1	4/10/2017 7:55:43 PM	31130
Xylenes, Total	ND	0.10		mg/Kg	1	4/10/2017 7:55:43 PM	31130
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	1	4/10/2017 7:55:43 PM	31130

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#: 1704288

13-Apr-17

Client: APEX TITAN
Project: M 16 Pig Receiver

Sample ID	MB-31203		SampType:	MBLK		TestCode:	EPA Method 300.0: Anions			
Client ID:	PBS		Batch ID:	31203		RunNo:	42066			
Prep Date:	4/12/2017		Analysis Date:	4/12/2017		SeqNo:	1322090	Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	LCS-31203		SampType:	LCS		TestCode:	EPA Method 300.0: Anions			
Client ID:	LCSS		Batch ID:	31203		RunNo:	42066			
Prep Date:	4/12/2017		Analysis Date:	4/12/2017		SeqNo:	1322091	Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.9	90	110			

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#: 1704288

13-Apr-17

Client: APEX TITAN
Project: M 16 Pig Receiver

Sample ID	LCS-31157		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 31157		RunNo: 42017					
Prep Date:	4/10/2017		Analysis Date: 4/11/2017		SeqNo: 1319773		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	50.00	0	99.1	63.8	116			
Surr: DNOP	5.1		5.000		102	70	130			

Sample ID	MB-31157		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 31157		RunNo: 42017					
Prep Date:	4/10/2017		Analysis Date: 4/11/2017		SeqNo: 1319775		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		110	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 |
| 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#: 1704288

13-Apr-17

Client: APEX TITAN
Project: M 16 Pig Receiver

Sample ID	MB-31130	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	31130	RunNo:	42001					
Prep Date:	4/7/2017	Analysis Date:	4/10/2017	SeqNo:	1319435	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		88.2	54	150			

Sample ID	LCS-31130	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	31130	RunNo:	42001					
Prep Date:	4/7/2017	Analysis Date:	4/10/2017	SeqNo:	1319436	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	970		1000		96.8	54	150			

Sample ID	1704288-002AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	FP-2	Batch ID:	31130	RunNo:	42001					
Prep Date:	4/7/2017	Analysis Date:	4/10/2017	SeqNo:	1319441	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	4.8	23.95	0	92.2	61.3	150			
Surr: BFB	970		957.9		101	54	150			

Sample ID	1704288-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	FP-2	Batch ID:	31130	RunNo:	42001					
Prep Date:	4/7/2017	Analysis Date:	4/10/2017	SeqNo:	1319442	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.8	24.08	0	96.0	61.3	150	4.57	20	
Surr: BFB	950		963.4		98.7	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#: 1704288

13-Apr-17

Client: APEX TITAN
Project: M 16 Pig Receiver

Sample ID	MB-31130	SampType: MBLK		TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBS	Batch ID: 31130		RunNo: 42001						
Prep Date:	4/7/2017	Analysis Date: 4/10/2017		SeqNo: 1319454		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-31130		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 31130		RunNo: 42001					
Prep Date:	4/7/2017		Analysis Date: 4/10/2017		SeqNo: 1319455		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	118	80	120			
Toluene	1.1	0.050	1.000	0	109	80	120			
Ethylbenzene	1.1	0.050	1.000	0	106	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.9	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	66.6	132			

Sample ID	1704288-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	FP-1		Batch ID: 31130		RunNo: 42001					
Prep Date:	4/7/2017		Analysis Date: 4/10/2017		SeqNo: 1319458		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9524	0	109	61.5	138			
Toluene	0.96	0.048	0.9524	0.01055	99.3	71.4	127			
Ethylbenzene	0.94	0.048	0.9524	0	98.7	70.9	132			
Xylenes, Total	2.6	0.095	2.857	0	91.4	76.2	123			
Surr: 4-Bromofluorobenzene	1.1		0.9524		114	66.6	132			

Sample ID	1704288-001AMSD		SampType: MSD		TestCode: EPA Method 8021B: Volatiles					
Client ID:	FP-1		Batch ID: 31130		RunNo: 42001					
Prep Date:	4/7/2017		Analysis Date: 4/10/2017		SeqNo: 1319459		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.024	0.9747	0	110	61.5	138	3.55	20	
Toluene	1.0	0.049	0.9747	0.01055	105	71.4	127	7.52	20	
Ethylbenzene	1.0	0.049	0.9747	0	106	70.9	132	8.99	20	
Xylenes, Total	2.9	0.097	2.924	0	97.7	76.2	123	8.92	20	
Surr: 4-Bromofluorobenzene	1.1		0.9747		118	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: 1704288

RcptNo: 1

Received By: Lindsay Mangin

4/7/2017 7:00:00 AM

Completed By: Ashley Gallegos

4/7/2017 11:08:43 AM

Reviewed By: IO

4/7/17

[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 $>0^{\circ}\text{C}$ 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 $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

CHAIN OF CUSTODY RECORD

 APEX Office Location <u>Aztec NM</u>		Laboratory: <u>Hall Env</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;"> BTEX 8001 TPH 8001 Chloride </div>		Lab use only Due Date: _____ Temp. of coolers when received (C°): <u>11.6</u>						
		Project Manager <u>K Summers</u> Sampler's Name <u>Chad D'Agenti</u> Sampler's Signature <u>[Signature]</u>				1 2 3 4 5 Page <u>1</u> of <u>1</u>						
Proj. No. <u>725240112275</u> Project Name <u>M 16 Pig Receiver</u> No/Type of Containers _____												
Matrix	Date	Time	Comp	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	4/6/17	1000	X	FP-1								1704288-001
S		1005	X	FP-2								-002
S		1010	X	FP-3								-003
S		1015	X	FP-4								-004
<div style="border: 1px solid black; border-radius: 50%; width: 50px; height: 50px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"> NPS </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:	NOTES: <u>Bill to Tom Long</u> <u>AFE # N30071</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
 VOA - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other

Appendix D

New Mexico EMNRD OCD Correspondence

From: [Smith, Cory, EMNRD](#)
To: [Long, Thomas](#)
Subject: RE: Lateral MA 16 Inch Pig Receiver Release Site - UL H Section 22 T30N R7W; 36.801549, -107.552406
Date: Monday, June 19, 2017 8:36:34 AM

Tom,

I thought we had talked about this over the phone, Either way.. I am ok with the results in all areas. \

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

From: Long, Thomas [mailto:tjlong@eprod.com]
Sent: Monday, June 19, 2017 7:48 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: FW: Lateral MA 16 Inch Pig Receiver Release Site - UL H Section 22 T30N R7W; 36.801549, -107.552406

Cory,

Did you ever review this one?

Tom Long
505-599-2286 (office (
505-215-4727 (Cell (
tjlong@eprod.com

From: Smith, Cory, EMNRD [<mailto:Cory.Smith@state.nm.us>]
Sent: Thursday, May 18, 2017 1:28 PM
To: Long, Thomas
Subject: RE: Lateral MA 16 Inch Pig Receiver Release Site - UL H Section 22 T30N R7W; 36.801549, -107.552406

Tom,

Sorry the Randy was in the District the past couple of days and we have been occupied looking at ground water cases.

Let me review it and get back with you asap.

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

From: Long, Thomas [<mailto:tjlong@eprod.com>]
Sent: Thursday, May 18, 2017 9:33 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Subject: FW: Lateral MA 16 Inch Pig Receiver Release Site - UL H Section 22 T30N R7W; 36.801549, -107.552406

Cory,

Have you looked at this?

Tom Long
505-599-2286 (office (
505-215-4727 (Cell (
tjlong@eprod.com

From: Long, Thomas
Sent: Tuesday, May 16, 2017 10:04 AM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)'; l1thomas@blm.gov
Cc: Stone, Brian
Subject: FW: Lateral MA 16 Inch Pig Receiver Release Site - UL H Section 22 T30N R7W; 36.801549, -107.552406

Cory/Whitney,

Please find the attached site map and lab report for the Lateral MA 16 Inch Pig Receiver Release Site. The FP sample nomenclature corresponds to the SC number sequence. All are below on BTEX and DRO/GRO. Only exceedances are with MRO. I think it might be associated with road surface material inside the compressor station to prevent erosion. Are these results acceptable?

Tom Long
505-599-2286 (office (
505-215-4727 (Cell (
tjlong@eprod.com

From: Long, Thomas
Sent: Tuesday, April 04, 2017 12:41 PM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)'; Fields, Vanessa, EMNRD (Vanessa.Fields@state.nm.us); lthomas@blm.gov
Cc: Seale, Runell; Stone, Brian
Subject: FW: Lateral MA 16 Inch Pig Receiver Release Site - UL H Section 22 T30N R7W; 36.801549, -107.552406

Cory/Whitney,

This email is to notify you that Enterprise has scheduled the soil sampling at the MA 16 Inch Pig Receiver Release Site on Thursday, April 6, 2017 at 9:00 a.m. If you have any questions, please contact Runell Seal at 599-2124.

Sincerely,

Tom Long
505-599-2286 (office (
505-215-4727 (Cell (
tjlong@eprod.com

From: Long, Thomas
Sent: Thursday, March 30, 2017 2:39 PM
To: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)'
Cc: Stone, Brian
Subject: Lateral MA-11 16 Inch Pig Receiver Release Site - UL H Section 22 T30N R7W; 36.801549, -107.552406

Cory,

This email is a follow up to our phone conversation earlier today. Enterprise had a release of produced water at the Lateral MA-11 16 Inch Pig Receiver Release on March 29, 2017 at approximately 6:30 p.m. Greater than 25 barrels of produced water was released from the pig receiver flowing to the northeast into Enterprise's Simms Mesa Compressor Station. The release site is located at UL H Section 22 T30N R7W; 36.801549, -107.552406.

Enterprise proposes to conduct soil sampling to assess any potential impacts as this release is mainly produced water. Soil samples will be analyzed per the following USEPA Analytical Methods:

1. 8021 BTEX
2. 8015 DRO/GRO/MRO
3. 300.0 Anions (Chloride)

Soil samples will be 5-point composite samples collected from the areas illustrated on the attached

Figure 1, Site Map and Proposed Sample Location Map.

Please call or email if you have any questions or concerns.

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



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 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 San Juan 30-6 #403	Facility Type Natural Gas Gathering Pipeline	
Surface Owner BLM	Mineral Owner BLM	Serial No. NM 076762

LOCATION OF RELEASE

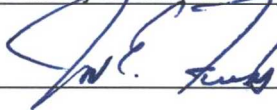

Unit Letter G	Section 9	Township 30N	Range 6W	Feet from the 1817	North South Line	Feet from the 2248	East West Line	County Rio Arriba
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Latitude 36.829257 Longitude 107.467122 NAD83

NATURE OF RELEASE

Type of Release Natural gas and Natural Gas Liquids	Volume of Release Unknown	Volume Recovered None
Source of Release Internal Corrosion of the Pipeline	Date and Hour of Occurrence 11/14/2017 @ 12:40 p.m.	Date and Hour of Discovery 11/14/2017 @ 12:40 p.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 Cory Smith - NMOCD	
By Whom? Thomas Long	Date and Hour November 17, 2017 @ 7:24 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 Taken.* On November 14, 2017, a contractor reported a release on the San Juan 30-6 #403 pipeline. Enterprise technicians confirmed the release and isolated, depressurized, locked out and tagged out the pipeline.		
Describe Area Affected and Cleanup Action Taken.* No fluids observed were on the ground surface. Remediation is in progress and Enterprise has determined this release reportable per NMOCD regulation due to the volume of subsurface impacts. 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 1/14/18	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval: Sample For	Attached <input checked="" type="checkbox"/>
Date: 12/1/2017	Phone: (713) 381-6684	TPI, BTEX, Benzene

* Attach Additional Sheets If Necessary

#NCS 140 1655622

5

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _____ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number NCS 180 16562 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before N/A. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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 Enterprise Field Services, LLC	Contact Thomas Long	
Address 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286	
Facility Name San Juan 30-6 #432s	Facility Type Natural Gas Gathering Pipeline	
Surface Owner BLM	Mineral Owner BLM	Serial No NM 111581

LOCATION OF RELEASE

Unit Letter I	Section 9	Township 30N	Range 6W	Feet from the 2388	North South Line	Feet from the 86	East West Line	County Rio Arriba
-------------------------	---------------------	------------------------	--------------------	---------------------------------	----------------------------	-------------------------------	--------------------------	-----------------------------

Latitude 36.826352 Longitude -107.441559 NAD83

NATURE OF RELEASE

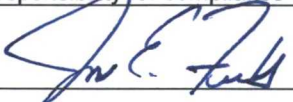

Type of Release Natural gas and Natural Gas Liquids	Volume of Release Unknown	Volume Recovered None
Source of Release Internal Corrosion of the Pipeline	Date and Hour of Occurrence 11/16/2017 @ 1:37 p.m.	Date and Hour of Discovery 11/16/2017 @ 1:37p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Courtesy Notification Cory Smith – NMOCD	
By Whom? Thomas Long	Date and Hour November 22, 2017 @ 3:33 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 Taken.* On November 16, 2017, a contractor reported a release on the San Juan 30-6 #432spipeline. Enterprise technicians confirmed the release and isolated, depressurized, locked out and tagged out the pipeline.

Describe Area Affected and Cleanup Action Taken.* No fluids observed were on the ground surface. Remediation is in progress and Enterprise has determined this release reportable per NMOCD regulation due to the volume of subsurface impacts. 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: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 11/16/18	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval: Sample for TPH, BTEX, Benzene.	Attached <input checked="" type="checkbox"/>
Date: 12/1/2017	Phone: (713) 381-6684	

* Attach Additional Sheets If Necessary **#NCS 1801655315**

③

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _____ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number NCS 180165536 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in Aztec on or before N/A. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

District I
1625 N. French Dr., Hobbs, NM 88240
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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

☒ Subsequent ☐ 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 Gobenador Compressor Station	Facility Type Natural Gas Compressor Station	
Surface Owner Private	Mineral Owner BLM	Serial Number:

LOCATION OF RELEASE

Unit Letter D	Section 31	Township 30N	Range 7W	Feet from the 635	<u>North</u> South Line	Feet from the 120	<u>East</u> West Line	County Rio Arriba
-------------------------	----------------------	------------------------	--------------------	----------------------	----------------------------	----------------------	--------------------------	-----------------------------

Latitude 36.77467 Longitude 107.61787 NAD83

NATURE OF RELEASE

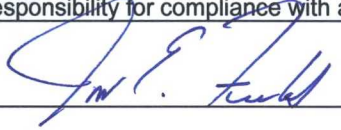
Type of Release: Fresh Lubrication Oil	Volume of Release 8-10 BBLs of Fresh Lubrication Oil	Volume Recovered None
Source of Release Day Tank	Date and Hour of Occurrence 11/14/2017 @ 12:00p.m.	Date and Hour of Discovery 11/14/2017 @ 12:00p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Notification to Cory Smith – NMOCD	
By Whom? Thomas Long	Date and Hour 11/15/2017 @ 11:34 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 Taken.* On November 14, 2017, a technician was filling the day tank and the overflow switch failed causing fresh lubrication oil to overflow the day tank. An estimated volume of 8-10 barrels was released and flowed out of the compressor building and onto the ground.

Describe Area Affected and Cleanup Action Taken.* The release has been under active remediation. A majority of the contaminant mass has been removed by hand tools. A third party developed soil remediation work plan which was implement on January 11, 2018 after email approval from NMOCD. 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: Jon E. Fields		Approved by Environmental Specialist: 	
Title: Director, Environmental		Approval Date: <u>2/6/18</u>	Expiration Date:
E-mail Address: jefields@eprod.com		Conditions of Approval:	
Date: <u>1/24/2018</u> 6684	Phone: (713) 381-	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary #NVF1734047736



January 9, 2018

#5125760-BG83

NMOCD District III
Mr. Cory Smith
1000 Rio Brazos Road
Aztec, New Mexico 87410

SUBJECT: SOIL REMEDIATION WORK PLAN FOR THE GOBERNADOR COMPRESSOR STATION
BGT RELEASE, RIO ARRIBA, NEW MEXICO

Dear Mr. Smith:

On behalf of Enterprise Products, Souder, Miller & Associates (SMA) has prepared this WORK PLAN that describes recommended delineation and proposed remediation for a release associated with the Gobernador Compressor Station below ground tank (BGT). The site is in UNIT D, SECTION 31, TOWNSHIP 30N, RANGE 07W, Rio Arriba County, New Mexico, on Private land. Figure 1 illustrates the vicinity and location of the site.

Table 1, below, summarizes information regarding the release.

Table 1: Release information and Site Ranking	
Name	Gobernador Compressor Station BGT Release
Company	Enterprise Products
API Number	NA
Location	36.77467, -107.61787
Estimated Date of Release	Unknown
Date Reported to NMOCD	11/14/2017
Land Owner	Private
Reported To	NM Oil Conservation Division (NMOCD)
Source of Release	BGT
Released Material	Waste oil, antifreeze, compressor skid drain fluids
Released Volume	unknown
Recovered Volume	0
Net Release	unknown
Nearest Waterway	~1,200 feet east of an unnamed wash
Depth to Groundwater	Estimated to be greater than 100 feet
Nearest Domestic Water Source	Greater than 1,000 feet
NMOCD Ranking	0
SMA Response Dates	TBD

1.0 Background

During excavation activities for the fresh lubrication oil release reported to NMOCD on November 14, 2017, it was discovered that the BGT, Tank 7, was actively leaking resulting in a secondary release. Figure 1 illustrates the site vicinity, Figure 2 illustrates the site location. The initial C-141 form is included in Appendix A.

2.0 Site Ranking and Land Jurisdiction

The Gobernador Compressor Station is located about 2 miles south of Navajo Dam, near Navajo Dam, New Mexico. The Compressor Station is located approximately 1,200 feet east of an unnamed wash within the Gobernador Canyon. The below-ground tank (BGT) is located at the Gobernador Compressor Station at an elevation of 6,037 feet above mean sea level (amsl). Depth to groundwater in SJ-04051-POD1, a NMOSE permitted well 1.5 miles southwest, reports depth to groundwater at 460 feet bgs. This well is located at an elevation of 6,270 feet amsl, 190 feet above the BGT on a plateau. This well provides an estimate after elevation differences are accounted for, resulting in a groundwater elevation of 5,820 feet amsl. This places groundwater 227 feet bgs at the BGT location.

Recommended Remediation Action Levels (RRALs) are determined by the site ranking according to the NMOCD *Guidelines for Remediation of Leaks, Spills, and Releases* (1993). Below in Table 2 are the remediation standards and the site ranking for this location. Justification for this site ranking is found in Appendix B.

Table 2.

Soil Remediation Standards	0 to 9	10 to 19	>19
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM

Depth to Groundwater	NMOCD Numeric Rank
< 50 BGS = 20	
50' to 99' = 10	
>100' = 0	0
Distance to Nearest Surface Water	NMOCD Numeric Rank
< 200' = 20	
200' - 1000' = 10	
>1000' = 0	0
Well Head Protection	NMOCD Numeric Rank
<1000' (or <200' domestic) = 20	
> 1000' = 0	0
Total Site Ranking	0

3.0 Proposed Release Characterization Activities

SMA recommends that field personnel visually assess the release area and conduct vertical and horizontal delineation via hand auguring. Sample locations will be determined in the field due to above ground piping limiting the physical ability to safely and practically perform hand auguring activities, see Appendix C: Photo Log. Soil borings will extend until auger refusal is met, or field screening indicates contamination extents have been reached. Field-screening activities will be performed using a calibrated MiniRAE 3000 PID and a Dextsil® PetroFLAG TPH Analyzer.

SMA proposes collecting a minimum of one soil boring per sample area for field-screening to characterize and delineate the extent of the release. Refer to Figure 3 for proposed sample areas, identified as 1-4. Discreet samples from the highest PetroFLAG screening, as well as the base, within each soil boring will be collected for laboratory analyses in order to demonstrate the extent of contamination. Field-screening activities, as well as accessibility to sample, will determine the number and location of soil borings. If necessary, SMA will continue outward from the release area in order to extend delineation beyond the proposed 1-4 sample areas.

All samples collected will be processed according to NMOCD soil sampling procedures. The samples will be sent under chain-of-custody protocols to Hall Environmental Analysis Laboratory for analysis for BTEX by EPA Method 8021 and TPH EPA Method 8015.

4.0 Proposed Soil Remediation Work Plan

Upon receiving analytical results, SMA will propose remediation or closure based on laboratory analyses. If excavation is determined to be necessary and practical, SMA will continuously guide the excavation by collecting composite soil samples for field screening. Impacted soils will be disposed of at an NMOCD approved facility. Due to the physical constraints of existing above ground piping, deferment of remediation in the area directly below the above ground piping may be requested.

5.0 Scope and Limitations

The scope of our services consisted of the performance of a preliminary release assessment, regulatory liaison, oversight and control of remediation operations, project management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

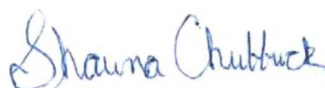
If there are any questions regarding this report, please contact either myself or Shawna Chubbuck at 505-325-7535.

Submitted by:
SOUDER, MILLER & ASSOCIATES

Reviewed by:



Ashley Maxwell
Staff Scientist



Shawna Chubbuck
Senior Scientist

ATTACHMENTS:

Figures:

Figure 1: Vicinity Map

Figure 2: Site Location Map

Figure 3: Proposed Sampling Area Map

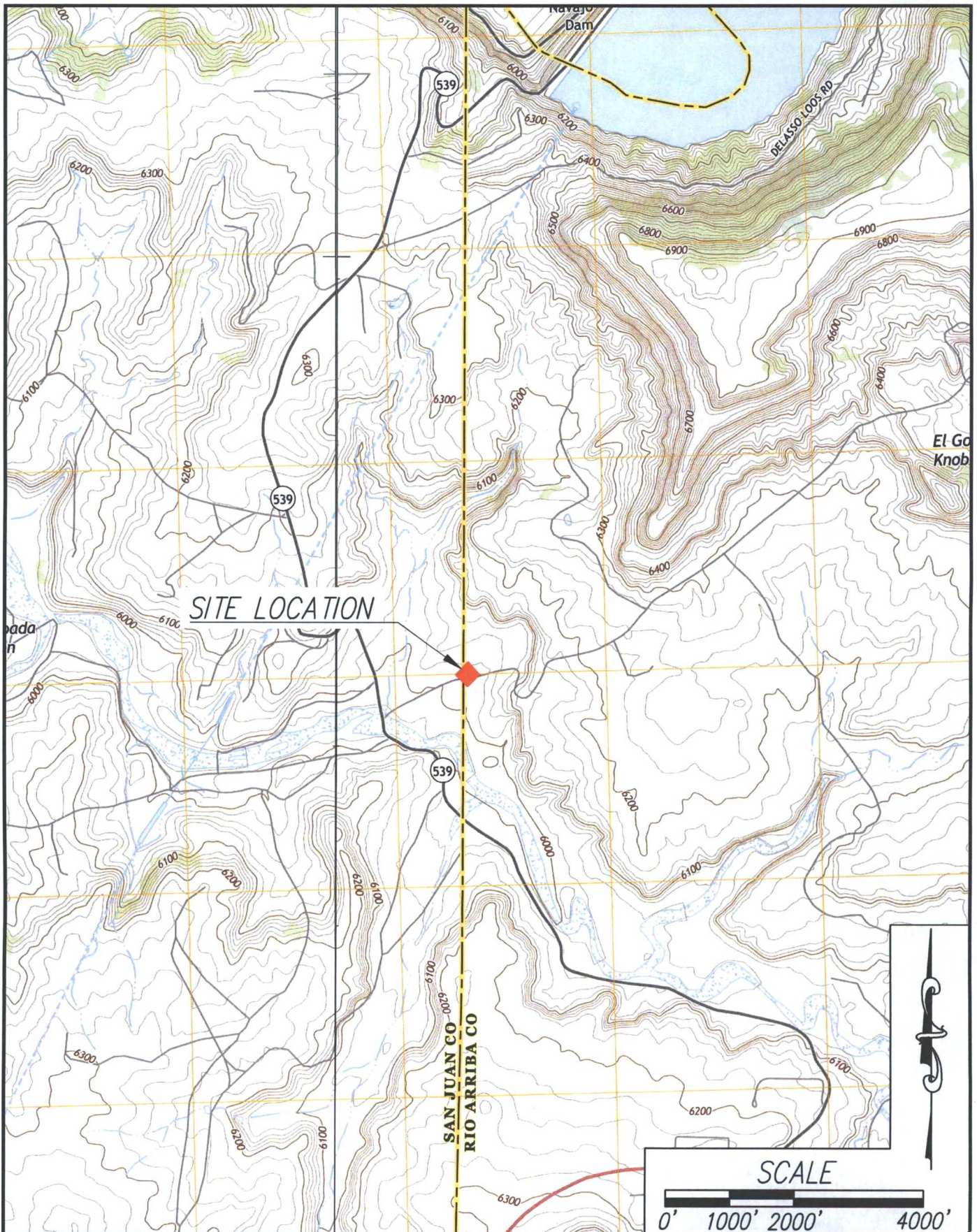
Appendices:

Appendix A: Form C-141 Initial

Appendix B: NMOSE Wells Report

Appendix C: Photo Log

FIGURES



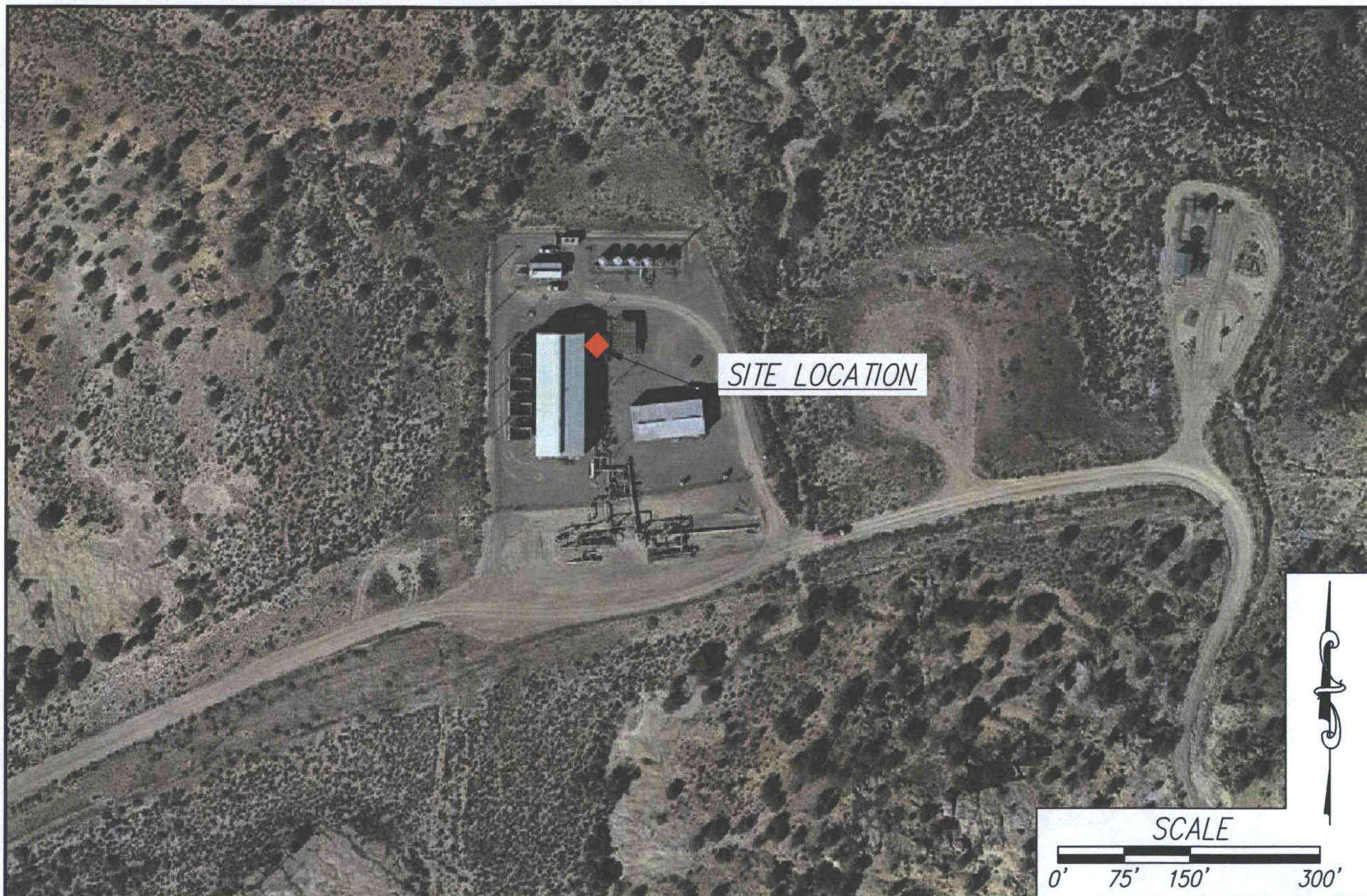
Souder, Miller & Associates
 401 West Broadway Avenue
 Farmington, NM 87401-5907
 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 326-0045
www.soudermiller.com
 Serving the Southwest & Rocky Mountains

ENTERPRISE FARMINGTON, NEW MEXICO

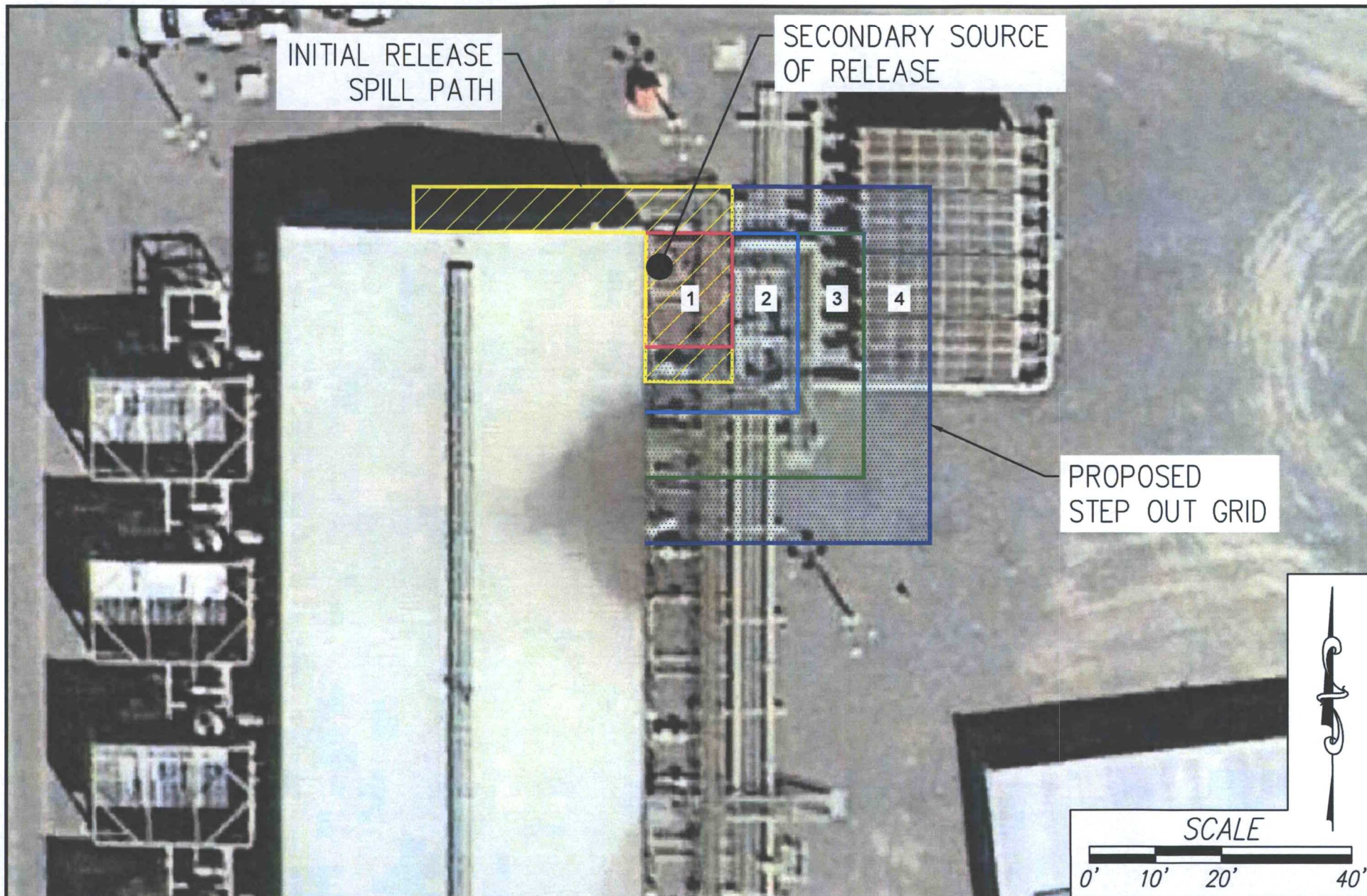
VICINITY MAP
 NOVEMBER 14, 2017
 Gobernador Compressor Station Spill
 SECTION 31, T30N, R7W

RIO ARriba COUNTY

Designed AP	Drawn DJB	Checked RSA
Date: November 2017		
Scale: Horiz: 1" = 2000'		
Vert: NA		
Project No: 5125760		
Figure 1		



 SMA <i>Engineering Environmental Surveying</i>	SOUDER, MILLER & ASSOCIATES 401 W. BROADWAY FARMINGTON, NM 87401 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM - El Paso, TX Cortez - Grand Junction - Montrose, CO - Safford, AZ - Moab, UT	ENTERPRISE		FARMINGTON, NEW MEXICO		Designed AP	Drawn DJB	Checked RSA		
		SITE LOCATION MAP NOVEMBER 14, 2017 Gobernador Compressor Station Spill SECTION 31, T30N, R7W						Date: November 2015		
								Scale: Horiz: 1"=150' Vert: N/A		
		RIO ARriba COUNTY, NEW MEXICO						Project No: 5125760		
						Figure 2				



<p style="font-size: 8px;">THIS DRAWING IS INCOMPLETE AND NOT TO BE USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED AND DATED</p>	<p>SMA Engineering Environmental Surveying</p>	<p>SOUDER, MILLER & ASSOCIATES 401 W. BROADWAY FARMINGTON, NM 87401 Phone (505) 325-7535 Toll-Free (800) 519-0098 Fax (505) 325-0045 www.soudermiller.com Serving the Southwest & Rocky Mountains Albuquerque, Farmington, Las Cruces, Roswell, Santa Fe, NM • El Paso, TX Cortez • Grand Junction • Montrose, CO • Safford, AZ • Moab, UT</p>	<p>ENTERPRISE</p> <p style="text-align: center;">PROPOSED SAMPLING AREA NOVEMBER 14, 2017 Gobernador Compressor Station Spill SECTION 31, T30N, R7W</p> <p>RIO ARRIBA COUNTY, NEW MEXICO</p>	<p>FARMINGTON, NEW MEXICO</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Designed AP</td> <td style="width: 33%;">Drawn DJB</td> <td style="width: 33%;">Checked RSA</td> </tr> <tr> <td colspan="3">Date: JANUARY 2018</td> </tr> <tr> <td colspan="3">Scale: Horiz: 1"=20' Vert: N/A</td> </tr> <tr> <td colspan="3">Project No: 5125760</td> </tr> </table> <p style="text-align: center; font-weight: bold;">Figure 3</p>	Designed AP	Drawn DJB	Checked RSA	Date: JANUARY 2018			Scale: Horiz: 1"=20' Vert: N/A			Project No: 5125760		
	Designed AP	Drawn DJB	Checked RSA													
	Date: JANUARY 2018															
	Scale: Horiz: 1"=20' Vert: N/A															
Project No: 5125760																

APPENDIX A
FORM C141 INITIAL



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

November 16, 2017

EMNRD Oil Conservation Division
Aztec District III Office
Attention: Cory Smith
1000 Rio Brazos Road
Aztec, New Mexico 87410

7016 3010 0000 0900 4533
Return Receipt Requested

**RE: Gobernador Compressor Station
Rio Arriba County**

Mr. Smith:

Attached is the initial Notification and Corrective Action (C-141) form as prepared by our field representative, Thomas Long. Should have questions or need additional information, please contact Mr. Long at 505-599-2286 or me directly at 713-381-6595.

Yours truly,

A handwritten signature in cursive script, appearing to read 'Shiver J. Nolan'.

Shiver J. Nolan
Sr. Compliance Administrator

enclosures

District I
1625 N. French Dr., Hobbs, NM 88240
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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	
Facility Name Gobenador Compressor Station	Facility Type Natural Gas Compressor Station	
Surface Owner Private	Mineral Owner BLM	Serial Number:

LOCATION OF RELEASE

Unit Letter D	Section 31	Township 30N	Range 7W	Feet from the 635	North South Line	Feet from the 120	East West Line	County Rio Arriba
-------------------------	----------------------	------------------------	--------------------	----------------------	--------------------------------	----------------------	------------------------------	-----------------------------

Latitude 36.77467 Longitude 107.61787 NAD83

NATURE OF RELEASE

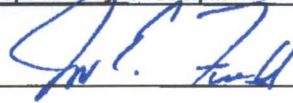
Type of Release: Fresh Lubrication Oil	Volume of Release 8-10 BBLs of Fresh Lubrication Oil	Volume Recovered None
Source of Release Day Tank	Date and Hour of Occurrence 11/14/2017 @ 12:00p.m.	Date and Hour of Discovery 11/14/2017 @ 12:00p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Notification to Cory Smith - NMOCD	
By Whom? Thomas Long	Date and Hour 11/15/2017 @ 11:34 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 Taken.* On November 14, 2017, a technician was filling the day tank and the overflow switch failed causing fresh lubrication oil to overflow the day tank. An estimated volume of 8-10 barrels was released and flowed out of the compressor building and onto the ground.

Describe Area Affected and Cleanup Action Taken.* The remediation is in the scheduling process. The contaminant mass will be removed by hand tools as much as practical. 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: 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: 11/17/17 6684	Phone: (713) 381-	

* Attach Additional Sheets If Necessary

APPENDIX B
NMOSE WELLS REPORT



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
SJ 00028			SJ	4	1	2	01	29N	08W	265759	4071283*	606	300	306
SJ 04051 POD1			SJ	2	3	1	01	29N	08W	264924	4071161	580	460	120

Average Depth to Water: **380 feet**

Minimum Depth: **300 feet**

Maximum Depth: **460 feet**

Record Count: 2

PLSS Search:

Section(s): 1

Township: 29N

Range: 08W

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

APPENDIX C
PHOTO LOG

Site Photographs

Gobernador Compressor Station Release: Release Assessment and Final Remediation for Tank 7



Figure 1. View of above ground piping in proposed sample area looking to the south.

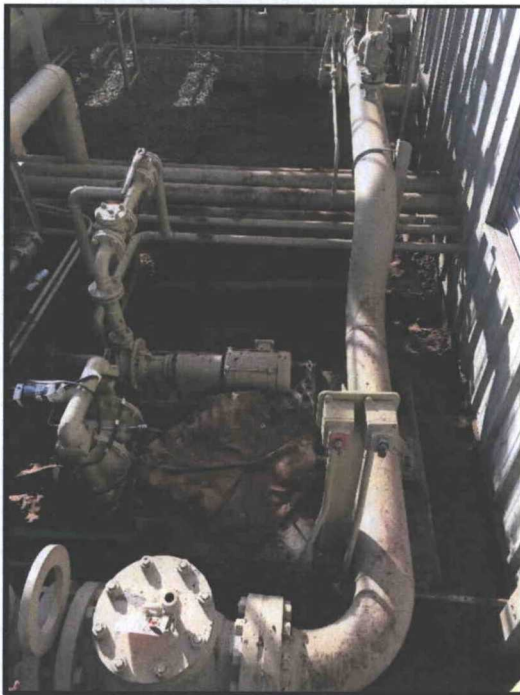


Figure 2. Aerial view extending north to south of above ground piping associated with proposed sample area.

From: [Smith, Cory, EMNRD](#)
To: [Long, Thomas](#)
Cc: [Fields, Vanessa, EMNRD](#); [Stone, Brian](#)
Subject: RE: Gobenador Compressor Station - Work Plan
Date: [Tuesday, January 23, 2018 9:15:31 AM](#)

Good Morning Tom,

I just wanted to get a status update on the delineation? I haven't received the hard copy plan yet as of this morning.

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

From: Smith, Cory, EMNRD
Sent: Tuesday, January 9, 2018 3:57 PM
To: 'Long, Thomas' <tjlong@eprod.com>
Cc: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Stone, Brian <bmstone@eprod.com>
Subject: RE: Gobenador Compressor Station - Work Plan

Tom,

Per our conversation Enterprise may continue with the delineation while submitting a hardcopy for approval.

Thanks for clarifying the sampling plan.

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

From: Long, Thomas [<mailto:tjlong@eprod.com>]
Sent: Tuesday, January 9, 2018 3:00 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Cc: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Stone, Brian <bmstone@eprod.com>

Tom Long
505-599-2286 (office)
505-215-4727 (Cell)
tjlong@eprod.com

From: Smith, Cory, EMNRD [<mailto:Cory.Smith@state.nm.us>]
Sent: Tuesday, January 09, 2018 7:18 AM
To: Long, Thomas
Cc: Stone, Brian; Fields, Vanessa, EMNRD
Subject: RE: Gobenador Compressor Station - Work Plan

Good Morning Tom,

Could you explain the sampling procedure from the plan? If I understand correctly SMA will hand auger and collect only a bottom hole sample from each Bore hole correct? SMA also proposed to possible only do one Auger point per sampling area? If so how will the release be delineated both vertically and horizontally? Lastly what type of field screening will SMA use as I am concerned the lubrication oil will not be detectable in the typical OVM field screening.

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

From: Long, Thomas [<mailto:tjlong@eprod.com>]
Sent: Monday, January 8, 2018 2:09 PM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Stone, Brian <bmstone@eprod.com>
Subject: Gobenador Compressor Station - Work Plan

Cory,

Please find the attached work plan for delineation of the lube oil release at Gobenador Compressor Station. We plan on conducting the investigation this Thursday. Soil borings will be installed by hand augured. Do you wish to be present? It will take a good portion of the day. If you have any questions, please call or email.

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



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 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 2C-79	Facility Type Natural Gas Gathering Pipeline
Surface Owner Jicarilla Apache Tribe	Mineral Owner Jicarilla Apache Tribe
Serial Number: 944	

LOCATION OF RELEASE

Unit Letter I	Section 21	Township 23N	Range 3W	Feet from the NA	North/South Line	Feet from the NA	East/West Line	County Sandoval
-------------------------	----------------------	------------------------	--------------------	---------------------	---------------------	---------------------	-------------------	---------------------------

Latitude 36.205296 Longitude 107.163270 NAD83

OIL CONS. DIV DIST. 3

NATURE OF RELEASE

Type of Release: Natural Gas and Condensate	Volume of Release 5.64 MCF Gas ;10-15 BBLs of Condensate	Volume Recovered None
Source of Release Facility Blowdown Vent Pipe	Date and Hour of Occurrence 9/19/2017 @ 4:45 p.m.	Date and Hour of Discovery 9/19/2017 @ 4:45 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? : Notification to Vanessa Fields - NMOCD; Hobson Sandoval	
By Whom? Thomas Long	Date and Hour 9/20/2017 @ 0757	
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 September 19, 2017, a third party discovered a release on the Lateral 2C-79 pipeline. A minimal amount of condensate and produced water was observed on the ground surface. Repairs and remediation were initiated on October 3, 2017 and Enterprise determined that this release was reportable on October 4, 2017 due to the volume of impacted subsurface soil.

Describe Area Affected and Cleanup Action Taken.* The contaminant mass was removed by mechanical excavation. The final excavation dimensions measured approximately 83 feet long by 17 feet wide ranging from 8 to 16 feet deep. Approximately 448 cubic yards of hydrocarbon impacted soil were excavated and transported to a 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: <i>Jon E. Fields</i>	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: 2/27/19	Expiration Date: 2/27/19
E-mail Address: jefields@eprod.com	Conditions of Approval: —	Attached <input type="checkbox"/>
Date: 1-22-2018 Phone: (713) 381-6684		

* Attach Additional Sheets If Necessary **#NCS1729630119**

63



ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS HOLDINGS LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

January 22, 2018

EMNRD Oil Conservation Division
Aztec District III Office
Attention: Vanessa Fields
1000 Rio Brazos Road
Aztec, New Mexico 87410

Return Receipt Requested
7015 0640 0002 6214 1988

Jicarilla Apache Tribe
Environmental Protection Office
Attention: Cordell Te Cube and Hobson Sandoval
P.O. Box 507
Dulce, New Mexico 87528-0507

Return Receipt Requested
7015 0640 002 6214 1995

**RE: Lateral 2C-79
Sandoval County**

Ms. Fields, Mr. Te Cube and Mr. Sandoval:

Attached are the final Release Notification and Corrective Action Report (C-141) along with the Release Report as prepared by our consultant, Apex TITAN, Inc. Should have questions or need additional information, please contact Thomas Long at 505-599-2286 or me directly at 713-381-6595.

Yours truly,

A handwritten signature in blue ink, appearing to read 'Shiver J. Nolan'.

Shiver J. Nolan
Sr. Compliance Administrator

enclosures



CORRECTIVE ACTION REPORT

Property:

**Lateral 2C-79 (9/19/17) Release
SW 1/4, Sec 21 T23N R3W
Jicarilla Apache Nation, Sandoval County, New Mexico**

January 5, 2018
Apex Project No. 725040112337

Prepared for:

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

Prepared by:


Rane DeeChilly
Project Scientist

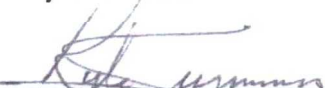

Kyle Summers, CPG
Branch Manager / Senior Geologist

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Site Description & Background.....	1
1.2	Project Objective.....	1
2.0	SITE RANKING	1
3.0	CORRECTIVE ACTIONS	2
3.1	Soil Excavation Activities.....	2
3.2	Soil Sampling Program.....	3
3.3	Laboratory Analytical Methods	3
4.0	DATA EVALUATION	3
4.1	Confirmation Soil Samples.....	4
5.0	FINDINGS AND RECOMMENDATIONS.....	4
6.0	STANDARD OF CARE, LIMITATIONS, AND RELIANCE	5

LIST OF APPENDICES

Appendix A	Figures
	Figure 1 – Topographic Map
	Figure 2 – Site Vicinity Map
	Figure 3 – Site Map with Soil Analytical Results
Appendix B:	Executed C-138 Solid Waste Acceptance Form
Appendix C:	Photographic Documentation
Appendix D:	Table
Appendix E:	Laboratory Data Sheets & Chain of Custody Documentation

CORRECTIVE ACTION REPORT

Lateral 2C-79 (9/19/17) Release

SW 1/4, Sec 21 T23N R3W

Jicarilla Apache Nation, Sandoval County, New Mexico

Apex Project No. 725040112337

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral 2C-79 (9/19/17) release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 21, Township 23 North, Range 3 West, in the Jicarilla Apache Nation, Sandoval County, New Mexico (36.205296N, 107.163270W), referred to hereinafter as the "Site". The surrounding area is predominately rangeland, periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas pipeline which traverses the area from approximately northwest to southeast.

On September 19, 2017, a release of natural gas was discovered at the Site and reported to Enterprise. On October 3, 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.

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

The Site is under the jurisdiction of the Jicarilla Apache Nation Environmental Protection Office (JANEPO) and the New Mexico EMNRD OCD. In the absence of published JANEPO regulatory guidance, Apex TITAN Inc. (Apex) references 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	10
	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	
Total Ranking Score			20

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

- No nearby water wells were identified within a mile on the OSE Water Rights Reporting System (WRRS) database. Based on the distance to an ephemeral wash and the local terrain, groundwater is estimated to be present at between 50 and 100 feet below grade surface (bgs), resulting in a ranking score of "10" 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 418 feet west of a small 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".

Based on the site ranking, the New Mexico EMNRD OCD RALs for soils located at the Site include: 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total benzene, toluene, ethylbenzene, and total xylenes (BTEX) and 100 mg/kg for combined total petroleum hydrocarbons (TPH) gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube oil range organics (MRO).

3.0 CORRECTIVE ACTIONS

3.1 Soil Excavation Activities

On September 19, 2017, a release of natural gas and associated pipeline liquids was discovered at the Site and reported to Enterprise. On October 3, 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. During the corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support, and Apex provided environmental support.

On October 4, 2017, seven (7) confirmation composite soil samples (CS-1 through CS-7) were collected from the portions of the repair excavation base and sidewalls for laboratory analysis. Additionally, one (1) composite soil sample (SP-1) was collected from an apparently unaffected portion of the stockpiled soils to determine the potential to reuse the unaffected portion of the material as backfill. On October 9, 2017, the central portion of the excavation was further excavated an additional five (5) feet bgs, after which nine (9) additional confirmation composite

soil samples (CS-8 through CS-16) were collected from the excavation to complete the analytical profile. On October 12, 2017, due to an analytical exceedance of the RALs (sample CS-8), the base of the excavation adjacent to the source area was excavated an additional two (2) to three (3) feet and resampled as confirmation composite soil sample (CS-17).

The final excavation measured approximately 83 feet long by 17 feet wide at the maximum extents. The total depth of the excavation ranged from approximately eight (8) feet bgs to 16 feet bgs.

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

A total of approximately 448 cubic yards of petroleum hydrocarbon affected soils were transported to Envirotech, Inc. (Envirotech) landfarm 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 imported fill and the laboratory-confirmed portion of the stockpiled soils, and then contoured to surrounding grade.

Figure 3 is a 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® hydrocarbon analyzer system to guide excavation extents.

Apex's soil sampling program included the collection of 17 confirmation composite soil samples (CS-1 through CS-17) from the final excavation and one (1) composite stockpile soil sample (SP-1).

The confirmation and stockpile 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 soil samples were analyzed for BTEX using Environmental Protection Agency (EPA) SW-846 Method #8021, and TPH GRO/DRO/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 JANEPO and the New Mexico EMNRD OCD. In the absence of published JANEPO regulatory guidance, Apex referenced the New Mexico ENMRD 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 samples collected from the excavation and the stockpiled soil samples to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "20". Soils associated with confirmation composite soil sample CS-8 were removed by excavation and transported to the Envirotech landfarm for disposal/remediation and are not included in the following discussion.

- 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 New Mexico EMNRD OCD RAL of 10 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 0.19 mg/kg (CS-1), which are below the New Mexico EMNRD 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 38 mg/kg (SP-1), which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "20".

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

5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2C-79 (9/19/17) release site is located within the Enterprise ROW in the SW ¼ of Section 21, Township 23 North, Range 3 West, in the Jicarilla Apache Nation, Sandoval County, New Mexico. The surrounding area is predominately rangeland, periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas pipeline which traverses the area from approximately northwest to southeast.

On September 19, 2017, a release of natural gas and associated pipeline liquids was discovered at the Site and reported to Enterprise. On October 4, 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 final excavation measured approximately 83 feet long by 17 feet wide at the maximum extent. The total depth of the excavation ranged from approximately eight (8) feet bgs to 16 feet bgs.



- Prior to backfilling, 17 confirmation composite soil samples and one (1) composite stockpile soil sample were collected for laboratory analysis. Based on analytical results, soils remaining in place and the reused portion of the stockpiled soils 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 448 cubic yards of petroleum hydrocarbon affected soils were transported to Envirotech landfarm for disposal/remediation. The excavation was backfilled with imported fill and laboratory-confirmed stockpiled soils, and then contoured to surrounding grade.

Based on field observations and laboratory analytical results, no additional investigation or corrective action with respect to soil impact appears warranted at this time.

6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

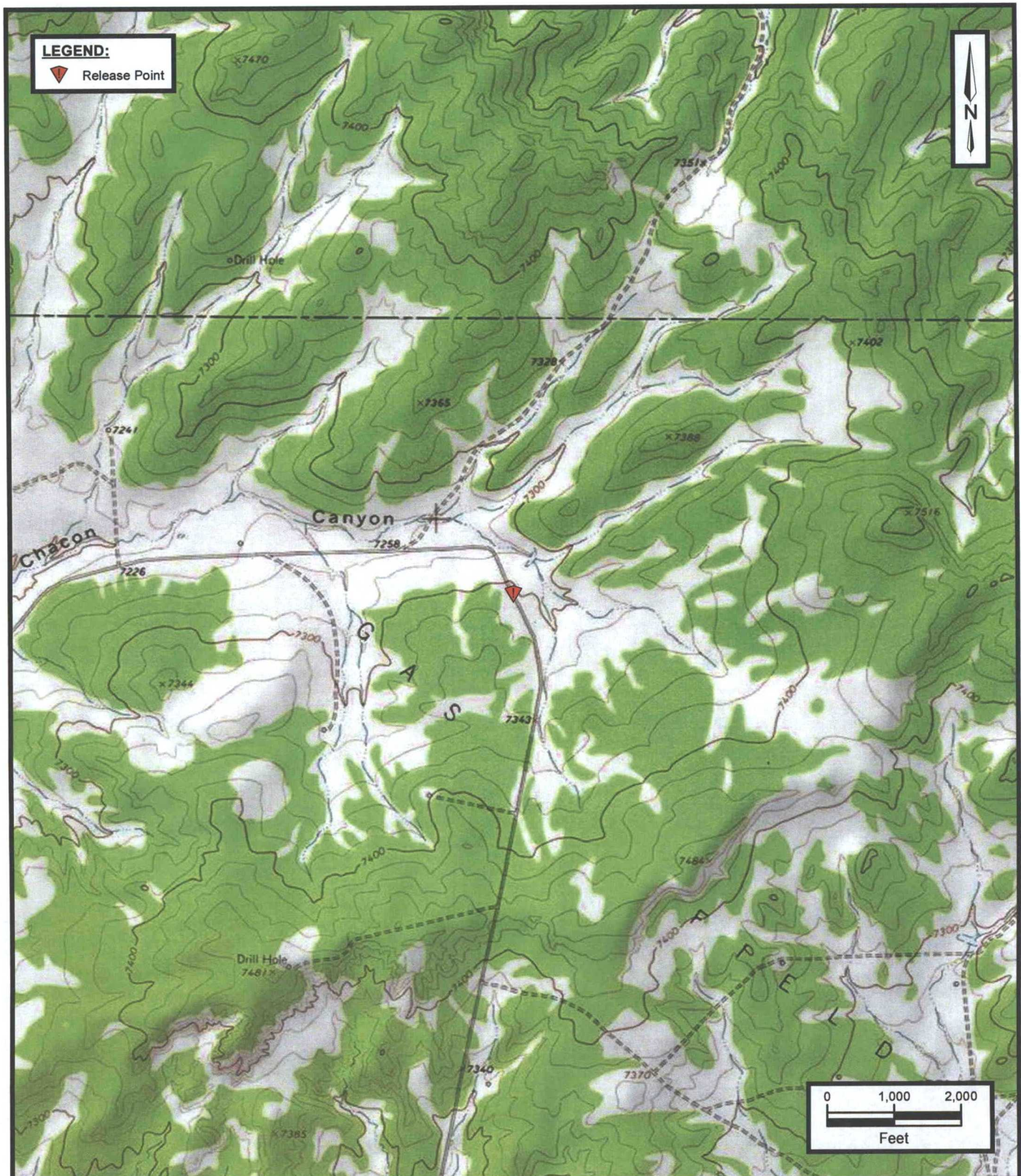
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed or described herein. Additionally, Apex does not warrant 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



Lateral 2C-79 (9/19/17)
 SW 1/4, Sec 21 T23N R3W
 Sandoval County, New Mexico
 36.205296 N, 107.163270 W

Project No. 725040112337



Apex TITAN, Inc.

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

A Subsidiary of Apex Companies, LLC

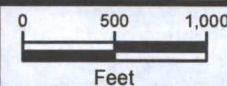
FIGURE 1
Topographic Map

Service Layer Credits:
 Copyright © 2013 National Geographic Society, i-cubed, Five
 Lakes Canyon NW New Mexico 7.5-Minute Quadrangle 1978

LEGEND:



Release Point



Lateral 2C-79 (9/19/17)
SW 1/4, Sec 21 T23N R3W
Sandoval County, New Mexico
36.205296 N, 107.163270 W

Project No. 725040112337



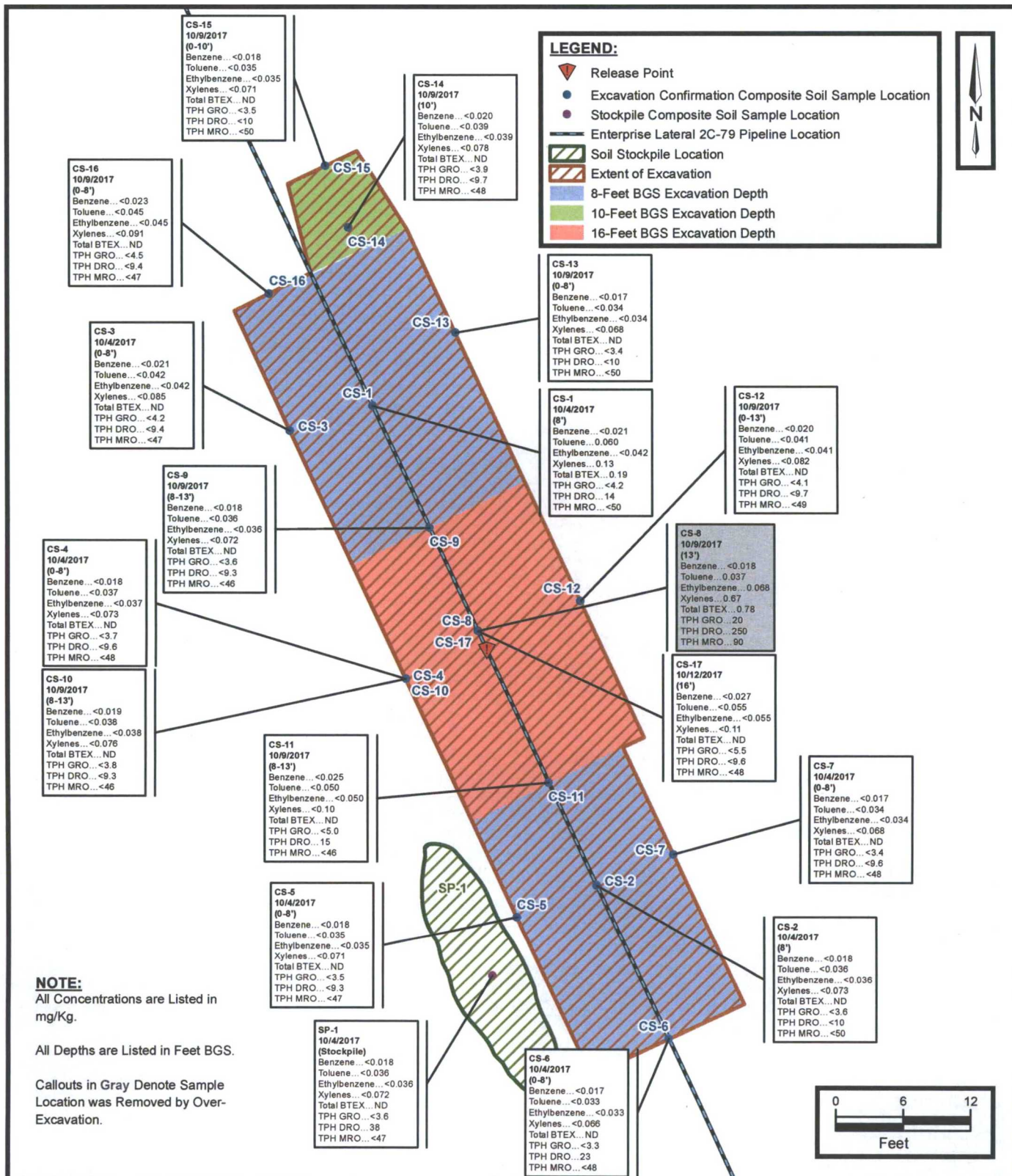
Apex TITAN, Inc.

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

FIGURE 2

Site Vicinity Map

Service Layer Credits:
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Aerial Photograph June 2016



Lateral 2C-79 (9/19/17)
SW 1/4, Sec 21 T23N R3W
Sandoval County, New Mexico
36.205296 N, 107.163270 W



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

FIGURE 3

Site Map with Soil Analytical Results

Project No. 725040112337

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

97057-0859
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: Lateral 2C-79 Pipeline	
3. Location of Material (Street Address, City, State or ULSTR): Section 21 Township 23 North Range 3 West; 36.205296, -107.163270 <div style="text-align: right;">Sep/Oct 2017</div>	
4. Source and Description of Waste: Source: Natural Gas Gathering Line Description: Hydrocarbon impacted soil associated with remediation activities of a leaking natural gas gathering pipeline. Estimated Volume <u>50</u> (yd ³) bbls Known Volume (to be entered by the operator at the end of the haul) <u>448</u> (yd ³) 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 checked="" 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> 9-21-17, representative for Enterprise Products Operating authorizes <u>Envirotech, Inc.</u> to complete Generator Signature the required testing/sign the Generator Waste Testing Certification. 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: OFT or subcontractors, <u>West States, Calder Services, HBL, Stan Horn</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

SIGNATURE: [Signature]

Surface Waste Management Facility Authorized Agent

TITLE: Environmental Manager DATE: 9/21/17

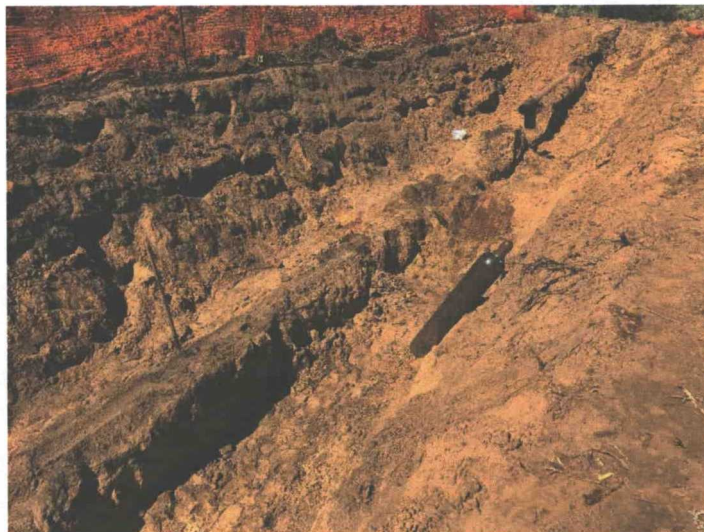
TELEPHONE NO.: 505-632-0615

APPENDIX C

Photographic Documentation

Photograph 1

View of the release area, facing north-west.



Photograph 2

View of the in-process corrective action activities, facing southwest.



Photograph 3

View of the excavation, facing southeast.



Photograph 4

View of the excavation, facing southwest.



APPENDIX D

Table

TABLE 1
Lateral 2C-79 (9/19/17) Release
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	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		
Confirmation Soil Sample Removed by Excavation and Transported to Envirotech Landfarm for Disposal/Remediation											
CS-8	10.09.17	C	13	<0.018	0.037	0.068	0.67	0.78	20	250	90
Soil Sample Collected from Stockpiled Soils											
SP-1	10.04.17	C	Stockpile	<0.018	<0.036	<0.036	<0.072	ND	<3.6	38	<47
Excavation Confirmation Soil Samples											
CS-1	10.04.17	C	8	<0.021	0.060	<0.042	0.13	0.19	<4.2	14	<50
CS-2	10.04.17	C	8	<0.018	<0.036	<0.036	<0.073	ND	<3.6	<10	<50
CS-3	10.04.17	C	0 to 8	<0.021	<0.042	<0.042	<0.085	ND	<4.2	<9.4	<47
CS-4	10.04.17	C	0 to 8	<0.018	<0.037	<0.037	<0.073	ND	<3.7	<9.6	<48
CS-5	10.04.17	C	0 to 8	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<9.3	<47
CS-6	10.04.17	C	0 to 8	<0.017	<0.033	<0.033	<0.066	ND	<3.3	23	<48
CS-7	10.04.17	C	0 to 8	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.6	<48
CS-9	10.09.17	C	8 to 13	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.3	<46
CS-10	10.09.17	C	8 to 13	<0.019	<0.038	<0.038	<0.076	ND	<3.8	<9.3	<46
CS-11	10.09.17	C	8 to 13	<0.025	<0.050	<0.050	<0.10	ND	<5.0	15	<46
CS-12	10.09.17	C	0 to 13	<0.020	<0.041	<0.041	<0.082	ND	<4.1	<9.7	<49
CS-13	10.09.17	C	0 to 8	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<10	<50
CS-14	10.09.17	C	10	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.7	<48
CS-15	10.09.17	C	0 to 10	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<10	<50
CS-16	10.09.17	C	0 to 8	<0.023	<0.045	<0.045	<0.091	ND	<4.5	<9.4	<47
CS-17	10.12.17	C	16	<0.027	<0.055	<0.055	<0.11	ND	<5.5	<9.6	<48

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

October 06, 2017

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

RE: Lateral 2C-79

OrderNo.: 1710281

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 7 sample(s) on 10/5/2017 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 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 **1710281**Date Reported: **10/6/2017****CLIENT:** APEX TITAN**Client Sample ID:** CS-1**Project:** Lateral 2C-79**Collection Date:** 10/4/2017 1:00:00 PM**Lab ID:** 1710281-001**Matrix:** SOIL**Received Date:** 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	14	10		mg/Kg	1	10/5/2017 10:01:13 AM	34256
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/5/2017 10:01:13 AM	34256
Surr: DNOP	101	70-130		%Rec	1	10/5/2017 10:01:13 AM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/5/2017 9:20:52 AM	G46134
Surr: BFB	92.8	54-150		%Rec	1	10/5/2017 9:20:52 AM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	10/5/2017 9:20:52 AM	B46134
Toluene	0.060	0.042		mg/Kg	1	10/5/2017 9:20:52 AM	B46134
Ethylbenzene	ND	0.042		mg/Kg	1	10/5/2017 9:20:52 AM	B46134
Xylenes, Total	0.13	0.085		mg/Kg	1	10/5/2017 9:20:52 AM	B46134
Surr: 4-Bromofluorobenzene	93.5	66.6-132		%Rec	1	10/5/2017 9:20:52 AM	B46134

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 1710281

Date Reported: 10/6/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-2**Project:** Lateral 2C-79**Collection Date:** 10/4/2017 1:10:00 PM**Lab ID:** 1710281-002**Matrix:** SOIL**Received Date:** 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/5/2017 10:23:23 AM	34256
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/5/2017 10:23:23 AM	34256
Surr: DNOP	101	70-130		%Rec	1	10/5/2017 10:23:23 AM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/5/2017 9:44:23 AM	G46134
Surr: BFB	89.6	54-150		%Rec	1	10/5/2017 9:44:23 AM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/5/2017 9:44:23 AM	B46134
Toluene	ND	0.036		mg/Kg	1	10/5/2017 9:44:23 AM	B46134
Ethylbenzene	ND	0.036		mg/Kg	1	10/5/2017 9:44:23 AM	B46134
Xylenes, Total	ND	0.073		mg/Kg	1	10/5/2017 9:44:23 AM	B46134
Surr: 4-Bromofluorobenzene	94.7	66.6-132		%Rec	1	10/5/2017 9:44:23 AM	B46134

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 1710281

Date Reported: 10/6/2017

CLIENT: APEX TITAN

Client Sample ID: CS-3

Project: Lateral 2C-79

Collection Date: 10/4/2017 1:20:00 PM

Lab ID: 1710281-003

Matrix: SOIL

Received Date: 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/5/2017 10:45:14 AM	34256
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/5/2017 10:45:14 AM	34256
Surr: DNOP	94.9	70-130		%Rec	1	10/5/2017 10:45:14 AM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/5/2017 10:07:57 AM	G46134
Surr: BFB	87.6	54-150		%Rec	1	10/5/2017 10:07:57 AM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.021		mg/Kg	1	10/5/2017 10:07:57 AM	B46134
Toluene	ND	0.042		mg/Kg	1	10/5/2017 10:07:57 AM	B46134
Ethylbenzene	ND	0.042		mg/Kg	1	10/5/2017 10:07:57 AM	B46134
Xylenes, Total	ND	0.085		mg/Kg	1	10/5/2017 10:07:57 AM	B46134
Surr: 4-Bromofluorobenzene	95.1	66.6-132		%Rec	1	10/5/2017 10:07:57 AM	B46134

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 1710281

Date Reported: 10/6/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-4**Project:** Lateral 2C-79**Collection Date:** 10/4/2017 1:30:00 PM**Lab ID:** 1710281-004**Matrix:** SOIL**Received Date:** 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/5/2017 11:07:32 AM	34256
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/5/2017 11:07:32 AM	34256
Surr: DNOP	99.5	70-130		%Rec	1	10/5/2017 11:07:32 AM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	10/5/2017 10:31:24 AM	G46134
Surr: BFB	88.9	54-150		%Rec	1	10/5/2017 10:31:24 AM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/5/2017 10:31:24 AM	B46134
Toluene	ND	0.037		mg/Kg	1	10/5/2017 10:31:24 AM	B46134
Ethylbenzene	ND	0.037		mg/Kg	1	10/5/2017 10:31:24 AM	B46134
Xylenes, Total	ND	0.073		mg/Kg	1	10/5/2017 10:31:24 AM	B46134
Surr: 4-Bromofluorobenzene	95.4	66.6-132		%Rec	1	10/5/2017 10:31:24 AM	B46134

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 1710281

Date Reported: 10/6/2017

CLIENT: APEX TITAN

Client Sample ID: CS-5

Project: Lateral 2C-79

Collection Date: 10/4/2017 1:40:00 PM

Lab ID: 1710281-005

Matrix: SOIL

Received Date: 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/5/2017 11:29:34 AM	34256
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/5/2017 11:29:34 AM	34256
Surr: DNOP	100	70-130		%Rec	1	10/5/2017 11:29:34 AM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/5/2017 10:54:49 AM	G46134
Surr: BFB	87.9	54-150		%Rec	1	10/5/2017 10:54:49 AM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/5/2017 10:54:49 AM	B46134
Toluene	ND	0.035		mg/Kg	1	10/5/2017 10:54:49 AM	B46134
Ethylbenzene	ND	0.035		mg/Kg	1	10/5/2017 10:54:49 AM	B46134
Xylenes, Total	ND	0.071		mg/Kg	1	10/5/2017 10:54:49 AM	B46134
Surr: 4-Bromofluorobenzene	94.3	66.6-132		%Rec	1	10/5/2017 10:54:49 AM	B46134

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 1710281

Date Reported: 10/6/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-6**Project:** Lateral 2C-79**Collection Date:** 10/4/2017 1:50:00 PM**Lab ID:** 1710281-006**Matrix:** SOIL**Received Date:** 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	23	9.6		mg/Kg	1	10/5/2017 11:51:37 AM	34256
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/5/2017 11:51:37 AM	34256
Surr: DNOP	97.8	70-130		%Rec	1	10/5/2017 11:51:37 AM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	10/5/2017 11:18:11 AM	G46134
Surr: BFB	103	54-150		%Rec	1	10/5/2017 11:18:11 AM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	10/5/2017 11:18:11 AM	B46134
Toluene	ND	0.033		mg/Kg	1	10/5/2017 11:18:11 AM	B46134
Ethylbenzene	ND	0.033		mg/Kg	1	10/5/2017 11:18:11 AM	B46134
Xylenes, Total	ND	0.066		mg/Kg	1	10/5/2017 11:18:11 AM	B46134
Surr: 4-Bromofluorobenzene	96.9	66.6-132		%Rec	1	10/5/2017 11:18:11 AM	B46134

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 1710281

Date Reported: 10/6/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-7**Project:** Lateral 2C-79**Collection Date:** 10/4/2017 2:00:00 PM**Lab ID:** 1710281-007**Matrix:** SOIL**Received Date:** 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/5/2017 12:13:34 PM	34256
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/5/2017 12:13:34 PM	34256
Surr: DNOP	96.0	70-130		%Rec	1	10/5/2017 12:13:34 PM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/5/2017 11:41:35 AM	G46134
Surr: BFB	88.4	54-150		%Rec	1	10/5/2017 11:41:35 AM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	10/5/2017 11:41:35 AM	B46134
Toluene	ND	0.034		mg/Kg	1	10/5/2017 11:41:35 AM	B46134
Ethylbenzene	ND	0.034		mg/Kg	1	10/5/2017 11:41:35 AM	B46134
Xylenes, Total	ND	0.068		mg/Kg	1	10/5/2017 11:41:35 AM	B46134
Surr: 4-Bromofluorobenzene	93.1	66.6-132		%Rec	1	10/5/2017 11:41:35 AM	B46134

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#: 1710281

06-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	LCS-34256		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34256		RunNo: 46121					
Prep Date:	10/5/2017		Analysis Date: 10/5/2017		SeqNo: 1467304		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.0	73.2	114			
Surr: DNOP	4.7		5.000		93.2	70	130			

Sample ID	MB-34256		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 34256		RunNo: 46121					
Prep Date:	10/5/2017		Analysis Date: 10/5/2017		SeqNo: 1467305		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		103	70	130			

Sample ID	1710281-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-1		Batch ID: 34256		RunNo: 46121					
Prep Date:	10/5/2017		Analysis Date: 10/5/2017		SeqNo: 1467908		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	9.6	47.76	13.85	93.6	55.8	122			
Surr: DNOP	4.5		4.776		95.1	70	130			

Sample ID	1710281-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	CS-1		Batch ID:	34256		RunNo:	46121				
Prep Date:	10/5/2017		Analysis Date:	10/5/2017		SeqNo:	1467909		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	57	10	49.95	13.85	86.1	55.8	122	2.96	20		
Surr: DNOP	4.6		4.995		92.7	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#: 1710281

06-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468603	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	900		1000		90.0	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468604	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	111	76.4	125			
Surr: BFB	990		1000		99.1	54	150			

Sample ID	1710281-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	CS-1	Batch ID:	G46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468605	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	33	5.0	25.00	3.240	121	77.8	128			
Surr: BFB	1100		1000		108	54	150			

Sample ID	1710281-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	CS-1	Batch ID:	G46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468606	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	32	5.0	25.00	3.240	116	77.8	128	3.99	20	
Surr: BFB	1100		1000		107	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#: 1710281

06-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468632	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		95.2	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468633	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	96.6	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.4	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	66.6	132			

Sample ID	1710281-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	CS-2	Batch ID:	B46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468634	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	100	80.9	132			
Toluene	1.0	0.050	1.000	0.008200	99.6	79.8	136			
Ethylbenzene	1.0	0.050	1.000	0	102	79.4	140			
Xylenes, Total	3.1	0.10	3.000	0.01451	102	78.5	142			
Surr: 4-Bromofluorobenzene	0.97		1.000		97.3	66.6	132			

Sample ID	1710281-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	CS-2	Batch ID:	B46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468635	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	97.4	80.9	132	2.56	20	
Toluene	0.98	0.050	1.000	0.008200	96.9	79.8	136	2.76	20	
Ethylbenzene	1.0	0.050	1.000	0	100	79.4	140	1.48	20	
Xylenes, Total	3.0	0.10	3.000	0.01451	100	78.5	142	2.33	20	
Surr: 4-Bromofluorobenzene	0.95		1.000		94.6	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
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: 1710281

RcptNo: 1

Received By: Anne Thorne 10/5/2017 7:00:00 AM

Completed By: Anne Thorne 10/5/2017 7:19:42 AM

Reviewed By: DDS 10/5/17

Anne Thorne
Anne Thorne

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°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	1.4	Good	Yes			

CHAIN OF CUSTODY RECORD

 APEX Office Location _____ <u>606 S. Rio Grande, Suite A</u> <u>Aztec, NM 87410</u> Project Manager <u>K. Summers</u>		Laboratory: <u>Hall Environmental Analysis Laboratory</u> Address: <u>4901 Hawkins Ave</u> <u>Albuquerque, NM 87109</u> Contact: <u>A. Freeman</u> Phone: <u>505-345-2975</u> PO/SO #: <u>see notes</u>		ANALYSIS REQUESTED <div style="border: 1px solid black; padding: 5px; transform: rotate(-90deg); transform-origin: left top; position: absolute; left: 50px; top: 50px;"> 801 BTEX 8015 TPH GPO/Deq/mid </div>										Lab use only Due Date: _____ <u>2.4-CP-10-1.4</u> Temp. of coolers when received (C°): _____ Page <u>1</u> of <u>1</u>									
		Sampler's Name <u>Ranee Deedilly</u> Sampler's Signature <u>R. Deedilly</u>																					
Proj. No. <u>25040112337</u>		Project Name <u>Lateral 2C-79</u>				No/Type of Containers _____																	
Matrix	Date	Time	C	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	10/4/17	1300	X		CS-1								XX	1710281-001									
S	10/4/17	1310	X		CS-2								XX	202									
S	10/4/17	1320	X		CS-3								XX	203									
S	10/4/17	1330	X		CS-4								XX	204									
S	10/4/17	1340	X		CS-5								XX	205									
S	10/4/17	1350	X		CS-6								XX	206									
S	10/4/17	1400	X		CS-7								XX	207									
<div style="border: 1px solid black; padding: 5px; transform: rotate(-90deg); transform-origin: left top; position: absolute; left: 350px; top: 50px;"> 801 BTEX 8015 TPH GPO/Deq/mid </div>																							
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>10/4/17</u> Time: <u>1812</u>		Received by (Signature) <u>[Signature]</u>			Date: <u>10/4/17</u> Time: <u>1812</u>		NOTES: <u>Bill to Tom Long (EPRD)</u> <u>NONAFE N32095</u> <u>SAME DAY</u>													
Relinquished by (Signature) <u>[Signature]</u>			Date: <u>10/4/17</u> Time: <u>1921</u>		Received by (Signature) <u>[Signature]</u>			Date: <u>10/4/17</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: _____															
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 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

October 06, 2017

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

RE: Lateral 2C-79

OrderNo.: 1710282

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/5/2017 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 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 1710282

Date Reported: 10/6/2017

CLIENT: APEX TITAN**Client Sample ID:** SP-1**Project:** Lateral 2C-79**Collection Date:** 10/4/2017 2:20:00 PM**Lab ID:** 1710282-001**Matrix:** SOIL**Received Date:** 10/5/2017 7:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	38	9.3		mg/Kg	1	10/5/2017 9:46:39 AM	34256
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/5/2017 9:46:39 AM	34256
Surr: DNOP	92.5	70-130		%Rec	1	10/5/2017 9:46:39 AM	34256
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/5/2017 12:04:58 PM	G46134
Surr: BFB	91.0	54-150		%Rec	1	10/5/2017 12:04:58 PM	G46134
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/5/2017 12:04:58 PM	B46134
Toluene	ND	0.036		mg/Kg	1	10/5/2017 12:04:58 PM	B46134
Ethylbenzene	ND	0.036		mg/Kg	1	10/5/2017 12:04:58 PM	B46134
Xylenes, Total	ND	0.072		mg/Kg	1	10/5/2017 12:04:58 PM	B46134
Surr: 4-Bromofluorobenzene	95.1	66.6-132		%Rec	1	10/5/2017 12:04:58 PM	B46134

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#: 1710282

06-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	LCS-34256		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34256		RunNo: 46121					
Prep Date:	10/5/2017		Analysis Date: 10/5/2017		SeqNo: 1467304		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.0	73.2	114			
Surr: DNOP	4.7		5.000		93.2	70	130			

Sample ID	MB-34256	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 34256			RunNo: 46121					
Prep Date:	10/5/2017	Analysis Date: 10/5/2017			SeqNo: 1467305		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		103	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
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#: 1710282

06-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468603	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	900		1000		90.0	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468604	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	111	76.4	125			
Surr: BFB	990		1000		99.1	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#: 1710282

06-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468632	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		95.2	66.6	132			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B46134	RunNo:	46134					
Prep Date:		Analysis Date:	10/5/2017	SeqNo:	1468633	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	96.6	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.4	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	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: 1710282

RcptNo: 1

Received By: Anne Thorne 10/5/2017 7:00:00 AM

Completed By: Anne Thorne 10/5/2017 7:43:08 AM

Reviewed By: DDS 10/5/17

Anne Thorne

Anne Thorne

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°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	1.4	Good	Yes			

CHAIN OF CUSTODY RECORD

 APEX Office Location: <u>606 S. Rio Grande, Suite A</u> <u>Aztec, NM 87410</u> Project Manager: <u>K. Summers</u>		Laboratory: <u>Hall Environmental Analysis Laboratory</u> Address: <u>4901 Hawkins NE</u> <u>Albuquerque, NM 87109</u> Contact: <u>A. Freeman</u> Phone: <u>505-345-3975</u> PO/SO #: <u>See notes</u>		ANALYSIS REQUESTED <div style="transform: rotate(-90deg); transform-origin: center;"> 801 BTEX 805 TPH/PAH/MRD </div>		Lab use only Due Date: <u>2-4-08-10-10</u> Temp. of coolers when received (C°): <div style="display: flex; justify-content: space-between;"> 12345 </div> Page <u>1</u> of <u>1</u>							
		Sampler's Name: <u>Ranee Deechilly</u> Sampler's Signature: <u>[Signature]</u>											
Proj. No.: <u>72504012337</u>		Project Name: <u>Lateral AC-79</u>		No/Type of Containers: _____									
Matrix	Date	Time	COED	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	10/4/17	1420	X		SP-1								1710282-001
<div style="transform: rotate(-45deg); font-size: 2em; opacity: 0.5;">N/A</div>													
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>10/4/17</u>		Time: <u>1812</u>		Received by (Signature): <u>[Signature]</u>		Date: <u>10/4/17</u>		Time: <u>1812</u>		NOTES: <u>Bill to Tom Long (approved)</u> <u>NonAPE N32095</u> <u>SAME DAY</u>	
Relinquished by (Signature): <u>[Signature]</u>		Date: <u>10/4/17</u>		Time: <u>1921</u>		Received by (Signature): <u>[Signature]</u>		Date: <u>10/5/17</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: _____			
Matrix Container		WW - Wastewater VOA - 40 ml vial		W - Water A/G - Amber / Or Glass 1 Liter		S - Soil SD - Solid		L - Liquid 250 ml - Glass wide mouth		A - Air Bag		C - Charcoal tube 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

October 12, 2017

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

RE: Lateral 2C-79

OrderNo.: 1710490

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 9 sample(s) on 10/10/2017 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 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 1710490

Date Reported: 10/12/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-8**Project:** Lateral 2C-79**Collection Date:** 10/9/2017 12:30:00 PM**Lab ID:** 1710490-001**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	250	9.8		mg/Kg	1	10/11/2017 10:13:44 AM	34326
Motor Oil Range Organics (MRO)	90	49		mg/Kg	1	10/11/2017 10:13:44 AM	34326
Surr: DNOP	104	70-130		%Rec	1	10/11/2017 10:13:44 AM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	20	3.5		mg/Kg	1	10/10/2017 5:37:07 PM	G46228
Surr: BFB	282	54-150	S	%Rec	1	10/10/2017 5:37:07 PM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/10/2017 5:37:07 PM	B46228
Toluene	0.037	0.035		mg/Kg	1	10/10/2017 5:37:07 PM	B46228
Ethylbenzene	0.068	0.035		mg/Kg	1	10/10/2017 5:37:07 PM	B46228
Xylenes, Total	0.67	0.070		mg/Kg	1	10/10/2017 5:37:07 PM	B46228
Surr: 4-Bromofluorobenzene	108	66.6-132		%Rec	1	10/10/2017 5:37:07 PM	B46228

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 1710490

Date Reported: 10/12/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-9**Project:** Lateral 2C-79**Collection Date:** 10/9/2017 12:40:00 PM**Lab ID:** 1710490-002**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/11/2017 10:35:35 AM	34326
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/11/2017 10:35:35 AM	34326
Surr: DNOP	102	70-130		%Rec	1	10/11/2017 10:35:35 AM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/10/2017 11:15:11 AM	G46228
Surr: BFB	90.3	54-150		%Rec	1	10/10/2017 11:15:11 AM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/10/2017 11:15:11 AM	B46228
Toluene	ND	0.036		mg/Kg	1	10/10/2017 11:15:11 AM	B46228
Ethylbenzene	ND	0.036		mg/Kg	1	10/10/2017 11:15:11 AM	B46228
Xylenes, Total	ND	0.072		mg/Kg	1	10/10/2017 11:15:11 AM	B46228
Surr: 4-Bromofluorobenzene	95.7	66.6-132		%Rec	1	10/10/2017 11:15:11 AM	B46228

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 1710490

Date Reported: 10/12/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-10**Project:** Lateral 2C-79**Collection Date:** 10/9/2017 12:50:00 PM**Lab ID:** 1710490-003**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/11/2017 10:57:33 AM	34326
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/11/2017 10:57:33 AM	34326
Surr: DNOP	101	70-130		%Rec	1	10/11/2017 10:57:33 AM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	10/10/2017 11:38:38 AM	G46228
Surr: BFB	88.8	54-150		%Rec	1	10/10/2017 11:38:38 AM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.019		mg/Kg	1	10/10/2017 11:38:38 AM	B46228
Toluene	ND	0.038		mg/Kg	1	10/10/2017 11:38:38 AM	B46228
Ethylbenzene	ND	0.038		mg/Kg	1	10/10/2017 11:38:38 AM	B46228
Xylenes, Total	ND	0.076		mg/Kg	1	10/10/2017 11:38:38 AM	B46228
Surr: 4-Bromofluorobenzene	92.9	66.6-132		%Rec	1	10/10/2017 11:38:38 AM	B46228

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 **1710490**Date Reported: **10/12/2017****CLIENT:** APEX TITAN**Client Sample ID:** CS-11**Project:** Lateral 2C-79**Collection Date:** 10/9/2017 1:00:00 PM**Lab ID:** 1710490-004**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	15	9.2		mg/Kg	1	10/11/2017 11:19:43 AM	34326
Motor Oil Range Organics (MRO)	ND	46		mg/Kg	1	10/11/2017 11:19:43 AM	34326
Surr: DNOP	102	70-130		%Rec	1	10/11/2017 11:19:43 AM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/10/2017 12:02:11 PM	G46228
Surr: BFB	91.8	54-150		%Rec	1	10/10/2017 12:02:11 PM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	10/10/2017 12:02:11 PM	B46228
Toluene	ND	0.050		mg/Kg	1	10/10/2017 12:02:11 PM	B46228
Ethylbenzene	ND	0.050		mg/Kg	1	10/10/2017 12:02:11 PM	B46228
Xylenes, Total	ND	0.10		mg/Kg	1	10/10/2017 12:02:11 PM	B46228
Surr: 4-Bromofluorobenzene	95.2	66.6-132		%Rec	1	10/10/2017 12:02:11 PM	B46228

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 1710490

Date Reported: 10/12/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-12**Project:** Lateral 2C-79**Collection Date:** 10/9/2017 1:10:00 PM**Lab ID:** 1710490-005**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/11/2017 11:41:50 AM	34326
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/11/2017 11:41:50 AM	34326
Surr: DNOP	92.0	70-130		%Rec	1	10/11/2017 11:41:50 AM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	10/10/2017 12:25:43 PM	G46228
Surr: BFB	90.2	54-150		%Rec	1	10/10/2017 12:25:43 PM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	10/10/2017 12:25:43 PM	B46228
Toluene	ND	0.041		mg/Kg	1	10/10/2017 12:25:43 PM	B46228
Ethylbenzene	ND	0.041		mg/Kg	1	10/10/2017 12:25:43 PM	B46228
Xylenes, Total	ND	0.082		mg/Kg	1	10/10/2017 12:25:43 PM	B46228
Surr: 4-Bromofluorobenzene	94.1	66.6-132		%Rec	1	10/10/2017 12:25:43 PM	B46228

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 1710490

Date Reported: 10/12/2017

CLIENT: APEX TITAN

Client Sample ID: CS-13

Project: Lateral 2C-79

Collection Date: 10/9/2017 2:00:00 PM

Lab ID: 1710490-006

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/11/2017 12:03:52 PM	34326
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/11/2017 12:03:52 PM	34326
Surr: DNOP	98.9	70-130		%Rec	1	10/11/2017 12:03:52 PM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/10/2017 12:49:21 PM	G46228
Surr: BFB	92.1	54-150		%Rec	1	10/10/2017 12:49:21 PM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	10/10/2017 12:49:21 PM	B46228
Toluene	ND	0.034		mg/Kg	1	10/10/2017 12:49:21 PM	B46228
Ethylbenzene	ND	0.034		mg/Kg	1	10/10/2017 12:49:21 PM	B46228
Xylenes, Total	ND	0.068		mg/Kg	1	10/10/2017 12:49:21 PM	B46228
Surr: 4-Bromofluorobenzene	93.8	66.6-132		%Rec	1	10/10/2017 12:49:21 PM	B46228

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 1710490

Date Reported: 10/12/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-14**Project:** Lateral 2C-79**Collection Date:** 10/9/2017 2:10:00 PM**Lab ID:** 1710490-007**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/11/2017 12:26:00 PM	34326
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/11/2017 12:26:00 PM	34326
Surr: DNOP	95.7	70-130		%Rec	1	10/11/2017 12:26:00 PM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	10/10/2017 6:25:21 PM	G46228
Surr: BFB	102	54-150		%Rec	1	10/10/2017 6:25:21 PM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.020		mg/Kg	1	10/10/2017 6:25:21 PM	B46228
Toluene	ND	0.039		mg/Kg	1	10/10/2017 6:25:21 PM	B46228
Ethylbenzene	ND	0.039		mg/Kg	1	10/10/2017 6:25:21 PM	B46228
Xylenes, Total	ND	0.078		mg/Kg	1	10/10/2017 6:25:21 PM	B46228
Surr: 4-Bromofluorobenzene	102	66.6-132		%Rec	1	10/10/2017 6:25:21 PM	B46228

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 1710490

Date Reported: 10/12/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-15

Project: Lateral 2C-79

Collection Date: 10/9/2017 2:20:00 PM

Lab ID: 1710490-008

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/11/2017 12:47:59 PM	34326
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/11/2017 12:47:59 PM	34326
Surr: DNOP	96.8	70-130		%Rec	1	10/11/2017 12:47:59 PM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/10/2017 1:13:04 PM	G46228
Surr: BFB	93.7	54-150		%Rec	1	10/10/2017 1:13:04 PM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/10/2017 1:13:04 PM	B46228
Toluene	ND	0.035		mg/Kg	1	10/10/2017 1:13:04 PM	B46228
Ethylbenzene	ND	0.035		mg/Kg	1	10/10/2017 1:13:04 PM	B46228
Xylenes, Total	ND	0.071		mg/Kg	1	10/10/2017 1:13:04 PM	B46228
Surr: 4-Bromofluorobenzene	99.3	66.6-132		%Rec	1	10/10/2017 1:13:04 PM	B46228

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 1710490

Date Reported: 10/12/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-16**Project:** Lateral 2C-79**Collection Date:** 10/9/2017 2:30:00 PM**Lab ID:** 1710490-009**Matrix:** SOIL**Received Date:** 10/10/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/11/2017 1:10:15 PM	34326
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/11/2017 1:10:15 PM	34326
Surr: DNOP	91.4	70-130		%Rec	1	10/11/2017 1:10:15 PM	34326
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	10/10/2017 5:12:58 PM	G46228
Surr: BFB	95.4	54-150		%Rec	1	10/10/2017 5:12:58 PM	G46228
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	10/10/2017 5:12:58 PM	B46228
Toluene	ND	0.045		mg/Kg	1	10/10/2017 5:12:58 PM	B46228
Ethylbenzene	ND	0.045		mg/Kg	1	10/10/2017 5:12:58 PM	B46228
Xylenes, Total	ND	0.091		mg/Kg	1	10/10/2017 5:12:58 PM	B46228
Surr: 4-Bromofluorobenzene	98.4	66.6-132		%Rec	1	10/10/2017 5:12:58 PM	B46228

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#: 1710490

12-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	LCS-34326		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34326		RunNo: 46256					
Prep Date:	10/10/2017		Analysis Date: 10/11/2017		SeqNo: 1473179		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	83.6	73.2	114			
Surr: DNOP	4.3		5.000		85.8	70	130			

Sample ID	MB-34326		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 34326		RunNo: 46256					
Prep Date:	10/10/2017		Analysis Date: 10/11/2017		SeqNo: 1473180		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	9.8		10.00		98.2	70	130			

Sample ID	1710490-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-8		Batch ID: 34326		RunNo: 46256					
Prep Date:	10/10/2017		Analysis Date: 10/11/2017		SeqNo: 1474120		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	150	9.9	49.46	250.3	-206	55.8	122			S
Surr: DNOP	5.0		4.946		101	70	130			

Sample ID	1710490-001AMSD		SampType: MSD		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-8		Batch ID: 34326		RunNo: 46256					
Prep Date:	10/10/2017		Analysis Date: 10/11/2017		SeqNo: 1474121		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	330	9.6	47.76	250.3	168	55.8	122	76.0	20	RS
Surr: DNOP	5.0		4.776		105	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#: 1710490

12-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472358	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	970		1000		96.6	54	150			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472359	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	1000		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
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#: 1710490

12-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472376	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:	B46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472377	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	97.0	80	120			
Toluene	0.96	0.050	1.000	0	96.1	80	120			
Ethylbenzene	0.99	0.050	1.000	0	98.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	98.8	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		104	66.6	132			

Sample ID	1710490-001AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	CS-8	Batch ID:	B46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472388	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.67	0.018	0.7003	0	95.7	80.9	132			
Toluene	0.71	0.035	0.7003	0.03747	96.0	79.8	136			
Ethylbenzene	0.76	0.035	0.7003	0.06758	98.6	79.4	140			
Xylenes, Total	2.8	0.070	2.101	0.6678	101	78.5	142			
Surr: 4-Bromofluorobenzene	0.77		0.7003		110	66.6	132			

Sample ID	1710490-001AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	CS-8	Batch ID:	B46228	RunNo:	46228					
Prep Date:		Analysis Date:	10/10/2017	SeqNo:	1472389	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.65	0.018	0.7003	0	92.4	80.9	132	3.55	20	
Toluene	0.69	0.035	0.7003	0.03747	93.4	79.8	136	2.62	20	
Ethylbenzene	0.74	0.035	0.7003	0.06758	95.7	79.4	140	2.72	20	
Xylenes, Total	2.7	0.070	2.101	0.6678	97.4	78.5	142	2.84	20	
Surr: 4-Bromofluorobenzene	0.76		0.7003		108	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: 1710490

RcptNo: 1

Received By: Anne Thorne

10/10/2017 7:10:00 AM

Anne Thorne

Completed By: Anne Thorne

10/10/2017 7:22:42 AM

Anne Thorne

Reviewed By: *AT*

10/10/17

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°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	1.5	Good	Yes			

CHAIN OF CUSTODY RECORD

 APEX Office Location <u>606 S. Rio Grande, Suite A</u> <u>Aztec, NM 87410</u> Project Manager <u>K. Summers</u>		Laboratory: <u>Hall Environmental Analysis Laboratory</u> Address: <u>4961 Hawkins NE</u> <u>Albuquerque, NM 87109</u> Contact: <u>A. Freeman</u> Phone: <u>505-345-3975</u> PO/SO #: <u>See notes</u>		ANALYSIS REQUESTED <div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;"> 8021 APEX 8015 TPH E-Prod/1410 </div>										Lab use only Due Date: <u>25-CP-10 = 1.5</u> Temp. of coolers when received (C°): <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																		
Sampler's Name <u>Ranee Deechilly</u> Sampler's Signature <u>[Signature]</u>																								
Proj. No. <u>72506112337</u>			Project Name <u>Lateral 2C-79</u>							No/Type of Containers														
Matrix	Date	Time	Comp	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)											
S	10/9/17	1230	X		CS-8						1		X	X	1710490-001									
S	10/9/17	1240	X		CS-9						1		X	X	202									
S	10/9/17	1250	X		CS-10						1		X	X	203									
S	10/9/17	1300	X		CS-11						1		X	X	204									
S	10/9/17	1310	X		CS-12						1		X	X	205									
S	10/9/17	1400	X		CS-13						1		X	X	206									
S	10/9/17	1410	X		CS-14						1		X	X	207									
S	10/9/17	1420	X		CS-15						1		X	X	208									
S	10/9/17	1430	X		CS-16						1		X	X	209									
NRS																								
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input type="checkbox"/> 100% Rush <u>Next day</u>																								
Relinquished by (Signature) <u>[Signature]</u>			Date: <u>10/9/17</u> Time: <u>1700</u>		Received by (Signature) <u>[Signature]</u>			Date: <u>10/9/17</u> Time: <u>1700</u>		NOTES: <u>Bill to Tom Long (EPROD)</u> <u>Non APE N32095</u> <u>Next day 10/11/17</u>														
Relinquished by (Signature) <u>[Signature]</u>			Date: <u>10/9/17</u> Time: <u>1944</u>		Received by (Signature) <u>[Signature]</u>			Date: <u>10/10/17</u> Time: <u>0710</u>																
Relinquished by (Signature)			Date:		Received by (Signature)			Date:																
Relinquished by (Signature)			Date:		Received by (Signature)			Date:																

Matrix Container

WW - 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

October 16, 2017

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

RE: Lateral 2C-79

OrderNo.: 1710757

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/13/2017 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 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 1710757

Date Reported: 10/16/2017

CLIENT: APEX TITAN**Client Sample ID:** CS-17**Project:** Lateral 2C-79**Collection Date:** 10/12/2017 10:30:00 AM**Lab ID:** 1710757-001**Matrix:** SOIL**Received Date:** 10/13/2017 7:56:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/13/2017 10:46:45 AM	34400
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/13/2017 10:46:45 AM	34400
Surr: DNOP	94.8	70-130		%Rec	1	10/13/2017 10:46:45 AM	34400
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.5		mg/Kg	1	10/13/2017 10:29:01 AM	34383
Surr: BFB	91.9	54-150		%Rec	1	10/13/2017 10:29:01 AM	34383
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.027		mg/Kg	1	10/13/2017 10:29:01 AM	34383
Toluene	ND	0.055		mg/Kg	1	10/13/2017 10:29:01 AM	34383
Ethylbenzene	ND	0.055		mg/Kg	1	10/13/2017 10:29:01 AM	34383
Xylenes, Total	ND	0.11		mg/Kg	1	10/13/2017 10:29:01 AM	34383
Surr: 4-Bromofluorobenzene	98.2	66.6-132		%Rec	1	10/13/2017 10:29:01 AM	34383

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#: 1710757

16-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	LCS-34400		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34400		RunNo: 46322					
Prep Date:	10/13/2017		Analysis Date: 10/13/2017		SeqNo: 1475537		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	88.3	73.2	114			
Surr: DNOP	4.3		5.000		86.4	70	130			

Sample ID	MB-34400	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 34400			RunNo: 46322					
Prep Date:	10/13/2017	Analysis Date: 10/13/2017			SeqNo: 1475538		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	9.5		10.00		94.9	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#: 1710757

16-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	MB-34383		SampType: MBLK		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS		Batch ID: 34383		RunNo: 46333					
Prep Date:	10/12/2017		Analysis Date: 10/13/2017		SeqNo: 1476152		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	950		1000		94.7	54	150			

Sample ID	LCS-34383		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	34383		RunNo:	46333				
Prep Date:	10/12/2017		Analysis Date:	10/13/2017		SeqNo:	1476153		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	30	5.0	25.00	0	119	75.9	131				
Surr: BFB	1100		1000		109	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
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#: 1710757

16-Oct-17

Client: APEX TITAN

Project: Lateral 2C-79

Sample ID	MB-34383		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	34383		RunNo:	46333			
Prep Date:	10/12/2017		Analysis Date:	10/13/2017		SeqNo:	1476175		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	LCS-34383		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	34383		RunNo:	46333			
Prep Date:	10/12/2017		Analysis Date:	10/13/2017		SeqNo:	1476176		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	97.1	80	120			
Toluene	0.97	0.050	1.000	0	97.0	80	120			
Ethylbenzene	1.0	0.050	1.000	0	99.6	80	120			
Xylenes, Total	3.0	0.10	3.000	0	99.4	80	120			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	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



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: 1710757

RcptNo: 1

Received By: Anne Thorne 10/13/2017 7:56:00 AM

Completed By: Anne Thorne 10/13/2017 8:15:03 AM

Reviewed By: AT/DD5 10/13/17

Anne Thorne

Anne Thorne

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°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	1.0	Good	Yes			

[illegible]

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204

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 Enterprise Field Services, LLC	Contact Thomas Long
Address 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286
Facility Name Lateral K-7	Facility Type Natural Gas Gathering Pipeline

Surface Owner BLM	Mineral Owner BLM	Serial No. 5370116
--------------------------	--------------------------	---------------------------

LOCATION OF RELEASE

Unit Letter C	Section 22	Township 26N	Range 7W	Feet from the 775	North/South Line North	Feet from the 1577	East/West Line West	County Rio Arriba
-------------------------	----------------------	------------------------	--------------------	--------------------------------	-------------------------------------	---------------------------------	----------------------------------	-----------------------------

Latitude 36.477253 Longitude -107.566568NAD83

NATURE OF RELEASE

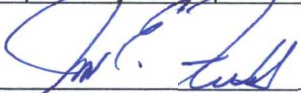
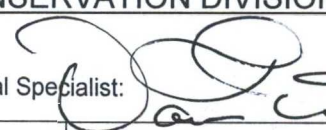
Type of Release Natural Gas and Natural Gas Liquids	Volume of Release 14.14 MCF Gas ;15-20 BBLs Condensate	Volume Recovered None
Source of Release: Internal Corrosion	Date and Hour of Occurrence 9/26/2017 @11:30 a.m.	Date and Hour of Discovery 9/26/2017 @11:30 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? : Courtesy Notification Vanessa Fields - NMOCD; Whitney Smith - BLM	
By Whom? Thomas Long	Date and Hour September 26, 2017 @ 4:20 p.m.	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.* The Lateral K-7 pipeline crosses Palluche Wash. The release was discovered on the west side of the wash. Minimal fluids were observed on the ground surface.

Describe Cause of Problem and Remedial Action Taken.* On August 21, 2017 Enterprise technicians discovered a release on the Lateral K-7 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Minimal fluids were observed on the ground surface.

Describe Area Affected and Cleanup Action Taken.* The contaminant mass was removed by mechanical excavation. The final excavation dimensions measured approximately 44 feet long by 32 feet by 14 feet deep. Approximately 692 cubic yards of hydrocarbon impacted soil were excavated and transported to a 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: 	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 2/27/2018	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 1/22/2018	Phone: (713) 381-6684	

* Attach Additional Sheets If Necessary

NVF1727054995



CORRECTIVE ACTION REPORT

Property:

**Lateral K-7 (9/26/17) Pipeline Release
NW 1/4, S22 T26N R7W
Rio Arriba County, New Mexico**

January 8, 2018

Apex Project No. 725040112336


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

TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Site Description & Background.....	1
1.2	Project Objective.....	1
2.0	SITE RANKING	1
3.0	RESPONSE ACTIONS	2
3.1	Soil Excavation Activities.....	2
3.2	Soil Sampling Program.....	3
3.3	Laboratory Analytical Methods.....	3
4.0	DATA EVALUATION	3
4.1	Soil Samples.....	3
5.0	FINDINGS AND RECOMMENDATIONS	4
6.0	STANDARD OF CARE, LIMITATIONS, AND RELIANCE	4

LIST OF APPENDICES

Appendix A: Figures

Figure 1 – Topographic Map

Figure 2 – Site Vicinity Map

Figure 3 – Site Map with Soil Analytical Results

Appendix B: Executed C-138 Solid Waste Acceptance Form

Appendix C: Photographic Documentation

Appendix D: Table

Appendix E: Laboratory Data Sheets &
Chain of Custody Documentation

CORRECTIVE ACTION REPORT

Lateral K-7 (9/26/17) Pipeline Release

NW 1/4, S22 T26N R7W

Rio Arriba County, New Mexico

Apex Project No. 725040112336

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral K-7 (9/26/17) pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 22, Township 26 North, Range 7 West, in rural Rio Arriba County, New Mexico (36.477253N, 107.566568W), 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 north to south.

On September 26, 2017, a release of natural gas occurred on the Lateral K-7 pipeline. On October 17, 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 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 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 TITAN, Inc. (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	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:

- Four (4) water wells were identified on the OSE website within one mile of the Site. The nearest water well has a recorded depth to water of 12 feet below grade surface (bgs). Based on depths to groundwater in the nearby water well and groundwater observed in groundwater monitoring wells located at the nearby Lateral K-7 (2013) Release Site, depth to groundwater at the Site is anticipated to be less than 50 feet 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 adjacent to the Palluche Canyon Wash 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 RESPONSE ACTIONS

3.1 Soil Excavation Activities

On September 26, 2017, a release of natural gas occurred on the Lateral K-7 pipeline. On October 17, 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 repaired and placed back into 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 October 17, 2017, two (2) composite soil samples (S-1 and S-2) were collected from the sidewalls at the ends of the pipe chase. On October 20, 2017, eight (8) composite soil samples (S-3 through S-10) were collected from the remaining sidewalls and the base of the final excavation for laboratory analysis.

The excavation measured approximately 44 feet long by 32 feet wide at the maximum extents. The total depth of the excavation measured approximately 14 feet bgs.

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

A total of approximately 692 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm 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 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 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) composite soil samples (S-1 through S-10) from the excavation for laboratory analysis.

The 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 composite 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 Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final composite soil samples (S-1 through S-10) to the New Mexico EMNRD OCD RALs for sites having a total ranking score of "40".

- The laboratory analyses of 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 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 composite soil 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 "40".

Composite soil sample results are provided in **Table 1** in **Appendix D**.

5.0 FINDINGS AND RECOMMENDATIONS

The Lateral K-7 (9/26/17) pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 22, Township 26 North, Range 7 West, in rural Rio Arriba County, New Mexico. The Site is located on land managed by the United States 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 north to south.

On September 26, 2017, a release of natural gas occurred on the Lateral K-7 pipeline. On October 17, 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 repaired and placed back into 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 unconsolidated silty sand.
- The excavation measured approximately 44 feet long by 32 feet wide at the maximum extents. The total depth of the excavation measured approximately 14 feet bgs.
- Prior to backfilling, ten (10) composite samples soil samples were collected from the final excavation, for laboratory analyses. Based on soil analytical results, soils associated with the composite soil samples do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs for a Site ranking of "40".
- A total of approximately 692 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 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



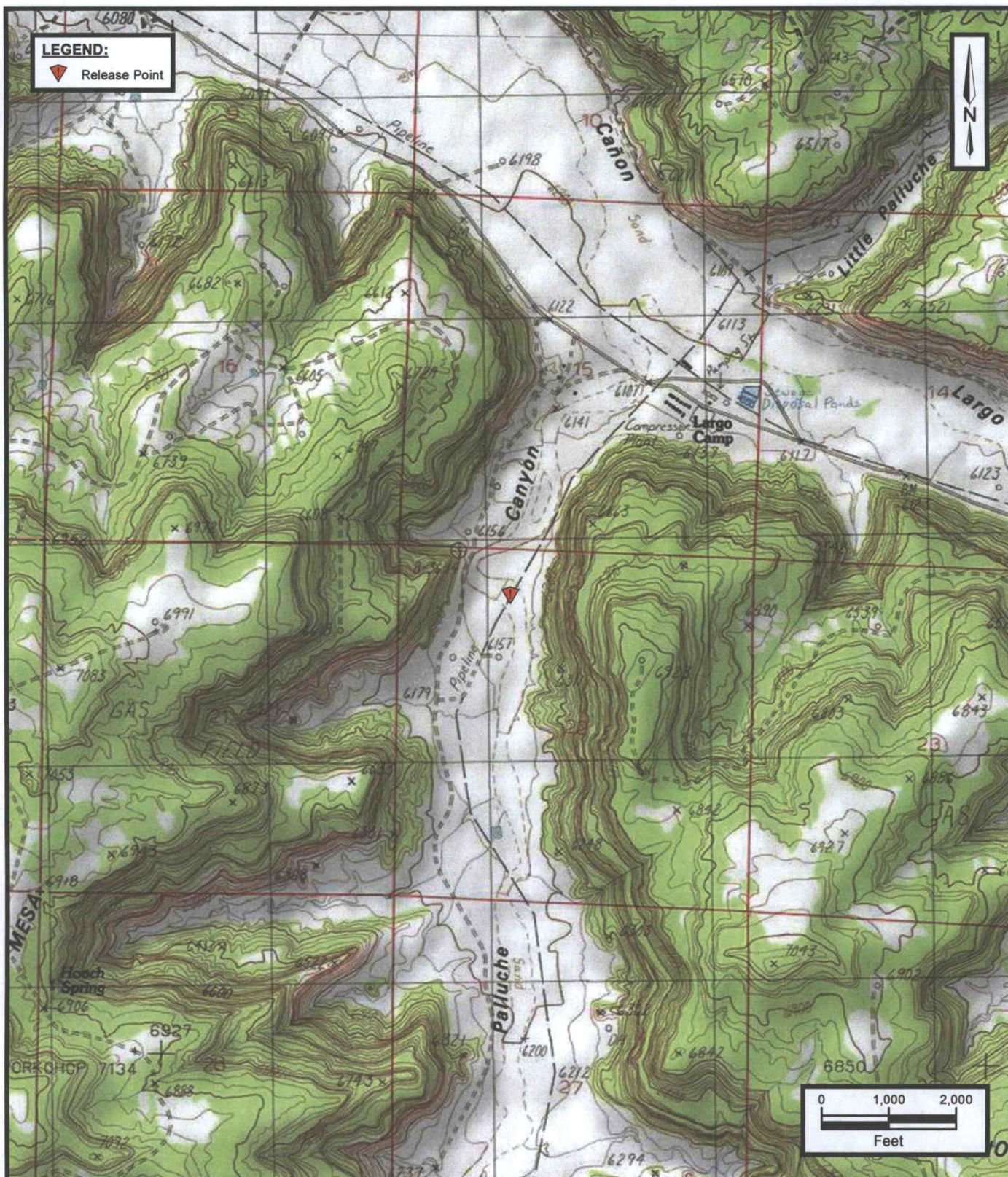
does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client.

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



Lateral K-7 (9/26/17)
 NW 1/4, S22 T26N R7W
 Rio Arriba County, New Mexico
 36.477253 N, 107.566568 W

Project No. 725040112336







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

FIGURE 1

Topographic Map

Service Layer Credits:
 Copyright © 2013 National Geographic Society, i-cubed, Smouse
 Mesa New Mexico 7.5-Minute Quadrangle 1985

LEGEND: Release Point**Enterprise Pipeline Locations** Lateral K-7 Largo Discharge Lindrieth to Largo

Lateral K-7 (9/26/17)
NW 1/4, S22 T26N R7W
Rio Arriba County, New Mexico
36.477253 N, 107.566568 W

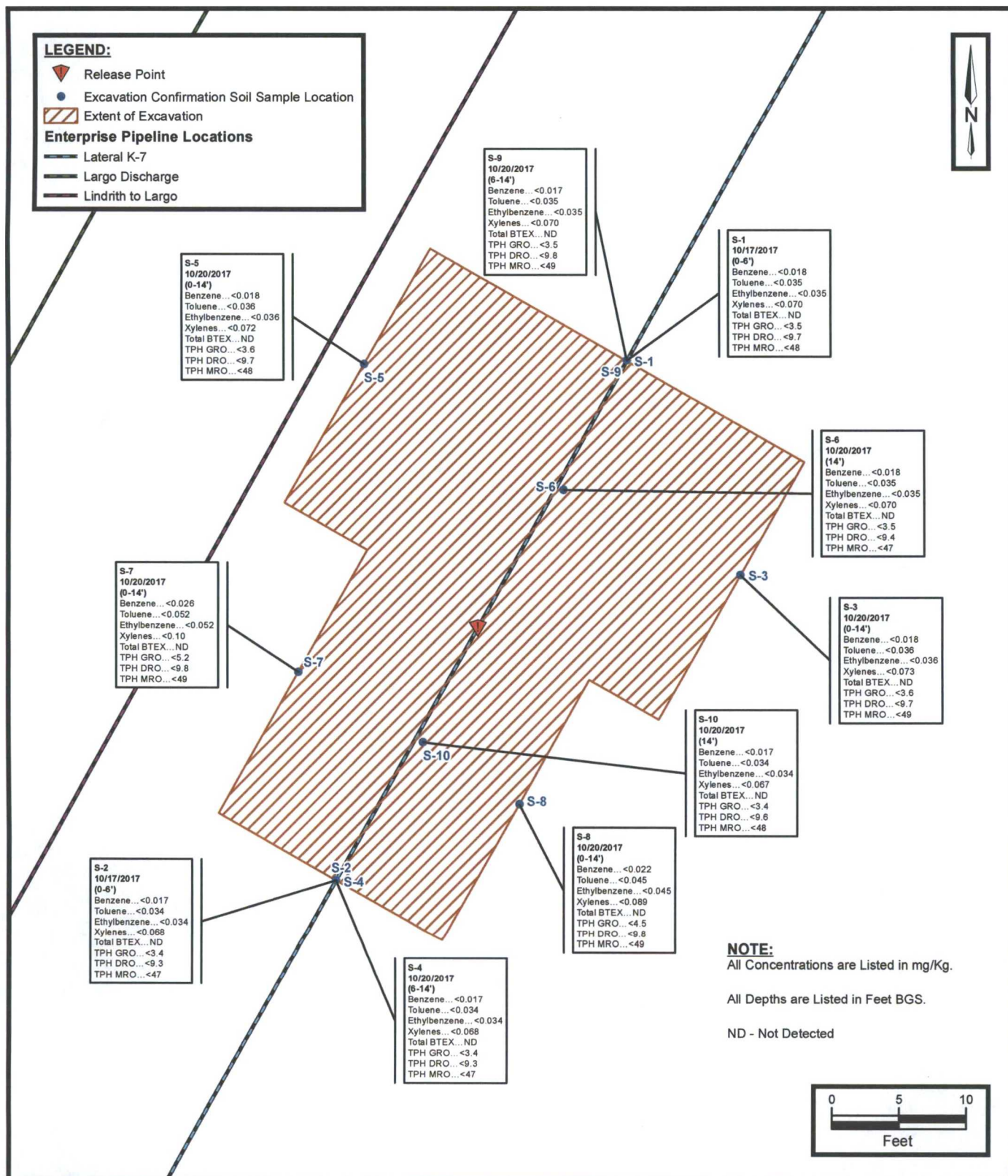
Project No. 725040112336



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A Subsidiary of Apex Companies, LLC

FIGURE 2
Site Vicinity Map

Service Layer Credits:
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Source:
Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,
USGS, AeroGRID, IGN, and the GIS User Community, Aerial Photograph June
2016



Lateral K-7 (9/26/17)
NW 1/4, S22 T26N R7W
Rio Arriba County, New Mexico
36.477253 N, 107.566568 W



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Phone: (505) 334-5200
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A Subsidiary of Apex Companies, LLC

FIGURE 3

Site Map with Soil Analytical Results

Project No. 725040112336

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

Form C-138
Revised August 1, 2011
97057-0864
*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 K-7 Pipeline	
3. Location of Material (Street Address, City, State or ULSTR): UL C Section 22 T26N R7W; 36.477253, -107.566568 October 2017	
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline. Estimated Volume <u>50</u> (yd ³) bbls Known Volume (to be entered by the operator at the end of the haul) <u>692</u> (yd ³) bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Thomas Long</u> <i>Thomas Long</i> 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. <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, <u>Thomas Long</u> <i>Thomas Long</i> 10-17-17, representative for <u>Enterprise Field Services, LLC</u> authorize <u>Envirotech, Inc.</u> to complete the required Generator Signature testing/sign the Generator Waste Testing Certification. 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: Foutz and Bursum <u>Calder Service, DeHerrera, Esparza, Stan Horn</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: 10/20/17

SIGNATURE: [Signature]

TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

APPENDIX C

Photographic Documentation

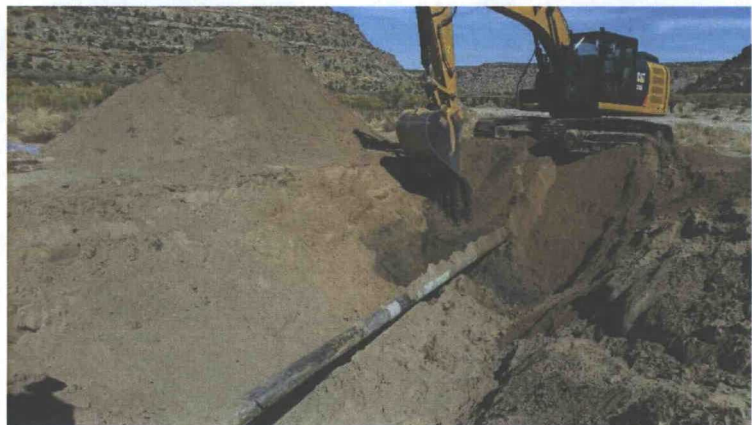
Photograph 1

View of excavation activities, facing northeast.



Photograph 2

View of excavation activities, facing north.



Photograph 3

View of stockpiled soils, facing east.



Photograph 4

View of the excavation, facing east.



APPENDIX D

Table

TABLE 1
Lateral K-7 (9/26/17) 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		
Confirmation Composite Soil Sample Collected from Excavation										
S-1	10.17.17	0 to 6	<0.018	<0.035	<0.035	<0.070	ND	<3.5	<9.7	<48
S-2	10.17.17	0 to 6	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.3	<47
S-3	10.20.17	0 to 14	<0.018	<0.036	<0.036	<0.073	ND	<3.6	<9.7	<49
S-4	10.20.17	6 to 14	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.3	<47
S-5	10.20.17	0 to 14	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.7	<48
S-6	10.20.17	14	<0.018	<0.035	<0.035	<0.070	ND	<3.5	<9.4	<47
S-7	10.20.17	0 to 14	<0.026	<0.052	<0.052	<0.10	ND	<5.2	<9.8	<49
S-8	10.20.17	0 to 14	<0.022	<0.045	<0.045	<0.089	ND	<4.5	<9.8	<49
S-9	10.20.17	6 to 14	<0.017	<0.035	<0.035	<0.070	ND	<3.5	<9.8	<49
S-10	10.20.17	14	<0.017	<0.034	<0.034	<0.067	ND	<3.4	<9.6	<48

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*

October 24, 2017

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

RE: Lateral K-7 (2017)

OrderNo.: 1710B74

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 10/21/2017 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 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 1710B74

Date Reported: 10/24/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-3

Project: Lateral K-7 (2017)

Collection Date: 10/20/2017 1:00:00 PM

Lab ID: 1710B74-001

Matrix: MEOH (SOIL)

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/23/2017 10:39:26 AM	34558
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/23/2017 10:39:26 AM	34558
Surr: DNOP	102	70-130		%Rec	1	10/23/2017 10:39:26 AM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/23/2017 9:48:20 AM	G46557
Surr: BFB	113	15-316		%Rec	1	10/23/2017 9:48:20 AM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/23/2017 9:48:20 AM	B46557
Toluene	ND	0.036		mg/Kg	1	10/23/2017 9:48:20 AM	B46557
Ethylbenzene	ND	0.036		mg/Kg	1	10/23/2017 9:48:20 AM	B46557
Xylenes, Total	ND	0.073		mg/Kg	1	10/23/2017 9:48:20 AM	B46557
Surr: 4-Bromofluorobenzene	116	80-120		%Rec	1	10/23/2017 9:48:20 AM	B46557

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 1710B74

Date Reported: 10/24/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** S-4**Project:** Lateral K-7 (2017)**Collection Date:** 10/20/2017 1:05:00 PM**Lab ID:** 1710B74-002**Matrix:** MEOH (SOIL)**Received Date:** 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/23/2017 11:01:43 AM	34558
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/23/2017 11:01:43 AM	34558
Surr: DNOP	100	70-130		%Rec	1	10/23/2017 11:01:43 AM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/23/2017 10:12:04 AM	G46557
Surr: BFB	113	15-316		%Rec	1	10/23/2017 10:12:04 AM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	10/23/2017 10:12:04 AM	B46557
Toluene	ND	0.034		mg/Kg	1	10/23/2017 10:12:04 AM	B46557
Ethylbenzene	ND	0.034		mg/Kg	1	10/23/2017 10:12:04 AM	B46557
Xylenes, Total	ND	0.068		mg/Kg	1	10/23/2017 10:12:04 AM	B46557
Surr: 4-Bromofluorobenzene	116	80-120		%Rec	1	10/23/2017 10:12:04 AM	B46557

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 1710B74

Date Reported: 10/24/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-5

Project: Lateral K-7 (2017)

Collection Date: 10/20/2017 1:10:00 PM

Lab ID: 1710B74-003

Matrix: MEOH (SOIL)

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/23/2017 11:23:38 AM	34558
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/23/2017 11:23:38 AM	34558
Surr: DNOP	102	70-130		%Rec	1	10/23/2017 11:23:38 AM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6		mg/Kg	1	10/23/2017 10:35:43 AM	G46557
Surr: BFB	108	15-316		%Rec	1	10/23/2017 10:35:43 AM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/23/2017 10:35:43 AM	B46557
Toluene	ND	0.036		mg/Kg	1	10/23/2017 10:35:43 AM	B46557
Ethylbenzene	ND	0.036		mg/Kg	1	10/23/2017 10:35:43 AM	B46557
Xylenes, Total	ND	0.072		mg/Kg	1	10/23/2017 10:35:43 AM	B46557
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	10/23/2017 10:35:43 AM	B46557

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 1710B74

Date Reported: 10/24/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** S-6**Project:** Lateral K-7 (2017)**Collection Date:** 10/20/2017 1:15:00 PM**Lab ID:** 1710B74-004**Matrix:** MEOH (SOIL)**Received Date:** 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/23/2017 11:45:45 AM	34558
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/23/2017 11:45:45 AM	34558
Surr: DNOP	103	70-130		%Rec	1	10/23/2017 11:45:45 AM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/23/2017 10:59:33 AM	G46557
Surr: BFB	128	15-316		%Rec	1	10/23/2017 10:59:33 AM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/23/2017 10:59:33 AM	B46557
Toluene	ND	0.035		mg/Kg	1	10/23/2017 10:59:33 AM	B46557
Ethylbenzene	ND	0.035		mg/Kg	1	10/23/2017 10:59:33 AM	B46557
Xylenes, Total	ND	0.070		mg/Kg	1	10/23/2017 10:59:33 AM	B46557
Surr: 4-Bromofluorobenzene	120	80-120	S	%Rec	1	10/23/2017 10:59:33 AM	B46557

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 1710B74

Date Reported: 10/24/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-7

Project: Lateral K-7 (2017)

Collection Date: 10/20/2017 1:20:00 PM

Lab ID: 1710B74-005

Matrix: MEOH (SOIL)

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/23/2017 12:07:39 PM	34558
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/23/2017 12:07:39 PM	34558
Surr: DNOP	101	70-130		%Rec	1	10/23/2017 12:07:39 PM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.2		mg/Kg	1	10/23/2017 11:23:19 AM	G46557
Surr: BFB	108	15-316		%Rec	1	10/23/2017 11:23:19 AM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.026		mg/Kg	1	10/23/2017 11:23:19 AM	B46557
Toluene	ND	0.052		mg/Kg	1	10/23/2017 11:23:19 AM	B46557
Ethylbenzene	ND	0.052		mg/Kg	1	10/23/2017 11:23:19 AM	B46557
Xylenes, Total	ND	0.10		mg/Kg	1	10/23/2017 11:23:19 AM	B46557
Surr: 4-Bromofluorobenzene	109	80-120		%Rec	1	10/23/2017 11:23:19 AM	B46557

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 1710B74

Date Reported: 10/24/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** S-8**Project:** Lateral K-7 (2017)**Collection Date:** 10/20/2017 1:25:00 PM**Lab ID:** 1710B74-006**Matrix:** MEOH (SOIL)**Received Date:** 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/23/2017 12:29:38 PM	34558
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/23/2017 12:29:38 PM	34558
Surr: DNOP	104	70-130		%Rec	1	10/23/2017 12:29:38 PM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.5		mg/Kg	1	10/23/2017 11:47:07 AM	G46557
Surr: BFB	112	15-316		%Rec	1	10/23/2017 11:47:07 AM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.022		mg/Kg	1	10/23/2017 11:47:07 AM	B46557
Toluene	ND	0.045		mg/Kg	1	10/23/2017 11:47:07 AM	B46557
Ethylbenzene	ND	0.045		mg/Kg	1	10/23/2017 11:47:07 AM	B46557
Xylenes, Total	ND	0.089		mg/Kg	1	10/23/2017 11:47:07 AM	B46557
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	10/23/2017 11:47:07 AM	B46557

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 1710B74

Date Reported: 10/24/2017

CLIENT: APEX TITAN

Client Sample ID: S-9

Project: Lateral K-7 (2017)

Collection Date: 10/20/2017 1:30:00 PM

Lab ID: 1710B74-007

Matrix: MEOH (SOIL)

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/23/2017 12:51:28 PM	34558
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/23/2017 12:51:28 PM	34558
Surr: DNOP	103	70-130		%Rec	1	10/23/2017 12:51:28 PM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/23/2017 12:10:55 PM	G46557
Surr: BFB	118	15-316		%Rec	1	10/23/2017 12:10:55 PM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	10/23/2017 12:10:55 PM	B46557
Toluene	ND	0.035		mg/Kg	1	10/23/2017 12:10:55 PM	B46557
Ethylbenzene	ND	0.035		mg/Kg	1	10/23/2017 12:10:55 PM	B46557
Xylenes, Total	ND	0.070		mg/Kg	1	10/23/2017 12:10:55 PM	B46557
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	1	10/23/2017 12:10:55 PM	B46557

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 1710B74

Date Reported: 10/24/2017

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-10

Project: Lateral K-7 (2017)

Collection Date: 10/20/2017 1:35:00 PM

Lab ID: 1710B74-008

Matrix: MEOH (SOIL)

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/23/2017 1:13:29 PM	34558
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/23/2017 1:13:29 PM	34558
Surr: DNOP	106	70-130		%Rec	1	10/23/2017 1:13:29 PM	34558
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/23/2017 12:34:37 PM	G46557
Surr: BFB	112	15-316		%Rec	1	10/23/2017 12:34:37 PM	G46557
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	10/23/2017 12:34:37 PM	B46557
Toluene	ND	0.034		mg/Kg	1	10/23/2017 12:34:37 PM	B46557
Ethylbenzene	ND	0.034		mg/Kg	1	10/23/2017 12:34:37 PM	B46557
Xylenes, Total	ND	0.067		mg/Kg	1	10/23/2017 12:34:37 PM	B46557
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	10/23/2017 12:34:37 PM	B46557

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#: 1710B74

24-Oct-17

Client: APEX TITAN
Project: Lateral K-7 (2017)

Sample ID	LCS-34558		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34558		RunNo: 46549					
Prep Date:	10/23/2017		Analysis Date: 10/23/2017		SeqNo: 1482728		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.6	73.2	114			
Surr: DNOP	4.6		5.000		92.2	70	130			

Sample ID	MB-34558	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID: 34558			RunNo: 46549					
Prep Date:	10/23/2017	Analysis Date: 10/23/2017			SeqNo: 1482729		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		99.8	70	130			

Sample ID	1710B74-001AMS		SampType: MS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	S-3		Batch ID: 34558		RunNo: 46549					
Prep Date:	10/23/2017		Analysis Date: 10/23/2017		SeqNo: 1483203		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	9.9	49.60	0	92.4	55.8	122			
Surr: DNOP	4.8		4.960		97.4	70	130			

Sample ID	1710B74-001AMSD		SampType:	MSD		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	S-3		Batch ID:	34558		RunNo:	46549				
Prep Date:	10/23/2017		Analysis Date:	10/23/2017		SeqNo:	1483204		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	44	9.6	48.12	0	92.5	55.8	122	2.92	20		
Surr: DNOP	4.8		4.812		99.1	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#: 1710B74

24-Oct-17

Client: APEX TITAN
Project: Lateral K-7 (2017)

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483268	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	1200		1000		118	15	316			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483269	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.7	75.9	131			
Surr: BFB	1200		1000		122	15	316			

Sample ID	1710B74-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-3	Batch ID:	G46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483270	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.6	18.18	0	86.8	77.8	128			
Surr: BFB	880		727.3		122	15	316			

Sample ID	1710B74-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	S-3	Batch ID:	G46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483271	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	3.6	18.18	0	122	77.8	128	33.4	20	R
Surr: BFB	920		727.3		126	15	316	0	0	

Sample ID	MB-34534	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	34534	RunNo:	46557					
Prep Date:	10/20/2017	Analysis Date:	10/23/2017	SeqNo:	1483272	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		115	15	316			

Sample ID	LCS-34534	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	34534	RunNo:	46557					
Prep Date:	10/20/2017	Analysis Date:	10/23/2017	SeqNo:	1483273	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1300		1000		129	15	316			

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#: 1710B74

24-Oct-17

Client: APEX TITAN
Project: Lateral K-7 (2017)

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483300	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	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483301	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.5	77.3	128			
Toluene	0.94	0.050	1.000	0	94.5	79.2	125			
Ethylbenzene	0.96	0.050	1.000	0	95.9	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	99.3	81.6	129			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

Sample ID	1710B74-002AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-4	Batch ID:	B46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483302	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.017	0.6770	0	110	80.9	132			
Toluene	0.75	0.034	0.6770	0	111	79.8	136			
Ethylbenzene	0.76	0.034	0.6770	0	112	79.4	140			
Xylenes, Total	2.4	0.068	2.031	0	117	78.5	142			
Surr: 4-Bromofluorobenzene	0.87		0.6770		128	80	120			S

Sample ID	1710B74-002AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	S-4	Batch ID:	B46557	RunNo:	46557					
Prep Date:		Analysis Date:	10/23/2017	SeqNo:	1483303	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.74	0.017	0.6770	0	109	80.9	132	0.866	20	
Toluene	0.75	0.034	0.6770	0	111	79.8	136	0.0477	20	
Ethylbenzene	0.78	0.034	0.6770	0	115	79.4	140	2.59	20	
Xylenes, Total	2.4	0.068	2.031	0	118	78.5	142	0.937	20	
Surr: 4-Bromofluorobenzene	0.80		0.6770		118	80	120	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#: 1710B74

24-Oct-17

Client: APEX TITAN
Project: Lateral K-7 (2017)

Sample ID	MB-34534		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	PBS		Batch ID:	34534		RunNo:	46557			
Prep Date:	10/20/2017		Analysis Date:	10/23/2017		SeqNo:	1483304		Units: %Rec	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		114	80	120			

Sample ID	LCS-34534		SampType:	LCS		TestCode:	EPA Method 8021B: Volatiles			
Client ID:	LCSS		Batch ID:	34534		RunNo:	46557			
Prep Date:	10/20/2017		Analysis Date:	10/23/2017		SeqNo:	1483305		Units: %Rec	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.2		1.000		122	80	120			S

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: 1710B74

RcptNo: 1

Received By: John Caldwell

10/21/2017 11:15:00 AM

John Caldwell

Completed By: Erin Melendrez

10/23/2017 8:09:16 AM

Erin Melendrez

Reviewed By:

[Signature]

10/23/17

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°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	3.0	Good	Yes			

CHAIN OF CUSTODY RECORD

 APEX Office Location <u>606 S Rio Grande</u> <u>Suite A</u> <u>Aztec N.M.</u> Project Manager <u>H Summers</u> Sampler's Name <u>Chad D Apenti</u>		Laboratory: <u>Hall Environmental Lab</u> Address: <u>4901 Hawkins NE</u> <u>Albuquerque NM 87109</u> Contact: <u>A. Freeman</u> Phone: <u>505-345-3975</u> PO/SO #: <u>725040112336</u> Sampler's Signature <u>[Signature]</u>		ANALYSIS REQUESTED <u>BIEX 8021</u> <u>TPH DRO/GP/MP/PO GENS</u>		Lab use only Due Date: Temp. of coolers when received (C°): <u>3.0</u> Page <u>1</u> of <u>1</u>											
Proj. No. <u>725040112336</u>		Project Name <u>Lateral K-7 (2017)</u>		No/Type of Containers													
Matrix	Date	Time	CO C D	G I a b	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AVG 1L	250 ml	Glass Jar	P/O					
S	10/20/17	1300	✓		S-3	0	14				1	✓	✓				-001
S	10/20/17	1305	✓		S-4	6	14				1	✓	✓				-002
S	10/20/17	1310	✓		S-5	0	14				1	✓	✓				-003
S	10/20/17	1315	✓		S-6	-	14				1	✓	✓				-004
S	10/20/17	1320	✓		S-7	0	14				1	✓	✓				-005
S	10/20/17	1325	✓		S-8	0	14				1	✓	✓				-006
S	10/20/17	1330	✓		S-9	6	14				1	✓	✓				-007
S	10/20/17	1335	✓		S-10	-	14				1	✓	✓				-008
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>10/20/17</u> Time: <u>1558</u>		Received by (Signature) <u>[Signature]</u>		Date: <u>10/20/17</u> Time: <u>1558</u>		NOTES: <u>Bill to Tom Long (EAPRO)</u> <u>AFE # N32135</u> <u>(Same day)</u>									
Relinquished by (Signature) <u>[Signature]</u>		Date: <u>10/20/17</u> Time: <u>2047</u>		Received by (Signature) <u>[Signature]</u>		Date: <u>10/20/17</u> Time: <u>1115</u>											
Relinquished by (Signature)		Date:		Received by (Signature)		Date:											
Relinquished by (Signature)		Date:		Received by (Signature)		Date:											

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

October 20, 2017

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

RE: Lateral K-7 2017

OrderNo.: 1710952

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/18/2017 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 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 1710952

Date Reported: 10/20/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** S-1**Project:** Lateral K-7 2017**Collection Date:** 10/17/2017 12:30:00 PM**Lab ID:** 1710952-001**Matrix:** SOIL**Received Date:** 10/18/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/19/2017 10:36:29 AM	34486
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/19/2017 10:36:29 AM	34486
Surr: DNOP	95.9	70-130		%Rec	1	10/19/2017 10:36:29 AM	34486
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/18/2017 1:35:00 PM	34440
Surr: BFB	95.2	15-316		%Rec	1	10/18/2017 1:35:00 PM	34440
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	10/18/2017 1:35:00 PM	34440
Toluene	ND	0.035		mg/Kg	1	10/18/2017 1:35:00 PM	34440
Ethylbenzene	ND	0.035		mg/Kg	1	10/18/2017 1:35:00 PM	34440
Xylenes, Total	ND	0.070		mg/Kg	1	10/18/2017 1:35:00 PM	34440
Surr: 4-Bromofluorobenzene	99.3	80-120		%Rec	1	10/18/2017 1:35:00 PM	34440

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 1710952

Date Reported: 10/20/2017

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** APEX TITAN**Client Sample ID:** S-2**Project:** Lateral K-7 2017**Collection Date:** 10/17/2017 1:30:00 PM**Lab ID:** 1710952-002**Matrix:** SOIL**Received Date:** 10/18/2017 7:10:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.3		mg/Kg	1	10/19/2017 11:04:17 AM	34486
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/19/2017 11:04:17 AM	34486
Surr: DNOP	95.6	70-130		%Rec	1	10/19/2017 11:04:17 AM	34486
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	10/18/2017 1:58:35 PM	34440
Surr: BFB	93.7	15-316		%Rec	1	10/18/2017 1:58:35 PM	34440
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	10/18/2017 1:58:35 PM	34440
Toluene	ND	0.034		mg/Kg	1	10/18/2017 1:58:35 PM	34440
Ethylbenzene	ND	0.034		mg/Kg	1	10/18/2017 1:58:35 PM	34440
Xylenes, Total	ND	0.068		mg/Kg	1	10/18/2017 1:58:35 PM	34440
Surr: 4-Bromofluorobenzene	96.7	80-120		%Rec	1	10/18/2017 1:58:35 PM	34440

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#: 1710952

20-Oct-17

Client: APEX TITAN
Project: Lateral K-7 2017

Sample ID	LCS-34486		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 34486		RunNo: 46473					
Prep Date:	10/18/2017		Analysis Date: 10/19/2017		SeqNo: 1480236		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	52	10	50.00	0	104	73.2	114			
Surr: DNOP	4.9		5.000		98.0	70	130			

Sample ID	MB-34486		SampType: MBLK		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS		Batch ID: 34486		RunNo: 46473					
Prep Date:	10/18/2017		Analysis Date: 10/19/2017		SeqNo: 1480237		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		92.6	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#: 1710952

20-Oct-17

Client: APEX TITAN
Project: Lateral K-7 2017

Sample ID	MB-34440	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID: 34440			RunNo: 46441					
Prep Date:	10/17/2017	Analysis Date: 10/18/2017			SeqNo: 1480009		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	960		1000		95.9	15	316			

Sample ID	LCS-34440		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 34440		RunNo: 46441					
Prep Date:	10/17/2017		Analysis Date: 10/18/2017		SeqNo: 1480010		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	5.0	25.00	0	118	75.9	131			
Surr: BFB	1100		1000		109	15	316			

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#: 1710952

20-Oct-17

Client: APEX TITAN
Project: Lateral K-7 2017

Sample ID	MB-34440	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID: 34440			RunNo: 46441					
Prep Date:	10/17/2017	Analysis Date: 10/18/2017			SeqNo: 1480047		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		101	80	120			

Sample ID	LCS-34440		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 34440		RunNo: 46441					
Prep Date:	10/17/2017		Analysis Date: 10/18/2017		SeqNo: 1480048		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	95.9	77.3	128			
Toluene	0.96	0.050	1.000	0	96.4	79.2	125			
Ethylbenzene	0.99	0.050	1.000	0	99.5	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	99.7	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

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



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Albuquerque, NM 87109
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Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: APEX AZTEC

Work Order Number: 1710952

RcptNo: 1

Received By: Anne Thorne

10/18/2017 7:10:00 AM

Anne Thorne

Completed By: Anne Thorne

10/18/2017 7:29:44 AM

Anne Thorne

Reviewed By: ENM

10/18/17

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 $>0^{\circ}\text{C}$ 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:	<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	1.0	Good	Yes			

