

# **AE Order Number Banner**

#### **Report Description**

This report shows an AE Order Number in Barcode format for purposes of scanning. The Barcode format is Code 39.



**App Number:** pJK1424832159

3RP - 1011

ENTERPRISE PRODUCTS OPERATING, LLC

1/19/2017

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

11.88

State of New Mexico Energy Minerals and Natural Resources

Form C-141
Revised April 3, 2017
Submit 1 Copy to appropriate District Office

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

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

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## 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

OIL CONS. DIV DIST. 3
DEC 29 2017

enclosure



#### **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:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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#### **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.



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

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.

Enterprise Field Services, LLC Corrective Action Report Lateral 2A-4 (8/21/17) Pipeline Release November 14, 2017



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 Dexsil 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.

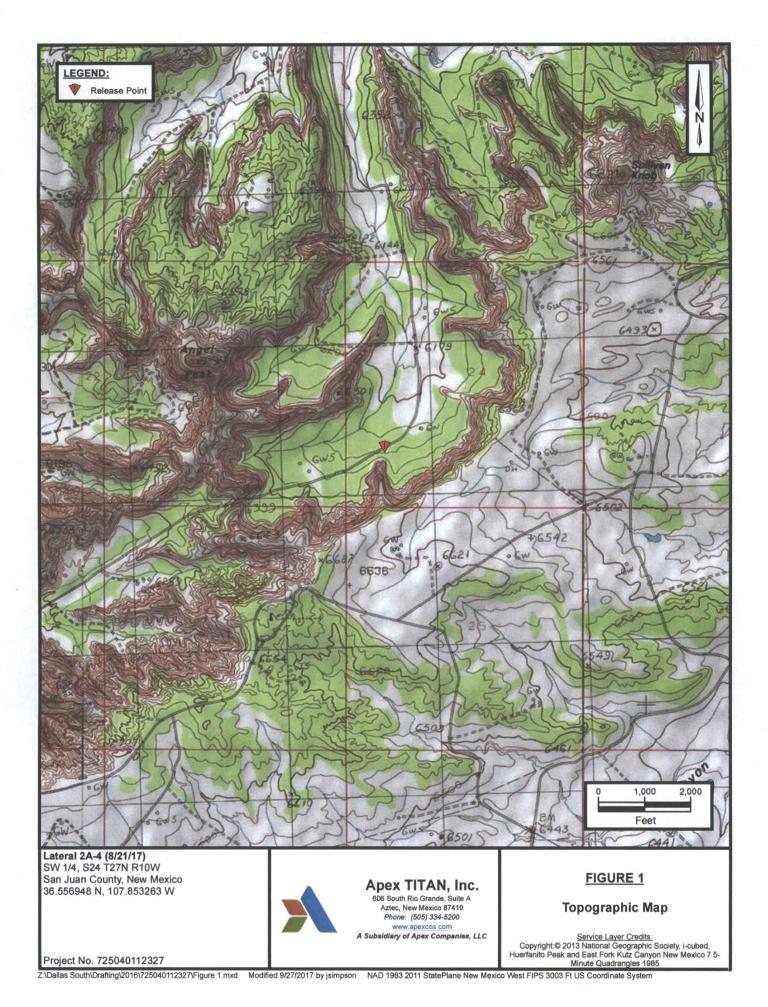
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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



#### Apex TITAN, Inc.

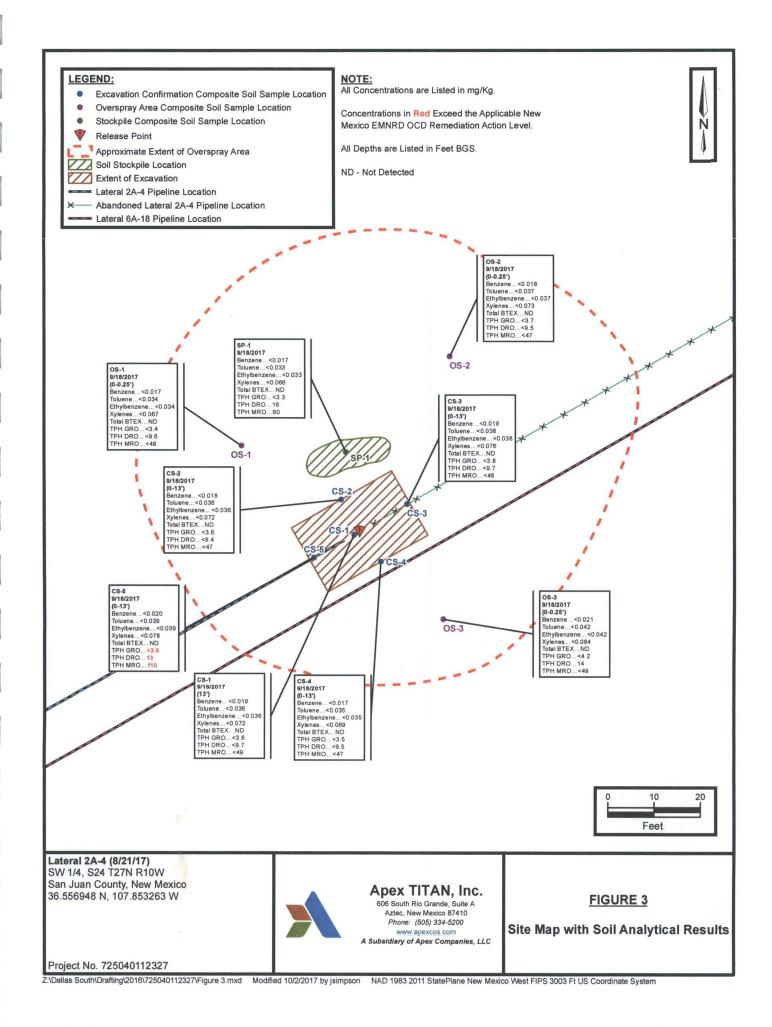
606 South Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200 www.apexcos.com A Subsidiary of Apex Companies, LLC

Site Vicinity Map

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

Project No. 725040112327

Z:\Dallas South\Drafting\2016\725040112327\Figure 2.mxd Modified 9/27/2017 by jsimpson NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US Coordinate System





**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

9 7057- 0730 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

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) (yd³) bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby  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, 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,
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: Grag Grab tree TITLE: Environmental Manager DATE: 9/14/17  SIGNATURE: Surface Waste Management Facility Authorized Agent TELEPHONE NO.: 505-632-0615



APPENDIX C

Photographic Documentation





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

## Photograph 1

View of the source area, facing southwest.



## Photograph 2

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



## Photograph 3

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





#### SITE PHOTOGRAPHS

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

## 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)
		& Natural Resource n, Remediation Act		10	NE	NE	NE	50		100	
				S	oil Sample Collect	ted from Stockpiled S	ioils				
SP-1	9.18.17	С	Stockpile	<0.017	< 0.033	<0.033	<0.066	ND	<3.3	16	60
			A SECULIAR	· 10 / 10 / 10 / 10 / 10 / 10 / 10 / 10	Overspray A	rea Soil Samples					
OS-1	9.18.17	С	0 to 0.25	<0.017	< 0.034	<0.034	< 0.067	ND	<3.4	<9.6	<48
OS-2	9.18.17	С	0 to 0.25	<0.018	< 0.037	< 0.037	< 0.073	ND	<3.7	<9.5	<47
OS-3	9.18.17	С	0 to 0.25	<0.021	<0.042	<0.042	<0.084	ND	<4.2	14	<49
	THE RESERVE	<b>原产的企识和</b>		(1)	<b>Excavation Conf</b>	irmation Soil Sample	S	INVESTIGATION OF THE PARTY OF T			
CS-1	9.18.17	С	13	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.7	<49
CS-2	9.18.17	С	0 to 13	<0.018	<0.036	<0.036	<0.072	ND	<3.6	<9.4	<47
CS-3	9.18.17	С	0 to 13	<0.019	<0.038	<0.038	< 0.076	ND	<3.8	<9.7	<48
CS-4	9.18.17	С	0 to 13	<0.017	< 0.035	<0.035	<0.069	ND	<3.5	<9.5	<47
CS-5	9.18.17	С	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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1709988

Date Reported: 9/20/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	3			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 RAN	IGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J
- Analyte detected below quantitation limits Page 1 of 8
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst	том
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 RANG	E				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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 8 J

- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analys	: 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 RAN				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					Analys	: 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.

- 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 Quanitative 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 Page 3 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1709988

Date Reported: 9/20/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analyst	том
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 RAN	IGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J
- Analyte detected below quantitation limits Page 4 of 8
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	6			Analyst	ТОМ
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 RANG				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- 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 Quanitative 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 Page 5 of 8
- 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#: 17

1709988 20-Sep-17

Client:

APEX TITAN

Project:

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

Project: Lateral 2.	A-4 (8/21/17)									
Sample ID MB-33938	SampType: M	BLK	Tes	Code: El	PA Method	8015M/D: Die	esel Range	e Organics		
Client ID: PBS	Batch ID: 33	938	F	RunNo: 45710						
Prep Date: 9/19/2017	Analysis Date: 9	/19/2017	S	SeqNo: 14	451362	Units: mg/K	ζg			
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: Lo	cs	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: LCSS	F	RunNo: 4	5710							
Prep Date: 9/19/2017	Analysis Date: 9	/19/2017	8	SeqNo: 1	451448	Units: mg/k	(g			
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: M	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: CS-1	Batch ID: 3	3938	F	RunNo: 4	5710					
Prep Date: 9/19/2017	Analysis Date: 9	/19/2017	8	SeqNo: 1	451846	Units: mg/k	(g			
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 1709988-001AMS	D SampType: M	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics		

Sample ID 1	1709988-001AMSD	SampTy	pe: MS	SD	Test	Code: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: C	CS-1	Batch	ID: 33	938	R	unNo: 4	5710				
Prep Date:	9/19/2017	Analysis Da	te: 9/	19/2017	S	eqNo: 1	451847	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range Or	ganics (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	

- \* 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 Quanitative 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
- Page 6 of 8

- 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 8015D: Gasoline Range

LowLimit

54

54

Client ID:

PBS

Batch ID: 33919

RunNo: 45719

%REC

Prep Date: 9/18/2017

SeqNo: 1452000

Units: mg/Kg

Analysis Date: 9/19/2017 PQL

5.0

**HighLimit** 

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

ND 990

1200

Result

1000

SPK value SPK Ref Val

99.2

%RPD

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

SegNo: 1452001 %REC

Units: mg/Kg

150

Analyte

Gasoline Range Organics (GRO)

Result PQL SPK value SPK Ref Val 31 5.0

0 123

0

LowLimit HighLimit 76.4 125 %RPD **RPDLimit** Qual

25.00 1000

121

150

Surr: BFB

Sample ID 1709988-001AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range RunNo: 45719

Prep Date:

Client ID: CS-1

Batch ID: 33919 Analysis Date: 9/19/2017

SeqNo: 1452002

Units: mg/Kg

128

150

Analyte

Result

PQL SPK value SPK Ref Val

%REC LowLimit 111

HighLimit

**RPDLimit** Qual

Qual

Gasoline Range Organics (GRO) Surr: BFB

Sample ID 1709988-001AMSD

20 3.6 17.96 860 718.4

120

TestCode: EPA Method 8015D: Gasoline Range

Client ID: Prep Date:

CS-1

SampType: MSD Batch ID: 33919

RunNo: 45719

Analyte

Result **PQL** 

Analysis Date: 9/19/2017

SeqNo: 1452003 %REC

77.8

54

Units: mg/Kg

HighLimit

%RPD

**RPDLimit** 20

0

Page 7 of 8

Gasoline Range Organics (GRO) Surr: BFB

19 3.6 820

17.96 718.4

SPK value SPK Ref Val

106 114 77.8 54

LowLimit

128 150

4.46 0

%RPD

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

Project:	Lateral 2	A-4 (8/21/	17)								
Sample ID	//B-33919 SampType: MBLK				TestCode: EPA Method 8021B: Volatiles						
Client ID:	PBS	Batch ID: 33919			RunNo: <b>45719</b>						
Prep Date:	9/18/2017	Analysis Date: 9/19/2017			8	SeqNo: 1	452031	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-Bron	nofluorobenzene	1.1		1.000		113	66.6	132			
Sample ID	LCS-33919	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID:	LCSS	Batch ID: 33919			F	RunNo: 45719					
Prep Date:	9/18/2017	Analysis Date: 9/19/2017			8	SeqNo: 1	452032	Units: mg/K	(g		
Analyte	4.	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-Bron	nofluorobenzene	1.2		1.000		117	66.6	132			= 6
Sample ID	1709988-002AMS	SampT	ype: MS	3	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID:	CS-2	Batch	n ID: 33	919	RunNo: 45719						
Prep Date:		Analysis D	ate: 9/	19/2017	5	SeqNo: 1	452033	Units: mg/k	(g		
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-Bror	nofluorobenzene	0.88		0.7174		122	66.6	132			
Sample ID	1709988-002AMSI	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	CS-2	Batch ID: 33919			RunNo: 45719						
Prep Date:	Analysis Date: 9/19/2017			SeqNo: <b>1452034</b> Units: <b>mg/Kg</b>							
Analyte		Result	PQL		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	

#### Qualifiers:

Ethylbenzene

Xylenes, Total

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

0.80

2.5

0.82

0.036

0.072

0.7174

2.152

0.7174

- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

Surr: 4-Bromofluorobenzene

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank

79.4

78.5

66.6

140

142

132

3.78

2.68

0

E Value above quantitation range

111

114

114

- J Analyte detected below quantitation limits
- Page 8 of 8

20

20

0

P Sample pH Not In Range

0

- 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:	1709988		RcptNo:	1
Received By:	Anne Thome	9/19/2017 8:45:00 AM		ame Am	_	
Completed By:	Anne Thorne	9/19/2017 8:51:21 AM		ame Il-	_	
Reviewed By:	THO	4/19/17		Cana grand		
Chain of Cus	stody					
1. Custody sea	als intact on sample bo	ottles?	Yes	No 🗆	Not Present	
2. Is Chain of	Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was th	e sample delivered?		Courier			
Log In						
4. Was an atte	empt made to cool the	samples?	Yes 🗹	No 🗆	na 🗆	
5. Were all sa	mples received at a ter	mperature of >0° C to 6.0°C	Yes 🗸	No 🗆	NA 🗆	
6. Sample(s)	in proper container(s)?		Yes 🗹	No 🗆		
7. Sufficient sa	ample volume for indica	ated test(s)?	Yes 🗹	No 🗆		
8. Are sample:	s (except VOA and ON	IG) properly preserved?	Yes 🗹	No 🗌		
9. Was preservative added to bottles?			Yes 🗌	No 🗹	NA 🗆	
10. VOA vials h	ave zero headspace?		Yes	No 🗆	No VOA Vials	
11. Were any s	ample containers rece	ived broken?	Yes 🗌	No 🗹	# of preserved	
10.5			v .	No 🗆	bottles checked for pH:	
	work match bottle labe spancies on chain of co		Yes 🗹	NO L		r >12 unless noted)
13. Are matrice	s correctly identified or	Chain of Custody?	Yes 🗹	No 🗆	Adjusted?	
14. Is it clear wi	hat analyses were requ	uested?	Yes 🗹	No 🗆		
The state of the s	ding times able to be r customer for authoriza		Yes 🗹	No 🗆	Checked by:	
0		-1				
THE WARREN	dling (if applicable		V □	No. 🗆	11A F.	
	notified of all discrepan		Yes 🗌	No 🗆	NA 🗹	1
	n Notified:	Date				
By Wi	Q CONTRACTOR OF THE PARTY OF TH	Via:	eMail	Phone Fax	In Person	
	Instructions:				De Carlotti de Carlotti de Maria de Carlotti de Carlot	
17. Additional r				*****		J
18. Cooler Info	ormation					
Cooler N	o Temp °C Cond		Seal Date	Signed By		
1	1.0 Good	Yes				

							CHAIN OF CUSTODY RECORD
Hall Envi					1_	ANALYSI REQUES	STED / / / / / Due Date:
APEX	ukins				Temp. of coolers when received (C°):		
Office Location	Albuquerque	NM	871	09			when received (C°):
606 S. Rio Grande, Suite A	Contact:A.						
Aztecinm 87410	Phone: 505-	345	- 39	75			
Project Manager K.Summers	PO/SO#: <u>See</u>	- No-	es			/د	
Sampler's Name  Range Dechily  Proj. No.  Project Name	Sampler's Signature	7					Page1of1
Proj. No. Project Name	1		No/Type of C	ontainers		802/	[,
725040112327 Lateral 2A-4		)			T	803/	
Matrix Date Time O r Identifying Mark	Start Copper Start	End Depth	VOA 1LL	Class	Po da		Lab Sample ID (Lab Use Only)
5 9/18/17 1000 X CS-1		13		1		XX	1709988-001
S 9/18/17/1010 X CS-2	0	13		1		XX	-C62
3 9/18/12 1620 X C5-3	3 0	13		)		XX	763
S 9/18/17/1030 X CS-4	0	13		)		XX	704
S 9/18/17 1040 X CS-5		13		1		XX	205
1	dt S						
				1			
The state of the s	50% Rush 100%		SAME	DAY		-	
Bellingwished/by (Signature)  Date: Time: Received by: (Signature)  Date: 9/8/17						7340	NOTES:
Relinquished by (Signature) Date: Time: Reserved by: (Signature)				Ďа	té: 1	Time: 0845	Bill to Tom Long (EPIECE)
Relinguished by (Signature)  Relinguished by (Signature)  Relinguished by (Signature)				09// Da		Time:	Bill to Tom Long (EPROD) Non AFE N31706
Relinquished by (Signature) Date: Time: Received by: (Signature)				Da	ie:	Time:	SAME DAY
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / Or			A - Air Ba			rcoal tube astic 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 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1709990

Date Reported: 9/20/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

1709990-001 Lab ID:

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

Matrix: SOIL

Client Sample ID: OS-1

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

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	9/19/2017 10:29:42 AM	1 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	1 33938
EPA METHOD 8015D: GASOLINE RA				Analys	t: 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	1 33919
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.017	mg/Kg	1	9/19/2017 11:57:34 AM	A 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	A 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	A 33919

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 6
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1709990

Date Reported: 9/20/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			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 RAN	IGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 6
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### **Analytical Report**

Lab Order 1709990

Date Reported: 9/20/2017

### Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analyst	том
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	GE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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 Page 3 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### 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

Qual

Analyte Diesel Range Organics (DRO) Result PQL ND

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** 

Motor Oil Range Organics (MRO)

ND 9.3

10.00

SPK value SPK Ref Val

0

92.9

70 130

Sample ID LCS-33938

SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS

Surr: DNOP

Batch ID: 33938

**PQL** 

10

50

RunNo: 45710

Units: mg/Kg

Prep Date: 9/19/2017 Analyte

Analysis Date: 9/19/2017

Result

SeqNo: 1451448 %REC

%RPD HighLimit **RPDLimit** Qual

Diesel Range Organics (DRO) Surr: DNOP

47 10 50.00 4.6 5.000 93.1 92.1

70

LowLimit

73.2

114 130

Page 4 of 6

## Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- Practical Quanitative Limit
- % 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
  - Sample pH Not In Range
- Reporting Detection Limit

P

W Sample container temperature is out of limit as specified

### 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

PQL

5.0

RunNo: 45719

Prep Date: 9/18/2017 Analysis Date: 9/19/2017

SeqNo: 1452000

Units: mg/Kg

SPK value SPK Ref Val %REC LowLimit HighLimit

54

LowLimit

76.4

54

**RPDLimit** 

Analyte Gasoline Range Organics (GRO) Surr: BFB

ND 990

Result

1000

99.2

150

%RPD

Qual

Sample ID LCS-33919

LCSS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 45719

Prep Date: 9/18/2017

Client ID:

Batch ID: 33919 Analysis Date: 9/19/2017

%REC

Units: mg/Kg

%RPD

25.00

1000

SeqNo: 1452001

0

Result **PQL** Analyte SPK value SPK Ref Val Gasoline Range Organics (GRO) 31 5.0 Surr: BFB 1200

123 121

HighLimit 125 150 **RPDLimit** 

Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 5 of 6

P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709990

20-Sep-17

Client:

APEX TITAN

**Project:** 

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

Sample ID MB-33919	SampT	ype: ME	BLK	Tes	tCode: El					
Client ID: PBS	Batch	Batch ID: 33919			RunNo: 4					
Prep Date: 9/18/2017	Analysis D	ate: 9/	19/2017	SeqNo: 1452031			Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025				At .				
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	SampT	s	Tes	tCode: E	·					

							002121 1010				
Client ID: LCSS	Batch	Batch ID: 33919				RunNo: 45719					
Prep Date: 9/18/2017	Analysis D	ate: 9/	19/2017	S	SeqNo: 1	452032	Units: mg/K	(g			
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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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
- Page 6 of 6

- 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:	17099	90		RcptNo:	1
Received By:	Anne Thorne	9/19/2017 8:45:00 AM			Om No	_	
Completed By:	Anne Thorne	9/19/2017 8:56:31 AM			Anne Ha		
Reviewed By:		9/19/17			Clare Sim		
	TMO	1, 1, 1					
Chain of Cu	stody						
1. Custody se	eals intact on sample bo	ottles?	Yes		No 🗆	Not Present	
2. Is Chain of	Custody complete?	•	Yes	<b>V</b>	No 🗌	Not Present	
3. How was the	he sample delivered?		Couri	er			
Log in							
4. Was an at	tempt made to cool the	samples?	Yes	✓	No 🗌	NA 🗆	
5. Were all sa	amples received at a te	mperature of >0° C to 6.0°C	Yes	<b>V</b>	No 🗆	NA 🗀	
6. Sample(s)	in proper container(s)?	•	Yes	<b>✓</b>	No 🗆		
7. Sufficient s	sample volume for indic	ated test(s)?	Yes	$\checkmark$	No 🗆		
8. Are sample	es (except VOA and ON	IG) properly preserved?	Yes	V	No 🗆		
9. Was prese	rvative added to bottles	3?	Yes		No 🗹	NA $\square$	
10.VOA vials	have zero headspace?		Yes		No 🗌	No VOA Vials	
11. Were any	sample containers rece	eived broken?	Yes		No 🗹	# of preserved	-
40 -					$\square$	bottles checked	
	rwork match bottle labe epancies on chain of co		Yes	<b>V</b>	No L	for pH: (<2 o	>12 unless noted)
	es correctly identified or	7,	Yes	<b>~</b>	No 🗆	Adjusted?	
	hat analyses were requ		Yes	V	No 🗆		
15. Were all ho	olding times able to be	met?	Yes	<b>V</b>	No 🗆	Checked by:	
(If no, notif	y customer for authoriz	ation.)					
Special Han	dling (if applicabl	(e)					
	notified of all discrepar		Yes		No 🗆	NA 🗹	
Perso	on Notified:	Date			MANAGEMENT CONTRACTOR		
By W	/hom:	Via: [	eMa	ail 🗌	Phone Fax	In Person	
Rega	erding:			manda-o-Mandari		EMMERICAN DELICATION OF THE PROPERTY OF THE PR	
Clien	t Instructions:		montocatolists	ONCHES COLUMN	THE PERSON NAMED AND THE PERSO		
17. Additional	remarks:						,
18. Cooler Inf	formation						
Cooler			Seal Da	ite	Signed By		
1	1.0 Good	Yes	<b>ም</b> ተዲያያ <b>ል</b> ጀም ም <sub>ል</sub> ም "ሚያ የ 10 ነ ነው የ 5	12+2+6+3+444	and the second second second second second		

				-					Cl	HAIN OF CUSTODY RECORD
APEX	Laboratory: _Av	Hawk	JM 87109				Analys Reques	STED		Lab use only Due Date:  Temp. of coolers / d when received (C°):
	Contact:A								'	1 2 3 4 5
1-			345-3975				13 / /		Page 1 of 1	
1	PO/SO#: 5						7			/ /
Sampler's Name Rance Doechilly R	9	5				Spal ETEX	TOH GEOLDEO L	/ / / /		
Proj. No. Project Name  725040112327 Lateral 2A-4	(8/21/17)	No/	Type of C	Containe	ers					/
Matrix Date Time C G r a Identifying Marks	S of Sample(s)	End Depth VOA	A/G	250 m	Jar	5		/////		Lab Sample ID (Lab Use Only)
5 9/18/17 930 X 05-1	0	0.25			1		XX			1709990-00
S 9/18/17 940 V 05-2	0	0.25			1		XX			702
S 9 18 17 950 X OS-3	3 0	0.25			1		XX			763
										-
NE	5_				$\top$	$\top$	$\top$			
						$\top$	$\top$			
					$\top$	+	11			
					<b>\</b>	+	+			
	0% Rush 2100%		MF O	44		1				
Relinquished by (Signature)  Pate: Tin  Purply  1817 134	O MAGA	Lab	+	q	ate;		Time: 1340	NOTES:		. /
Relinquished by (Signature)  Date: Time: Received by: (Signature)  Date: 07/9//							Time:	Bill	to Tom	Long (EPIZOD)
Relinquished by (Signature) Date: Tim	ne: Received by:	(Signature)			ate:		Time:	1		V31706
Relinquished by (Signature) Date: Time	ne: Received by:	(Signature)		0	ate:	1	Time:	SAMEDA	4	
Matrix WW - Wastewater W - Water S - Container VOA - 40 ml vial A/G - Amber / Or G	Soil SD - Solid L	- Liquid /	A - Air Ba				oal tube	SL - sludge C	- Oil	



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.: 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

#### **Analytical Report**

Lab Order 1709993

Date Reported: 9/20/2017

### Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	3			Analyst	: ТОМ
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 RAN	IGE				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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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 Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### 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:

Surr: DNOP

Surr: DNOP

**PBS** 

Batch ID: 33938

**PQL** 

10

50

RunNo: 45710

Prep Date: 9/19/2017

Analysis Date: 9/19/2017

SeqNo: 1451362

Units: mg/Kg

**RPDLimit** 

Qual

Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Result ND ND

9.3

4.6

SPK value SPK Ref Val %REC LowLimit

HighLimit

130

%RPD **RPDLimit** 

Qual

Sample ID LCS-33938

SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

92.9

70

70

RunNo: 45710

%RPD

Client ID: LCSS Prep Date: 9/19/2017

Batch ID: 33938 Analysis Date: 9/19/2017

SeqNo: 1451448

92.1

Units: mg/Kg

130

HighLimit Analyte SPK value SPK Ref Val %REC Result **PQL** LowLimit Diesel Range Organics (DRO) 47 10 50.00 93.1 73.2 114

10.00

5.000

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Page 2 of 4

- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

### 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

5.0

RunNo: 45719

Prep Date: 9/18/2017 Analysis Date: 9/19/2017

SeqNo: 1452000

LowLimit

Units: mg/Kg

150

HighLimit

Analyte Gasoline Range Organics (GRO) Result **PQL** ND

SPK value SPK Ref Val %REC

%RPD **RPDLimit** 

Qual

Surr: BFB

990

1000

99.2

54

Sample ID LCS-33919

LCSS

9/18/2017

SampType: LCS

Batch ID: 33919

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 45719

SeqNo: 1452001

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Analysis Date: 9/19/2017 Result **PQL** 

SPK Ref Val SPK value 25.00

%REC 123

HighLimit LowLimit 76.4

%RPD

Page 3 of 4

Qual

Surr: BFB

31 5.0 1200 1000

121

54

125

**RPDLimit** 

0

150

Client ID:

Prep Date:

**Oualifiers:** 

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit **PQL** Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1709993

20-Sep-17

Client:

APEX TITAN

Project:

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

Sample ID MB-33919	SampT	SampType: MBLK			Code: El						
Client ID: PBS	Batch ID: 33919			R	unNo: 4						
Prep Date: 9/18/2017	Analysis Date: 9/19/2017			S	eqNo: 1	452031	Units: mg/K	g/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	SampT	ype: LC	S	Test	Code: EF	iles				
Client ID: LCSS	Batch	ID: 339	919	R	tunNo: 4					
Prep Date: 9/18/2017	Analysis D	ate: 9/	19/2017	S	SeqNo: 14	152032	Units: mg/K	g		
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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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
- Page 4 of 4

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified



Hall Environmental Analysts 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: APE	EX AZTEC	Work Order Number:	1709993		RcptNo:	1
Received By: An	nne Thorne	9/19/2017 8:45:00 AM		aone Am	_	
Completed By: An	ine Thorne	9/19/2017 9:08:27 AM		Aone Show Aone Show	_	
Reviewed By:	IMO	9/19/17				
Chain of Custod	K					
1. Custody seals int	act on sample bottles?	*	Yes	No 🗆	Not Present ✓	
2. Is Chain of Custo	dy complete?		Yes 🗸	No 🗆	Not Present	
3. How was the same	nple delivered?		Courier			
Log In						
4. Was an attempt	made to cool the sample	es?	Yes 🗸	No 🗆	NA 🗆	
5. Were all samples	s received at a temperate	ure of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6. Sample(s) in pro	per container(s)?		Yes 🗹	No 🗆		
7. Sufficient sample	volume for indicated te	st(s)?	Yes 🗹	No 🗆		
8. Are samples (exc	ept VOA and ONG) pro	perly preserved?	Yes 🗹	No 🗆	_	
9. Was preservative	added to bottles?		Yes	No 🗸	NA 🗆	
10.VOA vials have z	ero headspace?		Yes	No 🗆	No VOA Vials	
11. Were any sample	e containers received br	oken?	Yes	No 🗹	# of proper and	
12. Does paperwork	match bottle labels? ies on chain of custody)		Yes 🗹	No 🗆	# of preserved bottles checked for pH:	or >12 unless noted)
	ectly Identified on Chain	of Custody?	Yes 🗸	No 🗆	Adjusted?	
	alyses were requested?		Yes 🗹	No 🗆		
15. Were all holding			Yes 🗸	No 🗆	Checked by:	
Special Handling	ı (if applicable)					
ELECTRICAL PROPERTY OF THE PRO	d of all discrepancies wi	th this order?	Yes	No 🗆	NA 🗹	
Person Not	DECUSSION DAMES AND A STATE OF THE PARTY OF	Date				7
By Whom:	inor.	Via:	eMail	Phone Fax	☐ In Person	
Regarding:						
Client Instru	uctions:	nnigen von Heilen (de Steine Lander) auf Steine Anthers Anthers and Anthers anniche Leaunteil film Anthers anni				
17. Additional remark	ks:				-	_
18. Cooler Informat	tion Temp °C   Condition	Seal Intact   Seal No	Seal Date	Signed By		
1 1.		Yes				

	1			CHAIN OF CUSTODY RECORI
×		invironmental sis Laborator	ANALYS REQUES	
APEX	Address: 4901 A			Temp. of coolers 1.0
Office Location	Albuquerque,	NM 87104		when received (C°):
606 S. Rio Grande, Suite A	Contact: A, #	reeman		1 2 3 4 5
Aztec, NM 87410	Phone: 505 -	345-3975		Pageof
Project Manager K. Summers	PO/SO#:	e notes	_ 60	¥_\Y
Sampler's Name Rance Deechilly	Sampler's Signature	4		!
Proj. No.   Project Name   725640112327   Luteral 2A-4	1 (8/21/17)	No/Type of Containers		
CG	ks of Sample(s)	VOA VOA 1LL. 250 ml Glass		Lab Sample ID (Lab Use Only)
3 9/18/17 1050 X SP	-1	1	XX	1709993-001
	with			
	1013			
	50% Rush - 100% Rusi		V	
Relinquished by (Signature)  Date:  1817 13	Time: Received by: (Sig	nature) Date	Time:	NOTES:
Relinquished by (Signature) Date:	ime: (Beceived by: (Sig	nature) / Date	:   Time:	Bill-to Tom Long (Epeod)
	Time: Received by: Sig	inature) Date		Bill+oTom Long (EDROD) NonAFE N 31706
Relinquished by (Signature) Date:	Time: Received by: (Sig	nature) Date	: Time:	SAMEDAY
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / 0	S - Soil SD - Solid L - Lk		- Charcoal tube 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 < <u>Vanessa.Fields@state.nm.us</u>> 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

<<u>Cory.Smith@state.nm.us</u>>; <u>11thomas@blm.gov</u>

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); <a href="mailto:11thomas@blm.gov">11thomas@blm.gov</a>; '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.

Kec

		F	Releas	e Notific	atior	and C	orrective	Acti	on			
		153			OP	ERATOR	2	$\boxtimes$	Initial	Report		Final Repor
				vices, LLC			omas Long					
		ve, Farmin Plant D-T		M 87401			No. <b>505-599-2</b> be <b>Natural Ga</b>		proceer	Station		
	KESSE CHY	Plant D-1	urbine			, , ,	e Naturai Gas	s Com				
Surface Ov	wner <b>BLM</b>			Mineral C	Owner	BLM			Serial N	umber: NM	0 01470	06
				LOCA	ATION	OF REL	EASE					
Unit Letter O	Section 11	Township 29N	Range 11W	Feet from the 620	Nort South Feet from Line County  152  San Juan					in		
		La	atitude_3	6.803020 L	ongitu	de <u>107.92</u>	1590 NAD83					
				NAT	URE	OF RELE	EASE					
Type of Rel	ease Natura	al Gas and L	ubrication C	Dil			Release 63.37; 50-10 BBLs o	Part of the second	Volume	Recovered	d None	
Source of R	Source of Release Facility Blowdown Vent Pipe						Hour of Occurre			d Hour of [		ery
Was Immed	Was Immediate Notice Given?  ☐ Yes ☐ No ☒ Not						@ 11:30 a.m. Whom? : Notifi	cation		1 <b>7 @ 11:3</b> 0 a Fields –		CD; Whitney
Required			☐ Yes		NOT	Silliui - Bi	_1V1					
By Whom?	Thomas Lo	ng				Date and	Hour Septembe	r 12, 20	017 @ 10:	:10 a.m.		
Was a Wate	ercourse Re		☐ Yes	⊠ No		If YES, Vo	olume Impacting	the Wa	atercourse	Э.		
If a Waterco	urse was Ir	npacted, De	scribe Full	v.*								
Describe Ca pipe was dis collected so	nuse of Prol scovered. T il samples f	olem and Re The release voters in the contraction of the contraction o	medial Act was a resu analysis t	tion Taken.* C It of residual li to determine t	ubrication	on seal oil be	a release of lub eing ejected from e release and re September 21, 2	m the b porting	lowdown v	vent pipe. ents. Upor	Enterp n receip	prise pt of
Describe Ar oil. The ren	ea Affected nediation is	and Cleanu in the sched	p Action Talling proce	aken.* An are	a of app	proximately	130 feet long by be removed by n	30 fee	t wide was	s impacted	d with lu	ubrication
rules and re which may e relieve the o ground water	gulations al endanger pu perator of l er, surface v	l operators a ublic health o iability shoul vater, humar	are require or the envir d their ope n health or	d to report and ronment. The erations have to the environment	d/or file accept failed to ent. In	certain relea ance of a C- adequately addition, NN	st of my knowled ase notifications 141 report by th investigate and MOCD acceptan aws and/or regul	and per e NMC remed ce of a	erform con OCD marke iate conta C-141 rep	rective act ed as "Fina mination t	tions for al Repo that pos	or releases ort" does not se a threat to
		6	//				OIL CON	SER\	/ATION	DIVISI	ON	
Signature:	fw	. tu	4							4		)
Printed Nam	ne: Jon E. F	ields				Approved by	/ Environmental	Specia	alist	aner	X	
Title: Directo	or, Environn	nental				Approval Da	nte: 10131		Expiration	Date:		
E-mail Addr	ess: jefields	@eprod.con	n			Conditions of	191.					2
Date: 9/	/21/201	7	Pho	ne: (713) 381	-					Attache	ed 🗌	
Attach Addi	tional She	ets If Neces	ssary	<b>3</b>		NVF	17265	39	900	-		

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

### State of New Mexico **Energy Minerals and Natural** Resources

Form C-141 Revised April 3, 2017

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

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

		Ourita i	0, 11111 01	000					1000				
	Release Notification and Corrective Action												
		OF	ERATO	₹		Initial F	Report	$\boxtimes$	Final Report				
	Name of Company Enterprise Field Service			omas Long									
	Address 614 Reilly Ave, Farmington, NM			No. <b>505-599-</b> 2									
Ļ	Facility Name Blanco Plant D-Turbine		Facility Type Natural Gas Compressor Station										
Ċ	Surface Owner <b>BLM</b>	Mineral Owner	BLM		Serial Nu	Serial Number: NM 0 014706 m C-141							
	105 61 611 1	LOCATION	ON OF RELEASE										
F	Unit Letter   Section   Township   Range   F								5.29 NMAC.				
LOS	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		March Contract March Contract	Hour of Occurre  @ 11:30 a.m.			Hour of D		ery				
Was Immediate Notice Given?  ☐ Yes ☐ No ☒ Not  Required  If YES, To Whom? : Notification to Vanessa Fields – NMOCD; Smith - BLM								CD; Whitney John 141 July 2017					
4 5	By Whom? Thomas Long		Date and	Hour Septembe	r 12, 2017	7 @ 10:1	0 a.m.		430 NAAG				
100	Was a Watercourse Reached? ☐ Yes ☐	No	If YES, Volume Impacting the Watercourse.										
-	'tf'a Watercourse was Impacted, Describe Fully.*								27 . 1 ROSEGRAPHOLISM				
	Describe Cause of Problem and Remedial Action pipe was discovered. The release was a result of collected soil samples for laboratory analysis to discovered analysis, Enterprise determined that the	of residual lubrication determine the mag his release was rep	on seal oil b nitude of the portable on \$	eing ejected fror release and rep September 12, 2	n the blow porting red 017 due t	wdown vo quirement to the vo	ent pipe. nts. Upon lume of im	Enterr recei pacte	orise Laport pt of ed soil.				
	Describe Area Affected and Cleanup Action Take dimensions measured approximately 165 feet loo impacted soil were excavated and transported to corrective action report is included with this "Final	ng by 64 feet wide a New Mexico Oil	by 1.5 feet of	deep. Approxim	nately 288	cubic y	ards of hy	drocal	rbon				
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: In the thinks			OIL CON	SEKVA	TION	ופועום	<u>NIC</u>	unive t Napori				
-	Printed Name: Jon E. Fields		Approved by	Environmental	Specialis	t:			tanit,				
-	Distriction								n				

20/201 Attach Additional Sheets If Necessary

E-mail Address: jefields@eprod.com

Title: Director, Environmental

Date:

6684

40

NVF1726539900

**Expiration Date:** 

Conditions of Approval:

Phone: (713) 381-



\* Statement

MAIN CO.

Sign es

Attached



# 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

SEC 2 9 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:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Project

Manager

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5.0	.0 FINDINGS AND RECOMMENDATIONS							
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#### **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 ENMRD 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.



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

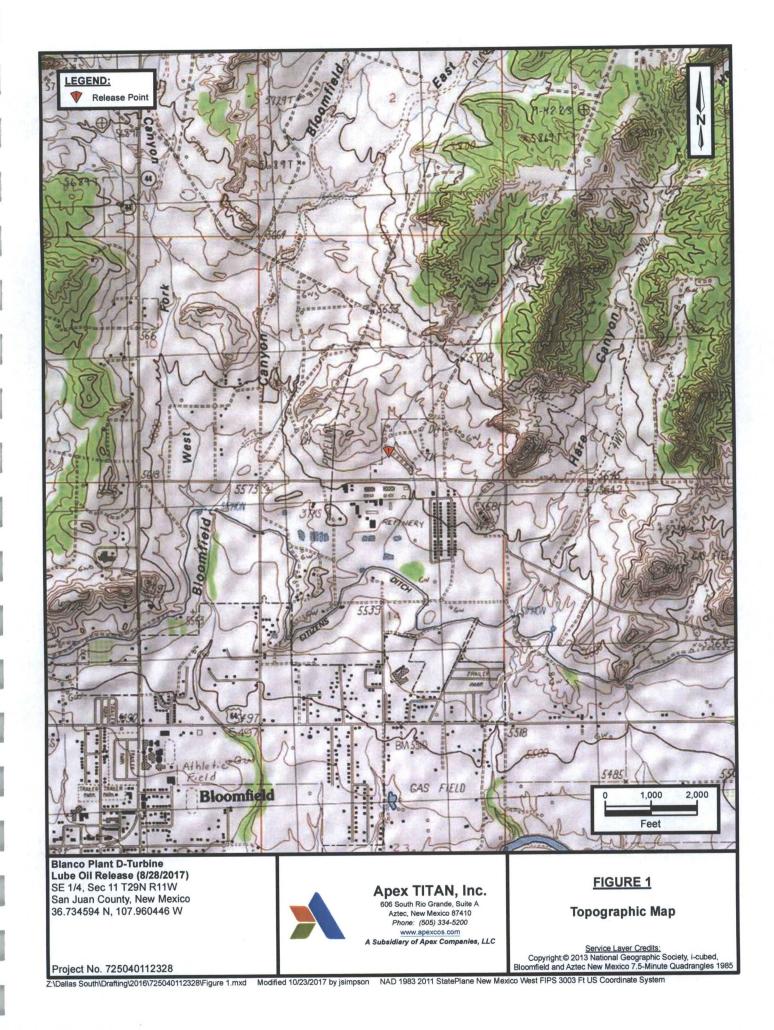
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

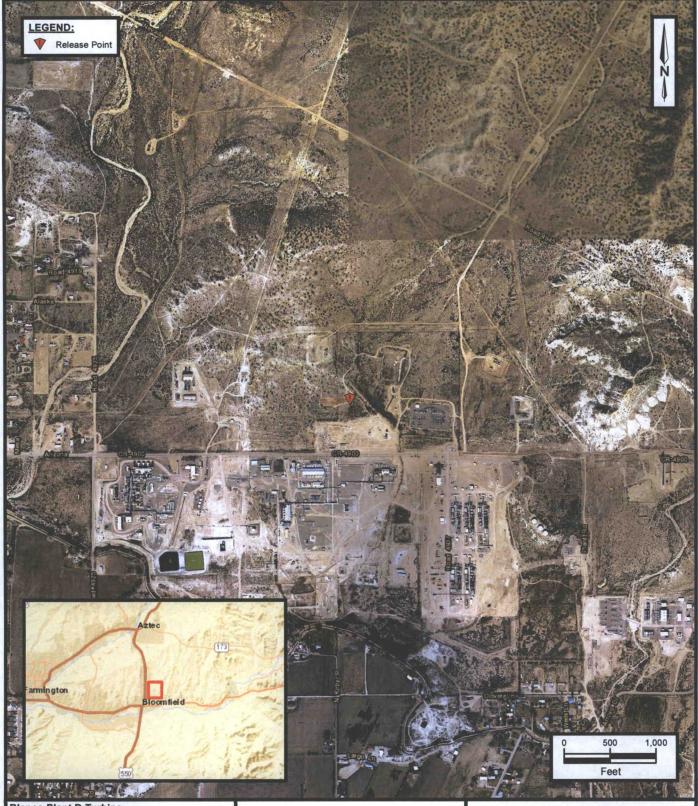
This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution 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



### Apex TITAN, Inc.

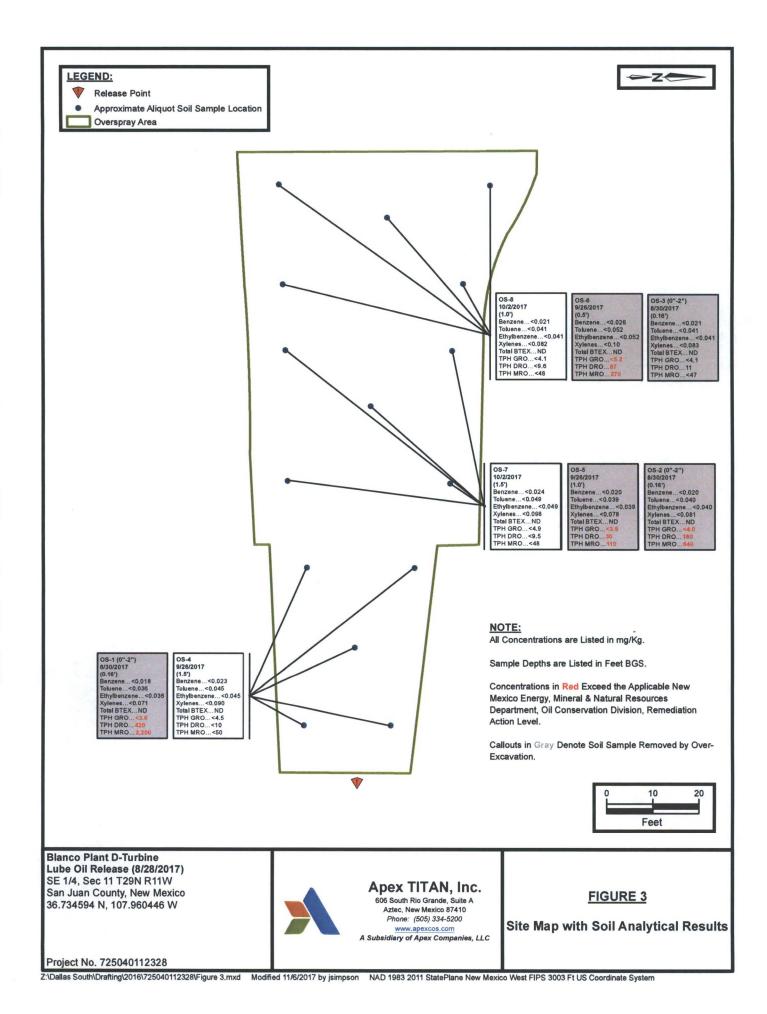
606 South Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200 www.apexcos.com

Project No. 725040112328

### FIGURE 2

### **Site Vicinity Map**

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributions, and the GIS User Community Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributions source: Esri, DigitalGlobe, Geology, Earthstat Geographics, CRES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Aerial Photograph 2017





## **APPENDIX B**

Executed C-138 Solid Waste Acceptance Form

<u>District I</u> 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

Form C-138 Revised August 1, 2011

Oil Conservation Division 1220 South St. Francis Dr. \*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

TITLE: Environmental Manager DATE: 9/26/17

TELEPHONE NO.: 505-632-0615

Santa Fe, NM 87505
REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE
<ol> <li>Generator Name and Address:         Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401     </li> </ol>
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  Seploct 2017
<ul> <li>4. Source and Description of Waste: Hydrocarbon impacted soil from a lubrication oil release.</li> <li>5. Estimated Volume50yd bbls Known Volume (to be entered by the operator at the end of the haul)288yd bbls</li> </ul>
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS  1, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby  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, 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.
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 1482, 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:

SIGNATURE: Surface Waste Management Facility Authorized Agent

PRINT NAME: GYE



**APPENDIX C** 

Photographic Documentation



### **SITE PHOTOGRAPHS**

Blanco Plant D-Turbine Lube Oil Release (8/28/17)

### Photograph 1

View of the overspray area, facing west.



## Photograph 2

View of the initial excavation.



### Photograph 3

View of in-process excavation activities.





#### SITE PHOTOGRAPHS

Blanco Plant D-Turbine Lube Oil Release (8/28/17)

## 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)
The second secon	The County of th	Natural Resource	COLUMN TO SERVICE DE LA COLUMN TO SERVICE DESTRUCCION TO SERVICE DE LA COLUMN	10	NE	NE	NE	50		100	
		A STATE OF THE PARTY OF THE PAR		Overspray (	onfirmation Soil S	samples Removed By	Over-Excavation				
OS-1 (0"-2")	8.30.17	С	0.16	<0.018	< 0.036	< 0.036	< 0.071	ND	<3.6	420	2,200
OS-2 (0"-2")	8.30.17	С	0.16	<0.020	<0.040	<0.040	<0.081	ND	<4.0	180	640
OS-3 (0"-2")	8.30.17	С	0.16	<0.021	<0.041	<0.041	<0.083	ND	<4.1	11	<47
OS-5	9.26.17	С	1.0	<0.020	< 0.039	< 0.039	<0.078	ND	<3.9	30	110
OS-6	9.26.17	С	0.5	<0.026	< 0.052	<0.052	<0.10	ND	<5.2	87	270
				REAL WEST STATE	Overspray Cont	firmation Soil Sample	s	A CONTRACTOR OF THE PARTY OF TH	The Book of the little of the		
OS-4	9.26.17	С	1.5	<0.023	<0.045	<0.045	< 0.090	ND	<4.5	<10	<50
OS-7	10.02.17	С	1.5	<0.024	<0.049	<0.049	<0.098	ND	<4.9	<9.5	<48
OS-8	10.02.17	С	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	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
		(feet)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1708H28

Date Reported: 9/7/2017

## Hall Environmental Analysis Laboratory, Inc.

**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	3			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 RANG	E				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 9 J
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

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 RANG	E ORGANICS	6				Analys	t: <b>TOM</b>
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 RAN	GE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	8/31/2017 12:35:08 PM	A 33627
Surr: BFB	78.4	54-150		%Rec	1	8/31/2017 12:35:08 PM	A 33627
<b>EPA METHOD 8021B: VOLATILES</b>						Analys	t: NSB
Benzene	ND	0.020		mg/Kg	1	8/31/2017 12:35:08 PM	A 33627
Toluene	ND	0.040		mg/Kg	1	8/31/2017 12:35:08 PM	A 33627
Ethylbenzene	ND	0.040		mg/Kg	1	8/31/2017 12:35:08 PM	A 33627
Xylenes, Total	ND	0.081		mg/Kg	1	8/31/2017 12:35:08 PM	A 33627
Surr: 4-Bromofluorobenzene	118	66.6-132		%Rec	1	8/31/2017 12:35:08 PM	A 33627

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

- \* 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 Quanitative 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 Page 2 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	S			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 RA	NGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- \* 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 Quanitative 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 Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1708H28

07-Sep-17

Client:

APEX TITAN

**Project:** 

Blanco Lube Oil (8-28-17)

Sample ID LCS-33650	SampT	ype: LC	s	Test	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LCSS	Batch	ID: 336	350	R	RunNo: 4	5364				
Prep Date: 8/31/2017	8/31/2017 Analysis Date: 9/1/2017			S	SeqNo: <b>1437547</b>		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 MR 22650	CompTupe: MBI V		TootCodo: EDA Mothod 9045M/D: Discal Bongs Organics							

Sample ID MB-33650	Sampi	ype: ME	SLK	resi	Code: El	PA Method	8015M/D: DIE	esei Kange	e Organics	
Client ID: PBS	Batch	ID: 330	650	R	RunNo: 4	5364				
Prep Date: 8/31/2017	Analysis Date: 9/1/2017			S	SeqNo: 1	437548	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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 4 of 9

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## 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: Prep Date:

8/30/2017

Batch ID: 33627 Analysis Date: 8/31/2017

**PQL** 

5.0

RunNo: 45344

LowLimit

SeqNo: 1437225

Units: mg/Kg

**HighLimit** 

%RPD **RPDLimit**  Qual

Analyte

Client ID:

Prep Date:

ND

SPK value SPK Ref Val

80.8

%REC

54

Gasoline Range Organics (GRO) Surr: BFB

810

Result

1000

TestCode: EPA Method 8015D: Gasoline Range

150

Sample ID LCS-33627

SampType: LCS Batch ID: 33627 Analysis Date: 8/31/2017

%REC

RunNo: 45344 SeqNo: 1437226

HighLimit

Units: mg/Kg

Qual

Analyte Gasoline Range Organics (GRO) Surr: BFB

LCSS

8/30/2017

Result **PQL** 

24

890

SPK value SPK Ref Val 5.0

25.00 1000

95.3 88.5 76.4 54

LowLimit

150

%RPD

**RPDLimit** 

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Page 5 of 9

- Sample pH Not In Range
- RL Reporting Detection Limit Sample container temperature is out of limit as specified

## 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 ND 0.025 Benzene 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	sample ID LCS-33627 SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch	ID: 33	627	F	RunNo: 4	5344				
Prep Date: 8/30/2017			S	SeqNo: 1	437244	Units: mg/K	(g			
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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 6 of 9

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1708H28

07-Sep-17

Client:

APEX TITAN

Project:

Blanco Lube Oil (8-28-17)

Sample ID MB-33741

Prep Date: 9/7/2017

SampType: MBLK

TestCode: EPA Method 7471: Mercury

Client ID:

PBS

Batch ID: 33741 Analysis Date: 9/7/2017

RunNo: 45473

SeqNo: 1441230

%REC LowLimit

Units: mg/Kg

HighLimit

%RPD

**RPDLimit** Qual

Analyte Mercury

PQL Result ND 0.033

Sample ID LCS-33741

9/7/2017

SampType: LCS

TestCode: EPA Method 7471: Mercury

Client ID: LCSS

Batch ID: 33741

RunNo: 45473

Analysis Date: 9/7/2017

SeqNo: 1441245

Units: mg/Kg

%RPD

**RPDLimit** 

Qual

Analyte Mercury

Prep Date:

Result **PQL** 0.17 0.033

0.1667

SPK value SPK Ref Val

SPK value SPK Ref Val %REC

101

LowLimit

80

HighLimit 120

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- **PQL** Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- E
- Analyte detected below quantitation limits
  - Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analyte detected in the associated Method Blank

Value above quantitation range

Page 7 of 9

## 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: 33	667	F	RunNo: 4	5407				
Prep Date:	Analysis D	ate: 9/	5/2017	8	SeqNo: 1	438708	Units: mg/K	g		
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: L	Tes	TestCode: EPA Method 6010B: Soil Metals						
Client ID: LCSS	Batch ID: 3:	3667	F	RunNo: 4	5407				
Prep Date: 9/1/2017	Analysis Date: 9	Analysis Date: 9/5/2017			438709	Units: mg/K	(g		
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	SampT	SampType: MS			TestCode: EPA Method 6010B: Soil Metals					
Client ID:	OS-1 0"-2"	Batch	ID: 33	667	R	RunNo: 4	5407				
Prep Date:	9/1/2017	Analysis D	ate: 9/	5/2017	S	SeqNo: 1	438711	Units: mg/K	g		
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	Tes	TestCode: EPA Method 6010B: Soil Metals						- 1
Client ID:	OS-1 0"-2"	Batch ID:	33667	F	RunNo:	45407					1
Prep Date:	9/1/2017	Analysis Date:	9/5/2017	8	SeqNo:	1438712	Units: mg/h	(g			
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual	
Arsenic		22	2.4 24.05	2.592	81.3	75	125	6.89	20		

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Page 8 of 9

Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1708H28

07-Sep-17

Client:

APEX TITAN

Project:

Blanco Lube Oil (8-28-17)

Sample ID	1708H28-001BMS	) SampT	ype: MS	SD .	Tes	tCode: El	Metals				
Client ID:	OS-1 0"-2"	Batch	ID: 33	667	F	RunNo: 4					
Prep Date:	9/1/2017	Analysis D	ate: 9/	5/2017	S	SeqNo: 1	438712	Units: mg/k	(g		
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	

- \* 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 Quanitative 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
- Page 9 of 9

- 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	: 1708H28		RcptNo: 1	
Received By: Anne Thome	8/31/2017 7:10:00 AM		Ame How	_	
Completed By: Anne Thome	8/31/2017 7:57:09 AM	1	Dan M		
Reviewed By:	8/31/17		Cana Jim		
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 to	he 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	5)?	Yes 🗹	No 🗆		
7. Sufficient sample volume for inc	licated test(s)?	Yes 🗸	No 🗆		
8. Are samples (except VOA and (	ONG) properly preserved?	Yes 🗸	No 🗆		
9. Was preservative added to bottl	es?	Yes	No 🗹	NA 🗆	
10.VOA vials have zero headspace	?	Yes	No 🗆	No VOA Vials	
11. Were any sample containers re	ceived broken?	Yes	No 🗹	# of preserved	
12. Does paperwork match bottle la (Note discrepancies on chain of		Yes 🗹	No 🗆	bottles checked for pH: (<2 or >12 unles	_ ss noted)
13. Are matrices correctly identified	STAGE STATE	Yes 🗹	No 🗆	Adjusted?	4.17.1
14. Is it clear what analyses were re	quested?	Yes 🗸	No 🗆		
15. Were all holding times able to b (If no, notify customer for author		Yes 🗸	No 🗆	Checked by:	
Special Handling (if applica	<u>ble)</u>				
16. Was client notified of all discrep	ancies with this order?	Yes	No 🗆	NA 🗹	
Person Notified:  By Whom:  Regarding:  Client Instructions:	Date   Via:	eMail	Phone Fax	☐ In Person	
17. Additional remarks:					
18. <u>Cooler Information</u>   <u>Cooler No</u>   <u>Temp °C   Cooler No</u>   1.8   Goo		Seal Date	Signed By		

		LA TEN									CHAIN OF CUSTODY RECORD
APEX Office Location LOUG S. RIO Forande, Suite A Aztzc, NM 87410 Project Manager K. Summers Sampler's Name Rance Deechilly	Laboratory: Address: 4 AlbiAqua Contact: Phone: 50 PO/SO#: Sampler's Signate		Red	ALYSIS QUESTI	/	Deve J. Colf.		Lab use only Due Date:  Temp. of coolers / 5 when received (C°):  1 2 3 4 5  Page			
Proj. No. Project Name			No/Type of	Containers			TEH GE	Z	///	///	/ / .
725040112328 Blanco Lub	ks of Sample(s)		VOA A/G	250 ml	P/O			y	A7 08/31	1/2/	Lab Sample ID (Lab Use Only)
S 8/30/17 1/30 X 05-1	2) "			2		X	XX		neotkit		1708 H 28 -001
	2 0"-2"		-	2			X		neoHK.	1.22	-7.02
	3 0'-2"			2			X		MOH K		703
5 8/30/17 1200 X 05-1	**			a					hold		704
S 83017 1210 X 05-2	**			3					hold		705
S 830 17 1220 X 05-3			i i	2			LE ET	on	hild		706
	e la Vir										
	AS										
Turn around time □ Normal □ 25% Rush □	50% Rush 🔲 1	00% Rush	Nextde	V-F	Ida	7 9	11117				57.5
Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)	ime: Beceived	by: (Signal by: (Signal by: (Signal by: (Signal	ture)	Dat	e: 0)17	14's Tir 67/	ne: N	IOTE		iom La	ong (EPROD)
Relinquished by (Signature) Date: 7		d by: (Signa	ture)	Dat Bag C		Tir	ne:	- sluc	dge O-0	Dil	9/1/07 Friday



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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

Lab Order 1709E82

Date Reported: 9/28/2017

## Hall Environmental Analysis Laboratory, Inc.

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

**CLIENT: APEX TITAN** 

Matrix: SOIL

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	3			Analyst	том
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
<b>EPA METHOD 8015D: GASOLINE RAN</b>	GE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- 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 Quanitative 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 Page 1 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	S			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 RAN	GE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- 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 Quanitative 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 Page 2 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1709E82

Date Reported: 9/28/2017

## Hall Environmental Analysis Laboratory, Inc.

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

**CLIENT: APEX TITAN** 

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	: том
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 RAN	IGE				Analys	: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	: NSB
Benzene	ND	0.026	mg/Kg	1	9/27/2017 10:45:18 AM	1 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	1 34082
Surr: 4-Bromofluorobenzene	104	66.6-132	%Rec	1	9/27/2017 10:45:18 AM	1 34082

Matrix: SOIL

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

- \* 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 Quanitative 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 Page 3 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

52

4.5

9.8

49.21

4.921

WO#: 1709E82

28-Sep-17

Client:

APEX TITAN

Project:	Blanco Lu	ıbe Oil (8-2	28-17)								
Sample ID L	CS-34095	SampTy	pe: LC	s	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	9)
Client ID: L	css	Batch	ID: <b>34</b>	095	F	RunNo: 4	5918				
Prep Date:	9/27/2017	Analysis Da	te: 9/	27/2017	S	SeqNo: 1	459257	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Org	ganics (DRO)	45	10	50.00	0	89.3	73.2	114			
Surr: DNOP		4.6		5.000		92.2	70	130			
Sample ID N	MB-34095	SampTy	pe: MI	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: F	PBS	Batch	ID: <b>34</b>	095	F	RunNo: 4	5918				
Prep Date:	9/27/2017	Analysis Da	te: 9/	27/2017	8	SeqNo: 1	459258	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range Or	ganics (DRO)	ND	10								
Motor Oil Range	Organics (MRO)	ND	50								
Surr: DNOP		9.9		10.00		98.8	70	130			
Sample ID 1	1709E82-001AMS	SampTy	pe: MS	S	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: C	OS-4	Batch	ID: <b>34</b>	095	F	RunNo: 4	5919				
Prep Date:	9/27/2017	Analysis Da	ite: 9	27/2017	5	SeqNo: 1	459684	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	ganics (DRO)	50	9.8	49.21	0	101	55.8	122			
Surr: DNOP		4.4		4.921		90.0	70	130			
Sample ID 1	1709E82-001AMS	) SampTy	pe: M	SD	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: 0	OS-4	Batch	ID: <b>34</b>	095	F	RunNo: 4	5919				
Prep Date:	9/27/2017	Analysis Da	ite: 9	27/2017	5	SeqNo: 1	459685	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix

Diesel Range Organics (DRO)

Surr: DNOP

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

105

90.5

55.8

70

122

130

4.16

0

Page 4 of 6

20

0

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1709E82

28-Sep-17

Client:

APEX TITAN

Project:

Blanco Lube Oil (8-28-17)

Sample ID MB-34082	SampTy	SampType: MBLK			Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	ID: <b>34</b> 0	082	R	tunNo: 4	5928				
Prep Date: 9/26/2017	Analysis Da	ate: 9/	27/2017	S	eqNo: 1	459919	Units: mg/K	g		
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						TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch	ID: 34	082	R	tunNo: 4	5928						
Prep Date: 9/26/2017	S	eqNo: 1	459930	Units: mg/K	(g							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 5 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1709E82

28-Sep-17

Client:

APEX TITAN

Project:

Blanco Lube Oil (8-28-17)

Sample ID MB-34082	SampT	ype: ME	BLK	Test	TestCode: EPA Method 8021B: Volatiles					
Client ID: PBS	Batch	Batch ID: 34082			RunNo: 4	5928				
Prep Date: 9/26/2017	Analysis D	ate: 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	SampT	ype: LC	S	Tes	tCode: El	tiles				
Client ID: LCSS	Batch	ID: 34	082	F	RunNo: 4	5928				
Prep Date: 9/26/2017	Analysis D	ate: 9/	27/2017	S	SeqNo: 1	459968	Units: mg/K	(g		
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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 6 of 6

- 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

1. Custody seals intact on sample bottles? 2. Is Chain of Custody complete? 3. How was the sample delivered?  Courier  Log In  4. Was an attempt made to cool the samples?  Yes W No No NA	Client Name:	APEX AZTEC	Work Order Numb	er: 1709E82		RcptNo:	
Completed By:	Received By:	Anne Thorne	9/27/2017 7:20:00 A	м	am Home		
Chelin of Custody		Anne Thorne			1 1		
1. Custody seals intact on sample bottles? 2. Is Chain of Custody complete? 3. How was the sample delivered?    Courier					Clone Arm		
2. Is Chain of Custody complete? 3. How was the sample delivered?  Courier  Log In  4. Was an attempt made to cool the samples?  5. Were all samples received at a temperature of >0° C to 6.0°C  6. Sample(e) in proper container(s)?  7. Sufficient sample volume for indicated test(s)?  8. Are samples (except VOA and ONG) properly preserved?  9. Was preservative added to bottles?  10. VOA vials have zero headspace?  11. Were any sample containers received broken?  12. Does paperwork match bottle labels?  (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  14. Is it clear what analyses were requested?  15. Were all holding times able to be met?  (If no, notify customer for authorization.)  Special Handling (if applicable)  16. Was client notified of all discrepancies with this order?  Yes   No   No   NA      Additional remarks:  18. Cooler Information Cooler No   Temp °C   Condition   Seal Intact   Seal No   Seal Date   Signed By	Chain of Cus	stody					
3. How was the sample delivered?    Courier	1. Custody sea	als intact on sample bottle	s?	Yes	No 🗆	Not Present	
4. Was an attempt made to cool the samples?  4. Was an attempt made to cool the samples?  5. Were all samples received at a temperature of >0° C to 6.0°C  7. Sufficient sample volume for indicated test(s)?  8. Are samples (except VOA and ONG) property preserved?  9. Was preservative added to bottles?  10. VOA vials have zero headspace?  11. Were any sample containers received broken?  12. Does paperwork match bottle labels?  (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  14. Is t clear what analyses were requested?  15. Were all holding times able to be met?  (If no, notify customer for authorization.)  Special Handling (if applicable)  16. Was client notified of all discrepancies with this order?  Yes No No No No No Checked by:    No   No No No No No No No No No No No No No	2. Is Chain of	Custody complete?		Yes 🗹	No 🗆	Not Present	
4. Was an attempt made to cool the samples?  Yes  No No NA  5. Were all samples received at a temperature of >0° C to 6.0°C  Yes  No No NA  6. Sample(s) in proper container(s)?  7. Sufficient sample volume for indicated test(s)?  8. Are samples (except VOA and ONG) properly preserved?  9. Was preservative added to bottles?  Yes No No No VOA vials have zero headspace?  10. VOA vials have zero headspace?  Yes No No No VOA Vials  11. Were any sample containers received broken?  12. Does paperwork match bottle labels?  (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  Yes No Adjusted?  14. Is it clear what analyses were requested?  Yes No Checked by:  Checked by:  Special Handling (If applicable)  16. Was client notified of all discrepancies with this order?  Yes No	3. How was the	e sample delivered?		Courier			
5. Were all samples received at a temperature of >0° C to 6.0°C  Yes  No  NA	Log In						
6. Sample(s) in proper container(s)?  7. Sufficient sample volume for indicated test(s)?  8. Are samples (except VOA and ONG) properly preserved?  9. Was preservative added to bottles?  10. VOA vials have zero headspace?  11. Were any sample containers received broken?  12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  14. Is it clear what analyses were requested?  15. Were all holding times able to be met? (If no, notify customer for authorization.)  Special Handling (if applicable)  16. Was client notified of all discrepancies with this order?  Person Notified:  Date  Person Notified:  Date  Person Notified:  Date  Person Notified:  Date  Sy Whom:  Regarding: Client Instructions:  17. Additional remarks:  18. Cooler Information Cooler No Temp *C Condition Seal Intact Seal No Seal Date Signed By	4. Was an atte	empt made to cool the sai	mples?	Yes 🗸	No 🗆	NA 🗆	
7. Sufficient sample volume for indicated test(s)?  8. Are samples (except VOA and ONG) properly preserved?  9. Was preservative added to bottles?  10. VOA vials have zero headspace?  11. Were any sample containers received broken?  12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  14. Is it clear what analyses were requested?  15. Were all holding times able to be met? (If no, notify customer for authorization.)  Special Handling (if applicable)  16. Was client notified of all discrepancies with this order?  Person Notified:  By Whom:  Regarding:  Client Instructions:  17. Additional remarks:  18. Cooler Information  Cooler No Temp *C Condition Seal Intact Seal No Seal Date Signed By	5. Were all sai	mples received at a tempo	erature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
8. Are samples (except VOA and ONG) properly preserved?  9. Was preservative added to bottles?  Yes No	6. Sample(s) i	in proper container(s)?		Yes 🗹	No 🗀		
9. Was preservative added to bottles?  Yes No	7. Sufficient sa	ample volume for indicate	d test(s)?	Yes 🗹	No 🗆		
10. VOA vials have zero headspace?  11. Were any sample containers received broken?  12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  14. Is it clear what analyses were requested?  15. Were all holding times able to be met? (If no, notify customer for authorization.)    Special Handling (if applicable)	8. Are samples	s (except VOA and ONG)	properly preserved?	Yes 🗹	No 🗆		
11. Were any sample containers received broken?  Yes No # of preserved bottles checked for ph:  (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  14. Is it clear what analyses were requested?  15. Were all holding times able to be met? (If no, notify customer for authorization.)  Special Handling (If applicable)  16. Was client notified of all discrepancies with this order?  Person Notified:  By Whom:  Regarding: Client Instructions:  17. Additional remarks:  18. Cooler No Temp C Condition Seal Intact Seal No Seal Date Signed By  # of preserved bottles checked for ph:  # of preserved bottles checked for ph:  (<2 or >12 unless noted)  Adjusted?  No Checked by:  Checked by:  The preserved bottles checked for ph:  (<2 or >12 unless noted)  Adjusted?  No Checked by:  Checked by:  In Person  Na   Person Notified:  By Whom:  Cooler No Temp C Condition Seal Intact Seal No Seal Date Signed By	9. Was presen	vative added to bottles?		Yes	No 🗹	NA 🗆	
# of preserved bottles checked for pH:  (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody? Yes No Adjusted?  14. Is it clear what analyses were requested? Yes No Checked by:  15. Were all holding times able to be met? Yes No Checked by:  (If no, notify customer for authorization.)    Checked by:   Checked by:	10. VOA vials h	ave zero headspace?		Yes 🗌	No 🗆	No VOA Vials	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)  13. Are matrices correctly identified on Chain of Custody?  14. Is it clear what analyses were requested?  15. Were all holding times able to be met? (If no, notify customer for authorization.)  Special Handling (If applicable)  16. Was client notified of all discrepancies with this order?  Person Notified: By Whom: Regarding: Client Instructions:  17. Additional remarks:  18. Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By    To Person Regard Regar	11. Were any s	ample containers receive	d broken?	Yes 🗆	No 🗹		
13. Are matrices correctly identified on Chain of Custody?  14. Is it clear what analyses were requested?  15. Were all holding times able to be met? (If no, notify customer for authorization.)    Special Handling (if applicable)				Yes 🗹	No 🗆	for pH:	>12 unless noted)
14. Is it clear what analyses were requested?  15. Were all holding times able to be met? (If no, notify customer for authorization.)  Special Handling (if applicable)  16. Was client notified of all discrepancies with this order?  Person Notified:  By Whom:  Regarding:  Client Instructions:  17. Additional remarks:  18. Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By				Yes 🗸	No 🗆	Adjusted?	
(If no, notify customer for authorization.)  Special Handling (if applicable)  16. Was client notified of all discrepancies with this order?  Person Notified:  By Whom:  Regarding:  Client Instructions:  17. Additional remarks:  18. Cooler Information  Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By	14, is it clear wi	hat analyses were reques	ted?	Yes 🗹	No 🗆		
Person Notified:    Person Notified:				Yes 🗹	No 🗆	Checked by:	
Person Notified:    Person Notified:	Special Hand	dling (if applicable)					
By Whom: Via:eMailPhoneFaxIn Person  Regarding: Client Instructions:  17. Additional remarks:  18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By	STATE OF THE SECOND		s with this order?	Yes	No 🗆	NA 🗹	
Regarding: Client Instructions:  17. Additional remarks:  18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By	Perso	n Notified:	Date		ELECTRICAL COMPLEXACION COMPLEX		
Client Instructions:  17. Additional remarks:  18. Cooler Information  Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By		S. Contraction of the Contractio	Via:	eMail F	hone Fax	☐ In Person	
17. Additional remarks:  18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By	THE LABOR TO SERVICE STATE OF THE PARTY OF T	I PROVINCE MANAGEMENT AND					
18. Cooler Information  Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By				-			
Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By							
1 1.4 Good Yes	The second secon	to Temp °C Conditio		Seal Date	Signed By		
	1	1.4 Good	Yes				

		P. Charles and Carlotte		CHAIN OF CUSTODY RECORD
APEX		invironmental ysis caboratory	ANALYSIS REQUESTED	Lab use only Due Date:
		在 使	1 8 %	Temp. of coolers 1.4
Office Location	The second secon	NM 87109	1 100	when received (C°):
Look S. Rio Grande Suite A	Contact: AT	reeman		1 2 3 4 5
_Aztec,NM 87-410	Phone: 505-3	345-3475	Decolumes Decolumes	/ / Page of
Project Manager K. Sum mers	PO/SO#: Se	ee nates		
	Sampler's Signature	1		
Rance Deechilly	Kranhil	<b>\</b>	1 1 1 1 1	
Proj. No. Project Name	,	No/Type of Containers		/ /
7250401/2328 Blanco Cub	e Oil (8-28-17			/ /
Matrix Date Time O r Identifying Mar	ks of Sample(s)	VOA VOA 1 Lt. 250 all ar Jar P/O		Lab Sample ID (Lab Use Only)
5 9/26/17/200 X 05	5-4 18	5 1	XV	1709882-001
C 711	5-5 1		VV	702
- 40/	5-6 01			703
5 ((24)14 1220 -	5-0			205
				M 8 2 2
	WA			
				5
Turn around time ☐ Normal ☐ 25% Rush ☐	50% Rush ~2100% Rush		4	
Da Frehen \$ 136/7-14	ime: Received by: (Sign	at 19/26/17	Time: NOTES:	^
Mount Does 1704h 20		A parata	720 Bill +0"	Tom Long (Epero)
Relinquished by (Signature) Date: T	ime: Received by: (Sign	nature) Date:	Time:	auf l
Relinquished by (Signature) Date: T	ime: Received by: (Sign	nature) Date:	Time: Same D)	
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / Or			arcoal tube 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 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andy

4901 Hawkins NE

Albuquerque, NM 87109

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANIC	S			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	10/3/2017 11:17:18 AM	A 34198
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	10/3/2017 11:17:18 AM	A 34198
Surr: DNOP	98.0	70-130	%Rec	1	10/3/2017 11:17:18 AM	A 34198
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	t: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: 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.

- \* 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 Quanitative 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 Page 1 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1710048

Date Reported: 10/4/2017

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: 05-8

**CLIENT: APEX TITAN 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	10/3/2017 11:42:01 AM	A 34198
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	10/3/2017 11:42:01 AM	A 34198
Surr: DNOP	99.5	70-130	%Rec	1	10/3/2017 11:42:01 AM	A 34198
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	10/3/2017 10:15:29 AM	A 34177
Surr: BFB	89.1	54-150	%Rec	1	10/3/2017 10:15:29 AM	A 34177
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.021	mg/Kg	1	10/3/2017 10:15:29 AM	A 34177
Toluene	ND	0.041	mg/Kg	1	10/3/2017 10:15:29 AM	A 34177
Ethylbenzene	ND	0.041	mg/Kg	1	10/3/2017 10:15:29 AM	A 34177
Xylenes, Total	ND	0.082	mg/Kg	1	10/3/2017 10:15:29 AM	A 34177
Surr: 4-Bromofluorobenzene	97.0	66.6-132	%Rec	1	10/3/2017 10:15:29 AM	A 34177

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

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 5 J
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1710048

04-Oct-17

Client:

APEX TITAN

**Project:** 

Blanco Lube Oil (8-28-17)

Sample ID LCS-34198	SampT	ype: LC	S	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch	ID: 34	198	R	tunNo: 4	6047				
Prep Date: 10/3/2017	Analysis D	ate: 10	/3/2017	S	eqNo: 1	464200	Units: mg/k	(g		
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				Test	TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: PBS	Batch	ID: 34	198	R	tunNo: 4	6047				
Prep Date: 10/3/2017	Analysis D	ate: 10	)/3/2017	S	eqNo: 1	464201	Units: mg/K	(g		
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			

- \* 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 Quanitative 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
- Page 3 of 5

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## 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

54

Client ID: **PBS** 

Batch ID: 34177

PQL

5.0

RunNo: 46053

SeqNo: 1465128

Units: mg/Kg

Prep Date:

10/2/2017

Analysis Date: 10/3/2017

HighLimit

Analyte

Result ND SPK value SPK Ref Val %REC LowLimit

Qual

Gasoline Range Organics (GRO)

870

1000

86.9

150

**RPDLimit** 

Surr: BFB

Sample ID LCS-34177

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

%RPD

Client ID: LCSS

Batch ID: 34177

RunNo: 46053

HighLimit

Analyte

Prep Date: 10/2/2017

Analysis Date: 10/3/2017

SeqNo: 1465129

Units: mg/Kg

%RPD **RPDLimit** Qual

Page 4 of 5

ruidiyto	
Gasoline Range Organics (GRO)	
Surr: BFB	

Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit
30	5.0	25.00	0	119	76.4
1000		1000		102	54

119 76.4 125 102 54 150

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В 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
- Sample container temperature is out of limit as specified

## 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			Test	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 34177			R	RunNo: 4	6053					
Prep Date: 10/2/2017	Analysis D	ate: 10	/3/2017	S	SeqNo: <b>1465161</b> Units: <b>mg/</b>			Кg			
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	ent ID: LCSS Batch ID: 34177			F	RunNo: 46053					
Prep Date: 10/2/2017	Analysis D	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			

- \* 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 Quanitative 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
- Page 5 of 5

- 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 Thome** 10/3/2017 7:10:00 AM anne Il-Completed By: **Anne Thorne** 10/3/2017 7:24:12 AM Reviewed By: **Chain of Custody** No 🗌 Not Present 1. Custody seals intact on sample bottles? Yes No 🗆 Not Present 2. Is Chain of Custody complete? Yes V 3. How was the sample delivered? Courier Log In NA 🗌 No 🗌 4. Was an attempt made to cool the samples? Yes V No 🗆 NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V Yes 🗸 No . Sample(s) in proper container(s)? 7. Sufficient sample volume for indicated test(s)? Yes V No 🗌 V No 🗌 8. Are samples (except VOA and ONG) properly preserved? Yes 🗌 No V NA 🗌 9. Was preservative added to bottles? No 🗌 No VOA Vials 10. VOA vials have zero headspace? Yes Yes No V 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: Yes 🗸 12. Does paperwork match bottle labels? (Note discrepancies on chain of custody) (<2 or >12 unless noted) Adjusted? No 🗌 Yes 🗸 13. Are matrices correctly identified on Chain of Custody? No 🗆 Yes V 14. Is it clear what analyses were requested? 15. Were all holding times able to be met? Yes V No 🗌 Checked by: (If no, notify customer for authorization.) Special Handling (if applicable) Yes 🗌 No 🗌 NA 🗸 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date 1.0 Good

			C	HAIN OF CUSTODY RECORD
	IL-II E	nvironmental	ANALYSIS / / / /	Lab use only Due Date:
	Laboratory: Analy	veis Laboratoru	REQUESTED   S	/ / Due Date:
APEX	Address: 4901 Ha		REQUESTED	Temp. of coolers 7-0
Office Location	Albuquerque,			when received (C°):
606 S. Rio Grande Suite A	Contact: A.Fn	eeman	-	1 2 3 4 5
Aztec, NM 87410	Phone: 505 - 3			Page of /
Project ManagerK.Summurs	PO/SO#: See N	wig		
	Sampler's Signature			
Range Deechilly	in Duly		Story Billy Control of the Control o	
Proj. No. Project Name	11 10 00 17	No/Type of Containers		
725040112328 Blanco Whe		4 10 -	- $        -$	
Matrix Date Time O r Identifying Mar	ks of Sample(s) Start Land	VOA A/G 1Lt. 250 250 Jar Jar P/O		Lab Sample ID (Lab Use Only)
5 19217 1115 X 0	5-7	1	XX	1710048-001
	5-8	1	**	702
	MES			
	50% Rush 100% Rush	SOMES		ii.
	ime: Received by: (Signation	De 10/2/17	Time: NOTES:	1 (
Relinquished by (Signature) Date: T	Ime: Received by: (Signa	ature) Date:	Time: Sill-to 1 om	Long (Eppod)
	ime: Received by: (Signa		Time:	
Relinquished by (Signature) Date: T	ime: Received by: (Signa	iture) Date:	Time: SANTE C	SAY
Temperature of (organization)	mio. Tioosivos by (Oigila	Jaio.		
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / Or			narcoal tube SL - sludge O - Oil Plastic or other	

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

#### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised April 3, 2017

of to

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

Oil Conservation Division Santa Fe, NM 87505

1220 South St. Francis Dr.

OPERATOR	7 4 5 7 8		F	Releas	e Notific	cation	and C	orrective	Acti	on			ed Me		
Facility Name Potter Compressor Station						OP	ERATO	₹		Initial	Report		Final Report		
Surface Owner BLM													- Lt 10)		
Surface Owner BLM															
LOCATION OF RELEASE    Dirit Letter   Section   Township   Range   Feet from   Line	Facility Na	me Potter	Compress	or Static	n		Facility Typ	oe <b>Natural G</b> a	as Con	npressor	Station		1. (1.8) (1 1 1		
Latitude   36.803361   Longitude   107.920709   NADB3	Surface Ov	vner <b>BLM</b>			Mineral	Owner	BLM			Serial	No. NM 0	97488			
Latitude   36.803361   Longitude   107.920709   NADB3	8 11 . I				LOC	ATION	OF REL	EASE					sariot Iffice		
NATURE OF RELEASE  Type of Release Condensate    Volume of Release 10 BBLs of Condensate   October 10 Botton   October 10 Bott	U 854 - A		the state of the s		Feet from the	North		Feet from the		Vest	,	9.1 n	5.29 NHAC.		
NATURE OF RELEASE  Type of Release Condensate    Volume of Release 10 BBLs of Condensate   Of	manus more m		La	atitude 3	3.803361	Longitu	de 107.92	0709 NAD83			3.8	<b>*</b> 500 ×2	THE PROPERTY OF THE PROPERTY OF		
Volume of Release Condensate   Volume Recovered None of Condensate   Source of Release Over Filling of a Tank   Date and Hour of Occurrence   B127/2017 @ 1:30 p.m.   9/27/2017 @ 1:30 p.m.   9/27/2				atitudo_o									A Digre		
Surce of Release Over Filling of a Tank  Source of Release Over Filling of a Tank  Date and Hour of Occurrence 8/27/2017 @ 1:30 p.m.  Was Immediate Notice Given?  West Immediate Notice Given?  Yes No Not  Required  Tyes No Not  Required  Date and Hour November 20, 2017 @ 1:30 p.m.  If YES, To Whom?: Courtesy Notification Cory Smith - NMOCD; Whitney Smith - BLM  Tyes Not Immediate Notice Given?  Whitney Smith - BLM  Date and Hour November 27, 2017 @ 2:30 p.m.  If YES, Volume Impacting the Watercourse.  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.  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.  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.  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 notification of the release notification of the release 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 contaminati	Type of Pol	acco Condo	ncato		NA	IUKE			DDIe	Volume	Pacovere	d Mono	nel Report		
Was Immediate Notice Given?   Yes   No   Not   If YES, To Whom?: Courtesy Notification Cory Smith – NMOCD;   Whitney Smith – BLM   Standard Smith – NMOCD;   Whitney Smith – BLM   Whitney Smith – BLM   Standard Smith – NMOCD;   Whitney Smith – BLM   Whitney Smith – BLM   Standard Smith – NMOCD;   Whitney Smith – Standard Smith – Standard Smith – NMOCD;   Whitney Smith – Standard Smith – NMOCD;   Whitney Smith – Standard Smith – NMOCD;   Whitney Smith – Standard Smith – Standard Smith – NMOCD;   Whitney Smith – Standard Smith – NMOCD;   Whitney Smith – Standard Smith – Standard Smith – NMOCD;   Whitney Smith – Standard Smith – Standard Smith – Standard Smith – NMOCD;   Whitney Smith – Standard Smith – Standa	Table of Kell	ease Conde	risale						DDLS	Volume	Necovered	INOTIE	(1)		
Required	±e.ii			Tank			8/27/2017	' @ 1:30 p.m.	000000000000000000000000000000000000000	8/27/20	17 @ 1:30	p.			
Was a Watercourse Reached?  Yes No  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.  OIL CONSERVATION DIVISION  Signature:  Approved by Environmental Specialist:  Approved by Environmental Specialist:  Approved by Environmental Specialist:  Approved by Environmental Specialist:  Conditions of Approval: Sample For Attached Date:	TISK I	iate Notice		☐ Yes	□ No ⊠	Not			irtesy No	otification	Cory Smitl	ı – NMO	- 141 -		
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OIL CONSERVATION DIVISION  Signature:  Approved by Environmental Specialist:  Approval Date: 2/6/18 Expiration Date:  E-mail Address: jefields@eprod.com  Conditions of Approval: Sample for  Date: 1-22-20/8 Phone: (713) 381-6684  Total Signature:  Approved by Environmental Specialist:  Approval Date: 2/6/18 Expiration Date:  Conditions of Approval: Sample for  Attached □															
Signature:    Approved by Environmental Specialist:   Approved by Environmental Specia	operator of r	esponsibilit	y for complia	ance with a	any other fede	eral, stat	e, or local la					- N	Committee to the American		
Printed Name: Jon E. Fields  Approved by Environmental Specialist:  Approval Date: 2/6/18 Expiration Date:  E-mail Address: jefields@eprod.com  Conditions of Approval: Sample For Attached Date: 1-22-20/8 Phone: (713) 381-6684  Total Specialist: 4-22-20/8 Phone: (713) 381-6684	₹ (		6"/	,				OIL CON	ISER\	VATION	<u>I DIVISI</u>	$\frac{ON}{N}$	1		
Printed Name: Jon E. Fields  Title: Director, Environmental  Approval Date: 2/6/18 Expiration Date:  E-mail Address: jefields@eprod.com  Conditions of Approval: Sample For Attached Date: 1-22-20/8 Phone: (713) 381-6684  TOH Bjex Beneaue	Signature:	IN	· tu	4							//	11	1		
E-mail Address: jefields@eprod.com  Conditions of Approval: Sample for  Pate: 1-22-20/8 Phone: (713) 381-6684  TOH Bjex Beneare	Printed Nam	ne: Jon E. F	ields			,	Approved by	/ Environmenta	I Specia	alist: (	- Co		1		
E-mail Address: jefields@eprod.com  Conditions of Approval: Sample for  Pate: 1-22-20/8 Phone: (713) 381-6684  TOH Bjex Beneare  Attached	Title: Directo	or, Environn	nental			,	Approval Da	ate: 2/6/1	8	Expiration	n Date:		35.7		
Date: 1-22-20/8 Phone: (713) 381-6684 TPH Bjex, Beneze	E-mail Addr	ess: jefields	@eprod.con	n		(	Conditions of	of Approval:	Ample	FOR	Attache	d 🔽	017		
AND LATER TOLL LICE					13) 381-6684	7	PH BIEX	Bencene			8	020	releable		
77 VO 3 (3042X							, ,					1	doe not		

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 1/25/40 3750 428 . has been assigned. Please refer to this case number in all future correspondence.

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#### 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 1220 South St. Francis Dr. Santa Fe, NM 87505

OIL CONS. DIV DIST. 3

Form C-141 Revised April 3, 2017

Final Report

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

#### **Release Notification and Corrective Action OPERATOR**

1115

Name of Company Enterprise Field Services, LLC Contact Thomas Long Address 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Type Natural Gas Metering Gathering Pipeline Facility Name Payne A #1E 41 Mineral Owner BLM Serial No. Surface Owner Private 2017 District Office LOCATION OF RELEASE Cist North/South County Unit Letter Section Township Feet from Feet from East/West Range San Juan 29N 10W the Line 22 D 30 the Line

935

Latitude 36.701549 Longitude	ude <u>-107.93045</u> NAD83	CONTRACT SERVICE
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?	If YES, To Whom? : Courtesy No	otification Vanessa Fields - NMOCD
☐ Yes ☐ No ☒ Not		4.8
Required		2864A24L5, 2017
3) ind?		
By Whom? Thomas Long	Date and Hour January 19, 2018	8:08 a m
Was a Watercourse Reached?	If YES, Volume Impacting the Wa	
☐ Yes ⊠ No	m v = o, v oramo impacang are viv	
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* On Janu	uary 18, 2018 Enterprise technicians	s discovered and release on the Payne
A#1E well tie. Enterprise confirmed the release and isolated, depr		
in progress. Enterprise determined this release reportable per NM groundwater. A third party corrective action report will be included thereby certify that the information given above is true and comple rules and regulations all operators are required to report and/or file which may endanger public health or the environment. The acceptable where the operator of liability should their operations have failed to ground water, surface water, human health or the environment. In operator of responsibility for compliance with any other federal, sta	with the "Final." C-141.  ete to the best of my knowledge and a certain release notifications and pertance of a C-141 report by the NMC or adequately investigate and remediaddition, NMOCD acceptance of a	understand that pursuant to NMOCD erform corrective actions for releases CD marked as "Final Report" does not late contamination that pose a threat to
operator of responsibility by compliance with any other reactal, sta		ATION DIVISION
Signature: W. Lull Printed Name: Jon E. Fields	Approved by Environmental Specia	
Things Hamo, our E. Froids		Alters Fe
Title: Director, Environmental	Approval Date: 2/7/18	Expiration Date:
	Conditions of Approval: Sande	11 - 4 + 15 - 17 - 1 - 17 - 17 - 17 - 17 - 17 -
Date: 1/29/2018 Phone: (713) 381-6684	Tett Btex Berrene	for releases
Attach Additional Sheets If Necessary #NCS 180 382	8756	ort" does not



/e the

Operator/Responsible Party,

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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 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**

					OP	<b>ERATOF</b>	₹	$\boxtimes$	Initial I	Report		Final Rep	port
Name of C							omas Long						
		ve, Farmir		<b>/</b> 1 87401		<u> </u>	No. <b>505-599-2</b>						
Facility Na	me Sulliva	an Frame B	3#1			-acility Typ	e Natural Gas	s Mete	ering Gathering Pipeline				
Surface Ov	vner <b>Priva</b>	te		Mineral	Owner I	BLM			Serial	No.			
				LOC	ATION	OF REL	EASE						
Unit Letter	Section	Township	Range	Feet from	North/	outh	Feet from	East	West	County			
D	30	29N	10W	the 1157	Line		the <b>918</b>	Line		San Jua	n		
	1	La	atitude 36		Longitue	de -107.93							
			atitudo <u>o</u>										
Type of Rele	ease Natura	al Gas and C	ondensate		IOIL			own	Volume	Recovered	Non	е	
								ence					
Was Immed	Was Immediate Notice Given? If YES, To Whom? Courtesy Notification Vanessa Fields - NMOCD												
Required			☐ Yes	∐ No ⊠	Not								
l toquirou													
Required    Yes   No   Not													
		ached?										*1	
			∐ Yes	⊠ No									
Describe Ca	ause of Prob me R#1 we	olem and Re	medial Act	ion Taken.*	On Janua nfirmed t	ary 24, 2018 he release :	B Enterprise tech	nnicians	s reported	a condens	tagg	pill on the	
pipeline.	ine b#1 we	ii de and me	ter tube. L	interprise co	illiillied t	no rolease e	and isolated, de	prossur	1260, 1000	cu out and	taggt	sa out the	
												released	
lluids. Rem	ediation act	ivities are in	progress.	A third party	correcti	ve action re	port will be inclu	idea wii	in the Fin	al. C-141.	1		
relieve the o	perator of I	iability should	d their ope	rations have	failed to	adequately	investigate and	remed	iate conta	mination th	nat po	se a threat	
										ort does n	ot reli	eve the	
NATURE OF RELEASE  Type of Release Natural Gas and Condensate  Source of Release Open Valve  Source of Release Open Valve  Source of Release Open Valve  Date and Hour of Occurrence 1/24/2018 @ 10:50 a.m.  Was Immediate Notice Given?  Required  Date and Hour January 26, 2018 @ 9:16 a.m.  If YES, Volume Impacting the Watercourse.  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													
		1.6	/ //				OIL COIN	OLIV	ATION	DIVION	<u> </u>	1	_
NATURE OF RELEASE  Type of Release Natural Gas and Condensate  Source of Release Open Valve  Date and Hour of Occurrence Date and Hour of Discovery 1/24/2018 @ 10:50 a.m.  Was Immediate Notice Given?  Required  Date and Hour Journey Notification Vanessa Fields - NMOCI  Required  Date and Hour Journey Notification Vanessa Fields - NMOCI  Required  Date and Hour January 26, 2018 @ 9:16 a.m.  If YES, To Whom? Courtesy Notification Vanessa Fields - NMOCI  By Whom? Thomas Long Date and Hour January 26, 2018 @ 9:16 a.m.  If YES, Volume Impacting the Watercourse.  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 to Sullivan Frame B#1 well tie and meter tube. Enterprise confirmed the release and isolated, depressurized, locked out and tagged out to pipeline.  Describe Area Affected and Cleanup Action Taken.* An area or approximately 30 feet long by 30 feet wide was impacted by the release 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 NM rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for release which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" doernelieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a the 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  Approved by Environmental Specialist:										2			
Printed Nam	ne: Jon E. F	ields				Approved by	/ Environmental	Specia	alist:	6	L	1	
Title: Directo	or, Environn	nental			,	Approval Da	nte: 2/7/18		Expiration	Date:	>		
E-mail Addre	ess infinida	@enrod.com	n				of Approval: SF						
L-man Addre		d-				_		•		Attache	q 🖄	Į	
Date: /	/31/2	018		e: (713) 381-			x Benzene						
Attach Addi	tional She	ets it Neces	ssary $\neq$	tNCS 18	038	2914-	7						

(3)

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#### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised April 3, 2017 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

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

				Sa	nta Fe	e, NM 87	505				and the second	
		F	Releas	e Notific	atior	and C	orrective	Acti	on			
,					OP	ERATOR	2		] Initial F	Report		Repor
				vices, LLC			omas Long	2206		and the second	11 11 11	
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Surface Ov	vner <b>Nava</b>	jo i ribai		Mineral	Jwner	Navajo Tri	Dai		Serial N	NO.		
						OF REL						
Unit Letter P	Section 2	Township 27N	Range 13W	Feet from the 697	North Line	South	Feet from the 763	East/ Line	Vest	County San Juan		
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Was Immed	iate Notice					If YES, To	Whom? : Co					teve
Required			∐ Yes	□ No ⊠ N	lot	Austin - N	NEPA					
By Whom?	Thomas Lor	ng				Date and	Hour Novemb	er 21, 20	017 @ 3:23	p.m.		
Was a Wate		ached?	□ Vaa	⊠ No			olume Impactir					
		1.0	Yes									
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							ressurized, loc					
Describe Ar	ea Affected	and Cleanu	p Action	Taken.* An ar	ea on t	he well pad	of approxima	tely 40 f	eet long by	15 feet wi	de was impa	acted
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included wit			WIGAICO C	on Conservation	JII DIVIS	яон арргоч	sa lana lanin i	acility.	A tilla par	ty corrective	s action repo	JIL 13
I hereby cer	tify that the	information	given abov	e is true and	complet	te to the bes	st of my knowle	edge and	d understan	d that pursu	uant to NMO	CD
rules and re	gulations al	l operators a	re require	d to report and	d/or file	certain relea	ase notification	s and po	erform corre	ective action	ns for release	es
							·141 report by investigate ar					
ground water	er, surface v	vater, human	health or	the environme	ent. In	addition, NA	<b>MOCD</b> accepta	nce of a	C-141 repo			
operator or i	esponsibilit	y for compile	ance with a	any other lede	rai, stat	e, or local la	ows and/or reg			DIVISIO	Nh	
Signature:	C/W	1. for	1						//	1 1	7/	-
Printed Nam	ne: Jon E. F	ields	7			Approved by	/ Environment	al Specia	alist:	2x	5	/
Title: Directo					,	Approval Da	ite: 2/24/	18	Expiration	Date:		
E-mail Addr	ess: jefields	@eprod.con	n			Conditions of	of Approval:			Attached		

\* Attach Additional Sheets If Necessary

#NUF 1735233522

33

January 15, 2018

Aztec, NM 87410

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

7016 3010 0000 0901 3764 Return Receipt Requested

Navajo Nation Environmental Protection Agency Attn: Steve Austin P. O. Drawer 1999 7016 3010 0000 0901 3771 Return Receipt Requested

Shiprock, New Mexico 87420

OIL CONS. DIV DIST. 3

RE: Richardson #100

San Juan County

JAN 2 2 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





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Figure 2: Site Map

Figure 3: Soil Sample Location Map

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Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

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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 INFOR	RMATION						
Name		Richardson	n #100 Well Site						
	Latitude	/Longitude	Section, Township, Range						
Location	36.5988197	-108.1822739	SE¼ of SE ¼ Section 2	T 27N, R 13W					
Date Reported	December 1, 2	017							
Enterprise Contact	Thomas Long								
Land Owner	Navajo Nation	Tribal							
Reported To	New Mexico O	ew Mexico Oil Conservation Division (NMOCD) and Navajo Tribal							
Source(s) of Release	Natural gas me	Natural gas metering tube							
Volume of Tank(s)	N/A	N/A							
Release Contents	Condensate/w	Condensate/water							
Release Volume: Liquids/Condensate	3-5 barrels								
Nearest Waterway	Unnamed arro	yo ~475 feet south	and downgradient of	of location					
Depth to Groundwater	Greater than 1	00 feet							
Nearest Domestic Water Source	Greater than 1	000 feet							
NMOCD Ranking	10								
SMA Response Dates	November 29,	2017 & December	20, 2017						
Subcontractors	OFT Construct	tion Inc.							
Disposal Facility	Envirotech Lar	ndfarm							
Yd <sup>3</sup> 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 analayzed 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.

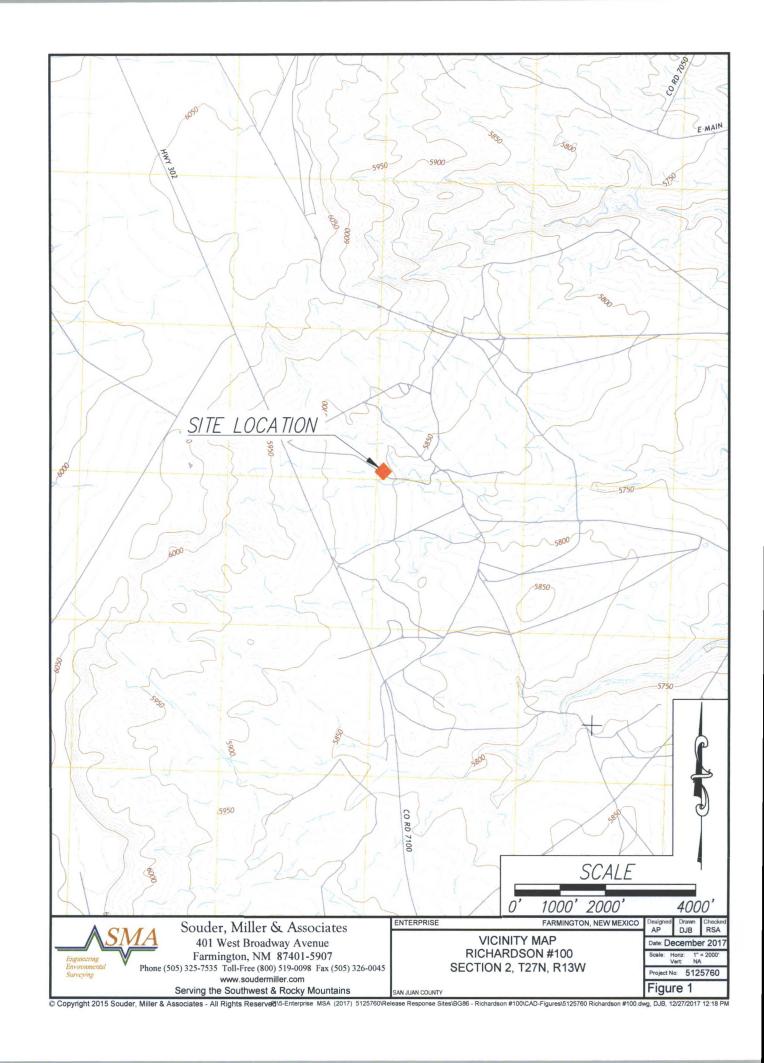
Submitted by:

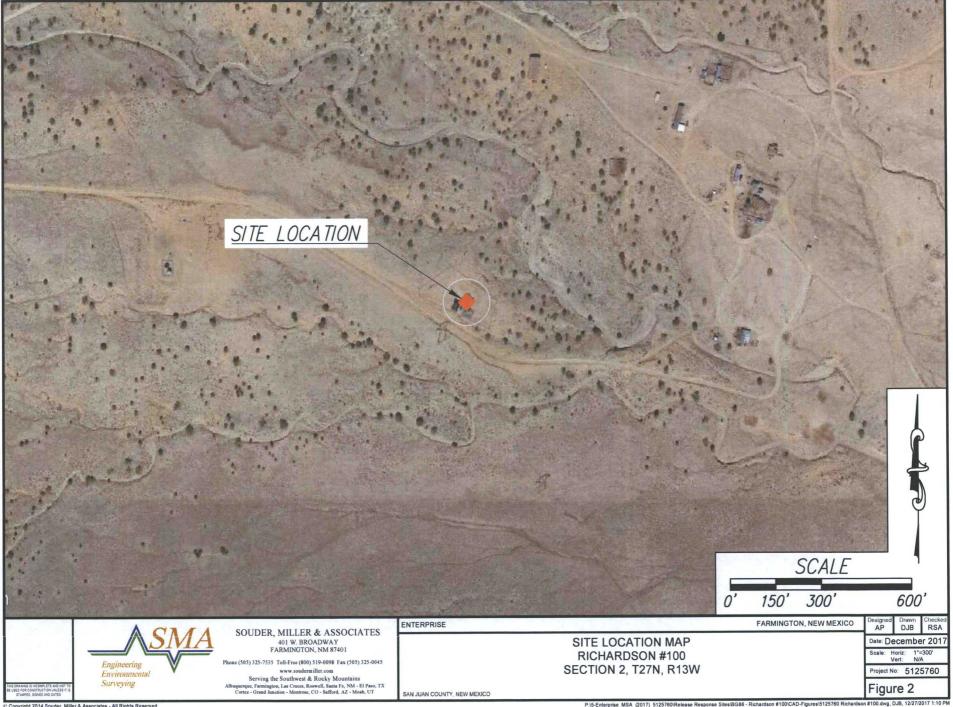
Reviewed by:

SOUDER, MILLER & ASSOCIATES

Ashley Maxwell Staff Scientist

Shawna Chubbuck Senior Scientist **Figures** 







Tables

Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes	
< 50 BGS = 20				
50' to 99' = 10		C-144 BGT registration	Records estimate depth to water >100 feet.	
>100' = 0	0			
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes	
< 200' = 20			Nearest surface	
200' - 1000' = 10	10	Verified using Google Earth and USGS topo maps.	water is unnamed tributary located ~237 feet to the	
>1000' = 0			northeast.	
Ranking Criteria for Horizintal 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		C 144 PCT as sisteration	Records estimate distance from water source >2000' and	
NO to BOTH. YES = 20, NO = 0	0	C-144 BGT registration	>200' from a private domestic water source.	
Total Site Ranking	10			
Soil Remedation Standards	0	10	20+	
Benzene	10 PPM	10 PPM	10 PPM	
BTEX	50 PPM	50 PPM	50 PPM	
ТРН	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 Gu	uidelines	NMOCD Site Ran	king: 10		1,000 ppm	<b>计型运动</b>	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



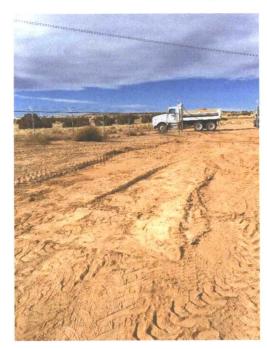
View of release point.



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

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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1711E60

Date Reported: 12/12/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

**Project:** Richardson 100

Lab ID: 1711E60-001 Client Sample ID: CS-1

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

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 RANG	GE 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 RAN	IGE					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
<b>EPA METHOD 8021B: VOLATILES</b>						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

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 8 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1711E60

Date Reported: 12/12/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Project: Richardson 100

**Lab ID:** 1711E60-002

Client Sample ID: CS-2

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

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 RAN	GE 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 RAM	NGE					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

Matrix: SOIL

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

- 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 Quanitative 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 Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1711E60

Date Reported: 12/12/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Richardson 100

**Lab ID:** 1711E60-003

Client Sample ID: CS-3

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

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 RANG	GE 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 RAM	IGE					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

Matrix: SOIL

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

- \* 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 Quanitative 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 Page 3 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1711E60

Date Reported: 12/12/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Richardson 100

**Lab ID:** 1711E60-004

Client Sample ID: CS-4

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

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

Analyses	Result	PQL (	Qual U	nits	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	MRA
Chloride	78	30	r	mg/Kg	20	12/7/2017 2:44:11 PM	35378
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS					Analyst	TOM
Diesel Range Organics (DRO)	19	9.7	r	mg/Kg	1	12/5/2017 4:49:51 PM	35299
Motor Oil Range Organics (MRO)	ND	48	r	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 RAN	GE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	r	mg/Kg	1	12/4/2017 10:39:41 PM	35265
Surr: BFB	80.7	15-316	9	%Rec	1	12/4/2017 10:39:41 PM	35265
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst	NSB
Benzene	ND	0.023	r	mg/Kg	1	12/4/2017 10:39:41 PM	35265
Toluene	ND	0.046	r	mg/Kg	1	12/4/2017 10:39:41 PM	35265
Ethylbenzene	ND	0.046	r	mg/Kg	1	12/4/2017 10:39:41 PM	35265
Xylenes, Total	ND	0.092	r	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

Matrix: SOIL

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

- 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 Quanitative 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 Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### 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:

Sample ID LCS-35378

Client ID: LCSS

**PBS** 

Batch ID: 35378

RunNo: 47600

Prep Date:

SeqNo: 1521997

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

Analyte

12/7/2017

12/7/2017

Analysis Date: 12/7/2017 **PQL** 

HighLimit

**RPDLimit** 

Qual

Chloride

Result

ND

SampType: Ics Batch ID: 35378

Analysis Date: 12/7/2017

1.5

TestCode: EPA Method 300.0: Anions

RunNo: 47600 SeqNo: 1521998

Units: mg/Kg

Analyte

Prep Date:

**PQL** SPK value SPK Ref Val

15.00

93.6

90

LowLimit

Qual

Page 5 of 8

Result 14

0

%REC

**RPDLimit** 

Chloride

1.5

110

HighLimit

%RPD

%RPD

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix

ND Not Detected at the Reporting Limit

- Holding times for preparation or analysis exceeded
- Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
  - Sample pH Not In Range
- Reporting Detection Limit RL

P

Sample container temperature is out of limit as specified

#### 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

89.4

92.8

Units: mg/Kg

Analysis Date: 12/5/2017 **PQL** 

SeqNo: 1517358

HighLimit

Analyte Diesel Range Organics (DRO) Surr: DNOP

Surr: DNOP

Result 45 4.6

50.00 5.000

SPK value SPK Ref Val %REC LowLimit

114

130

**RPDLimit** 

Qual

Sample ID MB-35299

SampType: MBLK Batch ID: 35299

TestCode: EPA Method 8015M/D: Diesel Range Organics

%RPD

%RPD

Client ID: **PBS** 

Prep Date: 12/4/2017

Analysis Date: 12/5/2017

RunNo: 47518 SeqNo: 1517360

SPK value SPK Ref Val %REC LowLimit

HighLimit

Units: mg/Kg

**RPDLimit** Qual

Analyte Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

Result ND 10 ND 50 11

10.00

108

70

73.2

70

130

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 6 of 8

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

#### 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 Gasoline Range Organics (GRO)

**PQL** Result ND 5.0

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** Qual

Surr: BFB

880

1000

88.2

15 316

Sample ID LCS-35265

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 47501

Prep Date: 12/1/2017

LCSS

Analysis Date: 12/4/2017

Batch ID: 35265

PQL

5.0

SeqNo: 1517087

Units: mg/Kg

HighLimit

Page 7 of 8

Analyte Gasoline Range Organics (GRO)

Client ID:

Result

25.00

SPK value SPK Ref Val

101

%REC

75.9 15

%RPD

**RPDLimit** 

Qual

Surr: BFB

24 1000

1000

LowLimit

316

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit
- % 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
- Sample container temperature is out of limit as specified

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1711E60

12-Dec-17

Client:

Souder, Miller and Associates

**Project:** 

Richardson 100

Sample ID MB-35265	SampT	SampType: MBLK TestCode: EPA Metho					8021B: Volat	tiles		
Client ID: PBS	Batch	Batch ID: <b>35265</b> RunNo: <b>47501</b>								
Prep Date: 12/1/2017	Analysis D	Date: 12	2/4/2017	S	SeqNo: 1	517123	Units: mg/K	(g		
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: <b>1517124</b> Units: n			Units: mg/K	g		
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.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В 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
- Sample container temperature is out of limit as specified

Page 8 of 8



#### Hall Environmenta! 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 Numb		er: 1711E60		RoptNo: 1		
Received By:	Anne Thorne 11/30/2017 7:40:00		АМ	ann Am	_		
Completed By:	Erin Melendrez	11/30/2017 3:50:45	РМ	unas,	-		
Reviewed By:	DDS/ENH	11/30/17					
Chain of Cus	stody						
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 L		
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	s (except VOA and ONG) prop	erly preserved?	Yes 🗸	No .			
9. Was preservative added to bottles?			Yes	No 🗹	NA 🗆		
10.VOA vials have zero headspace?			Yes 🗌	No 🗆	No VOA Viais 🗹		
11. Were any sample containers received broken?			Yes	No 🗹	# of preserved		
12. Does paper	work match bottle labels?		Yes 🗸	No 🗌	bottles checked for pH:		
(Note discre	epancies on chain of custody)					>12 unless noted)	
13. Are matrices correctly identified on Chain of Custody?			Yes 🗹	No 🗌	Adjusted?		
14. Is it clear what analyses were requested?			Yes 🗸	No 🗌			
	lding times able to be met? customer for authorization.)		Yes 🗹	No 🗌	Checked by:		
Special Hand	dling (if applicable)						
	notified of all discrepancies with	th this order?	Yes 🗌	No 🗆	NA 🗹		
Perso	n Notified:	Date					
By Wh	hom:	Via:	eMail []	Phone Fax	☐ In Person		
Regar	rding:				of the Control of the		
Client	Instructions:		The second second second		The second leaves the second section as we have		
17. Additional r	remarks:						
18. Cooler Info	ormation						
Cooler N		Seal Intact   Seal No	Seal Date	Signed By			
f		'es					

Chain-of-Custody Record	I urn-Around Time:     Karound Standard   Rush   Project Name:	HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com			
Farmington, NH 87461 Phone #: 505 325-7535	Project#:	4901 Hawkins NE - Albuquerque, NM 87109  Tel. 505-345-3975 Fax 505-345-4107  Analysis Request			
email or Fax#: Ashley Maxive!  QA/QC Package:  Standard Level 4 (Full Validation)	Project Manager: AShley Maxwell	SO <sub>4</sub> ) (ARO)			
Accreditation  NELAP  Other	Sampler: APP On Ice: Syes D No	(O / D) (O / D			
Date Time Matrix Sample Request ID	BTEX + MTBE + TMB's (8021)  TPH 8015B (GRO / DRO / MRO  TPH (Method 418.1)  EDB (Method 504.1)  PAH's (8310 or 8270 SIMS)  RCRA B Metals  Anions (F.CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )  82560B (VOA)  8270 (Semi-VOA)				
1 12:27 Sal CS-1	403 -001	XXX			
12:31 SQ1 CS-2	-007	XXX			
12:35 SOIL CS-3 12:40 SOIL CS-4	-003	X X X X			
Date: Time: Relinquished by:	Resaived by:  Date Time    Zali 7   1,23  Received by:  Date Time    July 2   7   7   7   7   7   7   7   7   7	Remarks:  OCTOM LONG  INVIOCE Enforprise s 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1712C49

Date Reported: 12/27/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Richardson 100

Lab ID: 1712C49-001

Client Sample ID: CS-5

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

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RA	ANGE 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: GASOL	INE 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

Matrix: SOIL

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

- \* 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 Quanitative 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 Page 1 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712C49

Date Reported: 12/27/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Richardson 100 **Project:** 

Lab ID: 1712C49-002 Client Sample ID: CS-6

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

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

Date Analyzed
Analyst: TOM
12/21/2017 9:50:54 AM
12/21/2017 9:50:54 AM
12/21/2017 9:50:54 AM
Analyst: CJS
12/21/2017 1:36:48 PM
Analyst: AG
12/21/2017 12:38:04 PM
Analyst: AG
12/21/2017 12:38:04 PM
12/21/2017 12:38:04 PM

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 6 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1712C49 27-Dec-17

Client:

Souder, Miller and Associates

Result

ND

**Project:** 

Richardson 100

Sample ID MB-35656

SampType: mblk

TestCode: EPA Method 300.0: Anions

Batch ID: 35656

RunNo: 47960

Client ID: PBS Prep Date:

12/21/2017

SeqNo: 1537422

Units: mg/Kg

Analyte Chloride

Analysis Date: 12/21/2017 **PQL** 

1.5

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD

**RPDLimit** 

Qual

Sample ID LCS-35656

SampType: Ics

TestCode: EPA Method 300.0: Anions RunNo: 47960

Client ID: Prep Date:

LCSS

Batch ID: 35656

SPK value SPK Ref Val %REC

Analyte

12/21/2017

Analysis Date: 12/21/2017

SeqNo: 1537423

Units: mg/Kg HighLimit

%RPD **RPDLimit** Qual

Chloride

Result

110

PQL 14 1.5 15.00 90.9

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В 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 Sample container temperature is out of limit as specified

Page 3 of 6

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1712C49

27-Dec-17

Client:

Souder, Miller and Associates

Project:

Richardson 100

Sample ID LCS-35648	SampTy	pe: LC	S	Test	Code: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 35	648	R	RunNo: 4	7948				
Prep Date: 12/21/2017	Analysis Da	ate: 12	2/21/2017	S	eqNo: 1	536262	Units: mg/k	(g		
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	SampT	уре: МЕ	BLK	Test	Code: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch	ID: 356	648	R	tunNo: 4	7948				
Prep Date: 12/21/2017	Analysis D	ate: 12	2/21/2017	S	eqNo: 1	536263	Units: mg/K	(g		
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.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative 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

Page 4 of 6

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1712C49

27-Dec-17

Client:

Souder, Miller and Associates

Project:

Richardson 100

Sample ID rb Client ID: PBS Prep Date:		ype: ME		F	tCode: El RunNo: 4' SegNo: 1	7955	8260B: Volat		List	
Analyte		PQL		SPK Ref Val	%REC	LowLimit		%RPD	RPDLimit	Ouel
	Result	0.025	SPK value	SPK Rei Vai	70REC	LOWLITTIL	HighLimit	%RPD	RPDLIMIL	Qual
Benzene										
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 Ics	SampType: LCS4			Tes	TestCode: EPA Method 8260B: Volatiles Short List					
Client ID: BatchQC	Batch	h ID: <b>R4</b>	7955	F	RunNo: 4	7955				
Prep Date:	Analysis D	Date: 12	2/21/2017	5	SeqNo: 1	536893	Units: mg/h	ζg		
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			

- 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 Quanitative 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
- Page 5 of 6

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### 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:

Batch ID: A47955

RunNo: 47955

Prep Date:

**PBS** 

Analysis Date: 12/21/2017

5.0

Batch ID: A47955

5.0

SeqNo: 1536322

Units: mg/Kg

Analyte Result **PQL** 

SPK value SPK Ref Val

LowLimit HighLimit

%RPD **RPDLimit** 

Qual

Gasoline Range Organics (GRO) ND

Surr: BFB

500

500.0

99.9

%REC

70

130

Sample ID 2.5ug gro lcs LCSS

SampType: LCS

TestCode: EPA Method 8015D Mod: Gasoline Range

LowLimit

SeqNo: 1536894

Units: mg/Kg

130

Prep Date: Analyte Gasoline Range Organics (GRO)

Surr: BFB

Client ID:

Analysis Date: 12/21/2017 Result PQL

24

480

SPK value SPK Ref Val 25.00

500.0

%REC 0 95.2 95.5

70 70

HighLimit %RPD **RPDLimit** Qual 130

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank B

E Value above quantitation range J Analyte detected below quantitation limits

P Sample pH Not In Range

Reporting Detection Limit RL

Sample container temperature is out of limit as specified

Page 6 of 6



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 Numbe	r: 1712C49		RcptNo: 1	
Received By:	Anne Thorne	12/21/2017 6:12:00 A	M	anne Am	_	
Completed By:	Anne Thome	12/21/2017 6:34:58 A	M	anne Am	_	
Reviewed By:	DD2	12/21/1-	7	CANCE JA SAL		
Chain of Cus	stody					
	als intact on sample bot	tles?	Yes 🗸	No 🗌	Not Present	
	Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was the	e sample delivered?		Courier			
Log In						
4. Was an atte	empt made to cool the s	eamples?	Yes 🗸	No 🗌	NA 🗌	
5. Were all sa	mples received at a tem	perature of >0° C to 6.0°C	Yes 🗸	No 🗆	NA 🗌	
6. Sample(s) i	in proper container(s)?		Yes 🗸	No 🗆		
7. Sufficient sa	ample volume for indica	ted test(s)?	Yes 🗹	No 🗌		
8. Are samples	s (except VOA and ONC	G) properly preserved?	Yes 🗸	No 🗌		
9. Was presen	vative added to bottles?		Yes 🗌	No 🗸	NA 🗆	
10.VOA vials h	ave zero headspace?		Yes	No 🗌	No VOA Vials	
11. Were any s	ample containers receive	ved broken?	Yes	No ✓	# of preserved	
12. Does paper	work match bottle labels	3?	Yes 🗸	No 🗆	for pH:	
	epancies on chain of cus			. I	(<2 or >1 Adjusted?	2 unless noted
	s correctly identified on	-	Yes 🗸	No L	Adjusted:	
15. Were all hol	hat analyses were reque Iding times able to be m	et?	Yes 🗹	No 🗆	Checked by:	
(If no, notify	customer for authorizat	tion.)				
Special Hand	dling (if applicable	)	*			
16. Was client r	notified of all discrepand	les with this order?	Yes	No 🗆	NA 🗸	
Perso	n Notified:	Date	git ustrati alkalitateliki dhi atentahun kutik tari nabeni 	destruiteidel Authoriteide (destruite de la colonia de		
By W	hom:	Via:	eMail F	Phone  Fax	☐ In Person	
Regar	eganosa, monte escritora	CONTRACTOR			Section and account of the Section Control of	
	Instructions:	•				
17. Additional r	remarks:					
18. Cooler Info	1					
Cooler N			Seal Date	Signed By		
	1.3 Good	Yes				

Chain-of-Custody Record	Turn-Around Time:	E E HALL ENVIRONMENTAL		
Client: SMA	□ Standard A Rush SAMEDAY	HALL ENVIRONMENTAL ANALYSIS LABORATORY		
	Project Name:	www.hallenvironmental.com		
Mailing Address: 401 W Broadway	- Richardson #100	4901 Hawkins NE - Albuquerque, NM 87109		
Farminghon, NM 87401	Project #:	Tel. 505-345-3975 Fax 505-345-4107		
Phone #: 505 325 7535	1	Analysis Request		
email or Fax#: Ashley Maxiwell	Project Manager:			
QA/QC Package:	Ashleymaxwell	TPH (Gas only) 7 DRO / MRO) 8.1) 7.10 8.02, PO4, SO4) 8082 PCB's 9XCL CS		
☐ Standard ☐ Level 4 (Full Validation)	1100110	SIMS) SIMS)  SIMS)  CACS		
Accreditation	Sampler: AM	17PH (C 7.1) (A 8082 F		
□ NELAP □ Other	On Ice: Yes   No	HBE + TMB's ( ITBE + TMB's ( ITBE + TPH (G IB (GRO / DRO hod 418.1) hod 504.1) hod 504.1) hod 504.1) hod 504.1) hod 418.1) hod 418.1) hod 418.1) hod 418.1) hod 418.1) hod 418.1) hod 504.1)  Action CLINO3,NO2,PC CLINO3,NO2,PC CLINO3,NO2,PC CLINOYCLOCC CLINOYCLOCCOCC CLINOYCLOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOCCOC		
□ EDD (Type)	Sample Temperature /, >			
Date Time Matrix Sample Request ID	Container Type and #  m204K.f  Preservative Type    HEAL No.	EX + N H 8015 H (Met) H'S (83) H'S (83) H'S (83) O (Ser O (Ser O (Ser		
12-2017 9:41 SOII CS-5	403 0001 001	x x		
122017 91.54 SOIL CS-6	1 702	XXX		
Date: Time: Relinquished by:  Date: Time: Relinquished by:  Relinquished by:	Received by:  Date Time  12/20/7 1630  Received by:  Date Time	Remarks:  CC Tom Long  Invace Enterprise N32919		
It necessary, samples submitted to Hall Environmental may be subr	contracted to other accredited laboratories. This serves as notice of this			

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

#### State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised April 3, 2017

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

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

**Release Notification and Corrective Action OPERATOR** Initial Report Name of Company Enterprise Field Services, LLC Contact Thomas Long Address 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Type Natural Gas Metering Tube/Well Site Facility Name Johnson #2 FRT Mineral Owner BLM Serial No. NM 086649 Surface Owner BLM LOCATION OF RELEASE Feet from North South **Unit Letter** Section **Township** Range Feet from East/Vest County 10W San Juan 21 27N Line the Line 1604 1091 Latitude 36.5579 Longitude 107.8957 NAD83 NATURE OF RELEASE Volume of Release Estimated Volume Recovered None Type of Release Condensate/Water 3-5 BBLs of Condensate/Water Date and Hour of Occurrence Date and Hour of Discovery Source of Release Meter Tube Freeze 11/20/2017 @ 2:00 p.m. 11/20/2017 @ 2:00 p.m. If YES, To Whom?: Courtesy Notification Cory Smith - NMOCD Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required By Whom? Thomas Long Date and Hour November 21, 2017 @ 3:11 p.m. Was a Watercourse Reached? If YES, Volume Impacting the Watercourse. ☐ Yes ☒ No 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. OIL CONSERVATION DIVISION Signature: Approved by Environmental Specialist: Printed Name: Jon E. Fields Title: Director, Environmental Approval Date: **Expiration Date:** Conditions of Approval: E-mail Address: jefields@eprod.com Attached

\* Attach Additional Sheets If Necessary

Date:

6684

FINCS 1801655901

Phone: (713) 381-

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

**BLM Farmington Field Office** 

Lands Team

Attn: Whitney Thomas 6251 College Blvd. Farmington, NM 87401

RE: Johnson #2 FRT San Juan County 7016 3010 0000 0901 3740 Return Receipt Requested

7016 3010 0000 0901 3757 Return Receipt Requested

OIL CONS. DIV DIST, 3

Sharmania and a second

JAN 2 2 2018

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





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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 INFOR	RMATION				
Name		Johnson #	2 FRT Well Site				
	Latitude	e/Longitude	Section, Town	nship, Range			
Location	36.5579	-107.8957	NE1/4 of SE 1/4 Section 21	T 27N, R 10W			
Date Reported	November 21,	2017					
Enterprise Contact	Thomas Long						
Land Owner		d Management (Bl	_M)				
Reported To			vision (NMOCD) and	IBLM			
Source(s) of Release	Natural gas m	Natural gas metering tube					
Volume of Tank(s)	N/A						
Release Contents	Condensate/v	vater					
Release Volume: Liquids/Condensate	3-5 barrels						
Nearest Waterway	Unnamed arro	yo ~475 feet south	and downgradient of	of location			
Depth to Groundwater	134 feet	•					
Nearest Domestic Water Source	2.67 miles nor	th					
NMOCD Ranking	10						
SMA Response Dates	December 6, 2	2017					
Subcontractors	OFT Construc	tion Inc.					
Disposal Facility	Industrial Ecos	systems Inc. (IEI) la	andfarm				
Yd <sup>3</sup> 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

Johnson #2 FRT Closure Report San Juan County, New Mexico

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.

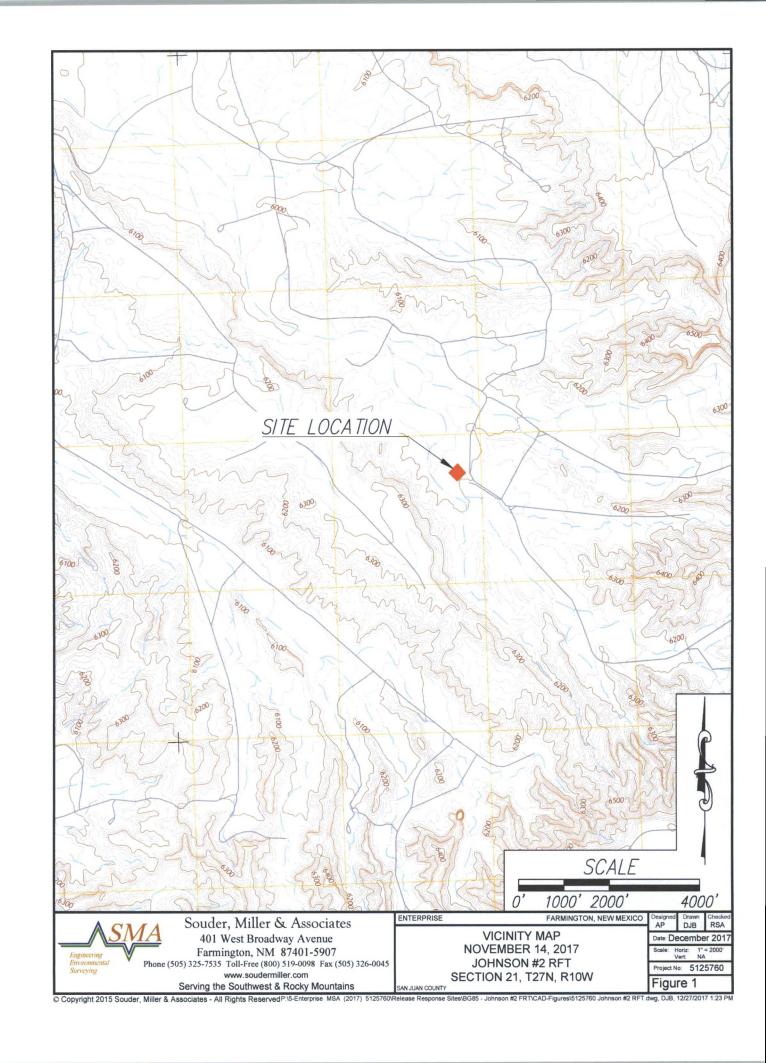
If there are any questions regarding this report, please contact either myself or Shawna Chubbuck at 505-325-7535.

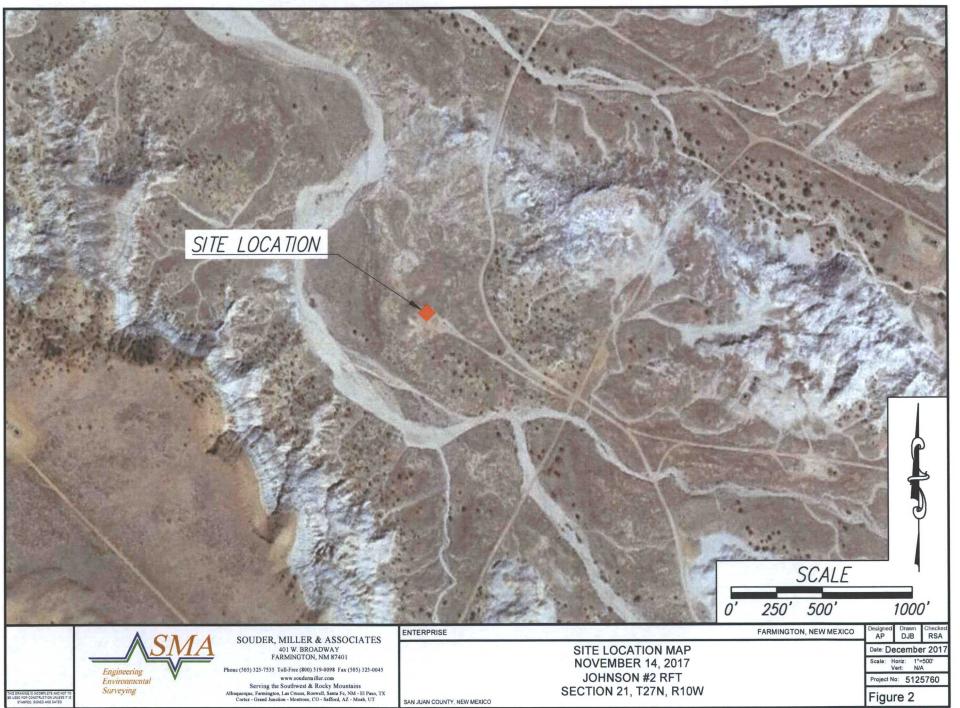
Submitted by:

SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell Staff Scientist Shawna Chubbuck Senior Scientist **Figures** 







Tables

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

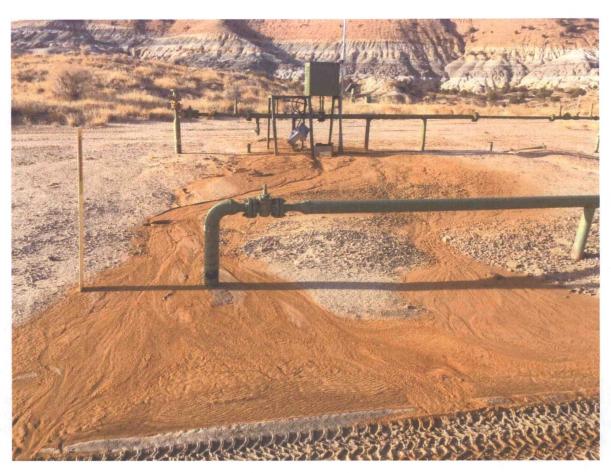
Johnson #2 FRT Meter Tube Release December 21, 2017

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 Ran	king: 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

OrderNo.: 1712357

December 11, 2017

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

RE: Johnson #2

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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andel

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1712357

Date Reported: 12/11/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Johnson #2

**Lab ID:** 1712357-001

Client Sample ID: CS-1

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

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAM	3			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 RA	NGE				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

Matrix: SOIL

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

- 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 Quanitative 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 Page 1 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712357

Date Reported: 12/11/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Johnson #2

Lab ID: 1712357-002 Client Sample ID: CS-2

Collection Date: 12/6/2017 10:41:00 AM Received Date: 12/7/2017 7:00:00 AM

Matrix: SOIL

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	3			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 RANG	SE .				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 12 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1712357

Date Reported: 12/11/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Johnson #2

**Lab ID:** 1712357-003

Client Sample ID: CS-3

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

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	1			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 RA	NGE				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

Matrix: SOIL

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

- \* 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 Quanitative 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 Page 3 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712357

Date Reported: 12/11/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

**Project:** Johnson #2

Lab ID: 1712357-004

Client Sample ID: CS-4

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

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			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 RA	NGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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
<b>EPA METHOD 300.0: ANIONS</b>					Analyst: MRA
Chloride	ND	30	mg/Kg	20	12/7/2017 10:36:01 AM

Matrix: SOIL

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

- 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 Quanitative 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 Page 4 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712357

Date Reported: 12/11/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

**Project:** Johnson #2

Lab ID: 1712357-005

Client Sample ID: CS-5

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

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN				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 RA	NGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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
<b>EPA METHOD 300.0: ANIONS</b>					Analyst: MRA
Chloride	ND	30	mg/Kg	20	12/7/2017 10:48:26 AM
Chloride	ND	30	mg/Kg	20	12/7/2017 10:48:2

Matrix: SOIL

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

- \* 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 Quanitative 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 Page 5 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## **Analytical Report**

Lab Order 1712357

Date Reported: 12/11/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

**Project:** Johnson #2

Lab ID: 1712357-006

Client Sample ID: CS-7

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

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	3			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 RANG	GE				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

Matrix: SOIL

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

#### 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 Quanitative 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 Page 6 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## 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

Sample ID LCS-35378

Analysis Date: 12/7/2017

SeqNo: 1521997

Units: mg/Kg

Analyte

Client ID:

Result

%RPD **RPDLimit** 

Qual

Chloride

**PQL** SPK value SPK Ref Val %REC LowLimit 1.5

HighLimit

ND

SampType: Ics

TestCode: EPA Method 300.0: Anions

RunNo: 47600

Prep Date:

12/7/2017

Batch ID: 35378 Analysis Date: 12/7/2017

SeqNo: 1521998

Units: mg/Kg

HighLimit

Page 7 of 12

**PQL** 1.5

LowLimit

%RPD

Analyte

SPK value SPK Ref Val %REC

15.00

93.6

110

**RPDLimit** 

Qual

Chloride

## Qualifiers:

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

## 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

**PQL** 

RunNo: 47491

Prep Date: 12/1/2017 Analysis Date: 12/5/2017

Result

4.2

SegNo: 1517262

Units: %Rec

Analyte Surr: DNOP

SPK value SPK Ref Val %REC LowLimit

HighLimit

130

**RPDLimit** 

Qual

Sample ID MB-35273

SampType: MBLK

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: **PBS** Batch ID: 35273 Prep Date: 12/1/2017

Analysis Date: 12/5/2017

RunNo: 47491

84.5

Units: %Rec

SeqNo: 1517264

LowLimit

70

Qual

Analyte Surr: DNOP Result

SPK value SPK Ref Val %REC PQL

5.000

HighLimit

**RPDLimit** 

10.00

93 9

SeqNo: 1518368

%RPD

Client ID:

SampType: LCS Batch ID: 35308

Analysis Date: 12/5/2017

TestCode: EPA Method 8015M/D: Diesel Range Organics

130

Sample ID LCS-35308

LCSS

12/4/2017

RunNo: 47518

Units: %Rec

Prep Date: Analyte

Result

SPK value SPK Ref Val

%REC

HighLimit LowLimit

LowLimit

%RPD

%RPD

**RPDLimit** Qual

Surr: DNOP

Result

Result

Result

9.6

10

5.000

95.2

Sample ID MB-35308

**PBS** 

SampType: MBLK Batch ID: 35308

TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 47518

130

Prep Date:

Client ID:

12/4/2017

Analysis Date: 12/5/2017 PQL

SeqNo: 1518370

Units: %Rec HighLimit

130

**RPDLimit** Qual

Qual

Qual

Analyte Surr: DNOP

SampType: LCS

%REC

104

TestCode: EPA Method 8015M/D: Diesel Range Organics

%RPD

Sample ID LCS-35333

LCSS

Batch ID: 35333

RunNo: 47491

Prep Date:

Client ID:

POL

70

Units: %Rec

Analyte

12/5/2017

12/5/2017

Analysis Date: 12/6/2017

SeqNo: 1518687

Surr: DNOP

4.4

5.000

SPK value SPK Ref Val %REC

SPK value SPK Ref Val

10.00

SPK value SPK Ref Val %REC LowLimit 70 88.5

SeqNo: 1518689

95.5

HighLimit

130

Units: %Rec

130

HighLimit

%RPD **RPDLimit** 

Sample ID MB-35333

SampType: MBLK

Analysis Date: 12/6/2017

**PQL** 

TestCode: EPA Method 8015M/D: Diesel Range Organics

LowLimit

Prep Date:

Analyte

Client ID: PBS Batch ID: 35333

10.00

RunNo: 47491

%RPD

Page 8 of 12

**RPDLimit** 

Surr: DNOP

## Qualifiers:

H

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Not Detected at the Reporting Limit POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

Page 9 of 12

1712357

11-Dec-17

**Client:** 

Souder, Miller and Associates

Project:	Johnson #	47	1000010								
=====	Johnson 7										
Sample ID	LCS-35371	SampTy	pe: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	o Organics	
Client ID:	LCSS	Batch	ID: 35	371	F	RunNo: 4	7491				
Prep Date:	12/7/2017	Analysis Da	ite: 12	2/7/2017	5	SeqNo: 1	520257	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	PBS	Batch	ID: 35	371	F	RunNo: 4	7491				
Prep Date:	12/7/2017	Analysis Da	ite: 12	2/7/2017	5	SeqNo: 1	520259	Units: mg/k	<b>K</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	ND	10								
	ge Organics (MRO)	ND	50								
Surr: DNOP		9.4		10.00		93.9	70	130			
Sample ID	LCS-35365	SampTy	pe: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: <b>35</b>	365	F	RunNo: 4	7518				
Prep Date:	12/6/2017	Analysis Da	ite: 12	2/7/2017	5	SeqNo: 1	520345	Units: %Re	С		
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	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	PBS	Batch	ID: <b>35</b>	365	F	RunNo: 4	7518				
Prep Date:	12/6/2017	Analysis Da	ite: 12	2/7/2017	5	SeqNo: 1	520346	Units: %Re	С		
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	SampTy	pe: MS	3	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	CS-1	Batch	ID: <b>35</b>	371	F	RunNo: 4	7491				
Prep Date:	12/7/2017	Analysis Da	ate: 12	2/7/2017	5	SeqNo: 1	521107	Units: mg/k	<b>(</b> g		
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	1712357-001AMSI	<b>S</b> ampTy	pe: MS	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	CS-1	Batch	ID: <b>35</b>	371	F	RunNo: 4	7491				
Prep Date:	12/7/2017	Analysis Da	ate: 12	2/7/2017	5	SeqNo: 1	521108	Units: mg/k	<b>(</b> g		
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.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative 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

Sample pH Not In Range

RL Reporting Detection Limit

P

W Sample container temperature is out of limit as specified

## 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

RunNo: 47491

CS-1 12/7/2017 Batch ID: 35371

Prep Date:

Analysis Date: 12/7/2017

**PQL** 

SeqNo: 1521108

Units: mg/Kg

Analyte

Client ID:

Result

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** 

Qual

90.9

70

0

Surr: DNOP

4.4

4.808

130

0

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 10 of 12

## 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

%RPD

%RPD

**RPDLimit** Qual

Gasoline Range Organics (GRO)

Result ND

970

1000

96.7

15 316

Surr: BFB

SampType: LCS

SPK value SPK Ref Val %REC

TestCode: EPA Method 8015D: Gasoline Range

HighLimit

Client ID:

Sample ID 2.5UG GRO LCS LCSS

Batch ID: **G47603** 

**PQL** 

5.0

RunNo: 47603

LowLimit

Analysis Date: 12/7/2017

SeqNo: 1521391

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

Prep Date:

Result PQL

23

1100

4100

SPK value SPK Ref Val

%REC LowLimit HighLimit

**RPDLimit** Qual

25.00 1000

107

75.9 15

LowLimit

77.8

15

131 316

**RPDLimit** 

**RPDLimit** 

0

Qual

Qual

Surr: BFB

Sample ID 1712357-001AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: CS-1

Batch ID: **G47603** 

RunNo: 47603

316

HighLimit

Prep Date:

Analysis Date: 12/7/2017

SeqNo: 1521392

Units: mg/Kg

Analyte

Surr: BFB

Result Gasoline Range Organics (GRO) 92 **PQL** SPK value SPK Ref Val 19 97.05

3882

%REC 95.2 105

%RPD 128

Sample ID 1712357-001AMSD

SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

Client ID: Prep Date:

CS-1

Batch ID: **G47603** 

RunNo: 47603

%REC

0

Analyte

Analysis Date: 12/7/2017 Result **PQL** SPK value SPK Ref Val

19

SeqNo: 1521393

Units: mg/Kg

Gasoline Range Organics (GRO) Surr: BFB

99 4100 97.05 3882

102 105 77.8 15

LowLimit

HighLimit %RPD 128

316

7.25

0

## Qualifiers:

Value exceeds Maximum Contaminant Level.

Not Detected at the Reporting Limit

- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 11 of 12

- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1712357

11-Dec-17

Client:

Souder, Miller and Associates

**Project:** 

Johnson #2

Sample ID RB	SampT	уре: МЕ	BLK	Tes							
Client ID: PBS	Batch	n ID: <b>B4</b>	7603	F	RunNo: 4	7603					
Prep Date:	Analysis D	s 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	S SampType: LCS TestCode: EPA Method 8021B: Volatiles									
Client ID: LCSS	Batch	ID: <b>B4</b>	7603	F	RunNo: 4	7603				- 1
Prep Date:	Analysis Da	s 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	S SampType: MS TestCode: EPA Method 8021B: Volatiles									
Sample ID 1712397-002AIVIS	Sampi	ype. Ivis	•	163	icode. El	AIMethou	OUZID. VOIA	liles		
Client ID: CS-2	Batch	n ID: <b>B4</b>	7603	F	RunNo: 4	7603				
Prep Date:	Analysis D	ate: 12	2/7/2017	S	SeqNo: 1	521429	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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 1712357-002AM	SD SampType: MSD TestCode: EPA Method 8021B: Volatiles											
Client ID: CS-2	Batch	ID: <b>B4</b>	7603	F	RunNo: 4	7603						
Prep Date:	Date: Analysis Date: 12/7/2017 SeqNo: 1521430 Units: mg/Kg											
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 12 of 12



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

Received I	By: Anne Thorr					
Campleted		ne 12/7/2017 7:00:00	) AM	anne Am	_	
Completed	By: Anne Thorr	ne 12/7/2017 7:11:32	2 AM	anne Am		
Reviewed I	By: DPS	12/7/17	,	and from		
Chain of	<u>Custody</u>					
1. Custod	y seals intact on sa	mple bottles?	Yes	No 🗆	Not Present 🗹	
2. Is Chai	n of Custody compl	ete?	Yes 🗸	No 🗌	Not Present	
3. How wa	as the sample delive	ered?	Courier			
Log In						
4. Was a	n attempt made to o	cool the samples?	Yes 🗹	No 🗌	NA 🗆	
5. Were a	all samples received	at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗌	
6. Sample	e(s) in proper conta	iner(s)?	Yes 🗸	No 🗌		
7. Sufficie	ent sample volume f	or indicated test(s)?	Yes 🗸	No 🗌		
8. Are sar	nples (except VOA	and ONG) properly preserved?	Yes 🗸	No 🗌		
9. Was pr	eservative added to	bottles?	Yes	No 🗸	NA 🗌	
10.VOA vi	als have zero heads	space?	Yes	No 🗆	No VOA Vials	
11. Were a	any sample containe	ers received broken?	Yes	No 🗸	# of preserved	Es ·
	aperwork match bo		Yes 🗸	No 🗌	bottles checked for pH:	- 10lo
	liscrepancies on cha		Yes 🗸	No 🗌	(<2 o	r >12 unless noted)
	ar what analyses w	ere requested?	Yes 🗹	No 🗆	-	
15. Were a	II holding times able	e to be met?	Yes 🗹	No 🗆	Checked by:	
(IT NO, I	notify customer for a	authorization.)				
Special H	landling (if app	licable)				
16. Was cli	ient notified of all di	screpancies with this order?	Yes	No 🗆	NA 🗹	1
P	erson Notified:	Da	ate }	inemiziki hali plifikali okurena Mezikusta kerukukular		
	y Whom:	Vi	a: eMail	Phone Fax	☐ In Person	
	Regarding:	and the state of t				
	onal remarks:			0.0.4.		7
18. Coole	r Information					
1 .	ler No Temp °C	Condition   Seal Intact   Seal No.	Seal Date	Signed By		
1	1.3	Good Yes		and the state of the section of the		

Chain-of-Custody Record	Turn-Around Time:
Client: SMA	Standard Rush Some down Project Name:
	www.hallenvironmental.com
Mailing Address: 401 W Broadway	4901 Hawkins NE - Albuquerque, NM 87109   Project #:   4905 245 2075   Fox 505 245 4107
Farminghm, NM 87401	Project #: 4901 Hawkins NE - Albuquerque, NM 87109
Farminghm, NM 87401 Phone #: 505-325-7535	Analysis Request
email or Fax#: PShiky Maxivel	Project Manager:
QA/QC Package:	Project Manager:  (8021)  Pod <sub>4</sub> , SO <sub>4</sub> )  PCB's  (100 MRO)
☐ Standard ☐ Level 4 (Full Validation)	
Accreditation	Sample Lemberature:  Ou   Cas   Ch   Ch    Ou   Cas   Ch
□ NELAP □ Other	On Ice: A Yes and A 418 (GRO) Or 821 (A 418 )
□ EDD (Type)	Samble Temperature: 91 (SP GF) Sticides
	Container   Dresenutive
Date   Time   Matrix   Sample Request ID	Container Type and # Type The Roll Type Anions (Second Container Type BTEX + HEAL No. 112321 The Roll Type BTEX + HEAL NO.
	Type and # Type   17/5/22   17   18   17   18   18   18   18   18
12/6/17 10:32 SQ1 (CS-1	403 kt COO! 2XX 7 +X
1 10:41 1 C5-2	702 X X X
10:45 CS-3	003 X X X
10:46 CS-4	TOY + X X X
V 10:47 CS-5	705 X X X X
V 1150 V CS-7	ZU6 X X X
1210411	
Date: Time: Relinquished by	Received by: Date Time Remarks:
12/11/1647	1/1/1/ hard 12/4/7 1647 cc Tom Long
Date: Time: Relinquished by:	Received by:  Date Time  N2/07/17  INVOICE Enterprise  Discontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
7/6/17 1940 / Wat	12/07/17 INVOICE DATE A CONTRACT A INVOICE
If necessary samples submitted to Half Environmental may be suf	ocontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report

MATERIA PRODUCT STORM STORM

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

☐ Final Report

Submit 1 Copy to appropriate District Office ULin Copy dance with 19.15.29 NMAC.

OCT 12 2017

## Release Notification and Corrective Action OPERATOR Initial Initial

Name of C						Contact Thomas Long						
Address 61			igton, NI	/I 87401			No. 505-599-2					
Facility Nar	ne <b>Latera</b>	I K-7				Facility Typ	e Natural Gas	s Gathe	ring Pi	peline		
Surface Ov	vner <b>BLM</b>	-		Mineral (	Owner	BLM			Serial	No. 5370116		
				LOCA		OF REL	EASE					
Unit Letter C	Section 22	Township <b>26N</b>	Range 7W	Feet from the 775	North Line	South	Feet from the 1577	EastW Line	esi	County Rio Arriba		
		La	atitude 36	6.477253	Longitu	de <u>107.56</u>	66568NAD83					
				NAT	URE	OF RELE	EASE			1 1 2 2 2		
Type of Rele							Release Unkno			Recovered None		
Source of R	elease: Sus	spected Inter	nal Corros	ion	w.		Hour of Occurre @11:30 a.m.			d Hour of Discovery 7 @11:30 a.m.		
Was Immed	iate Notice		⊠ Ves	□ No □ I	Not	If YES, To		tesy Noti	fication '	Vanessa Fields – NMOCD;		
Required		,	△ 163		101	vvillaley C	illiar - DEIVI					
By Whom? Thomas Long Date and Hour September 26, 2017 @ 4:20 p.m.												
Was a Watercourse Reached?  ☐ Yes ☐ 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 Ca	use of Prob	olem and Rei	medial Act	ion Taken.*C	n Augus	st 21, 2017 E				d a release on the Lateral K-7 n the ground surface.		
pipeline. Th	e pipeiirie v	vas isolateu,	depressui	izeu, iockeu	out and	tagged out.	Willillia liulus	were obt	serveu o	ii tile ground sunace.		
Describe Ar	a Affactad	and Claanin	a A ation T	akan *Danain	d	diation o	es in the colored	l'	ana Tha	and mineral manage will be		
							e in the schedu e included with			e contaminant mass will be 1.		
I hereby cer	tify that the	information (	niven abov	e is true and	comple	to to the hes	t of my knowled	ge and i	ındoreta	nd that pursuant to NMOCD		
rules and re	gulations al	I operators a	re require	d to report an	d/or file	certain relea	ase notifications	and perf	form corr	rective actions for releases		
which may e	endanger pu	ublic health o	r the envir	onment. The	accept	ance of a C-	141 report by th	e NMOC	D marke	ed as "Final Report" does not		
										mination that pose a threat to port does not relieve the		
							ws and/or regul	ations.				
a.		611	,				OIL CONS	SERV	<u>NOITA</u>	DIVISION		
Signature:	M	(. the	1	8					1			
Printed Nam	e: Jon E. F	ields	•			Approved by	/ Environmental	Speciali	st:			
Title: Directo	or, Environn	nental				Approval Da	te: 10 112 DC	E	xpiration	Date:		
E-mail Addre	ess: jefields	@eprod.con	1		Conditions of Approval:							
Date: 6684	10/6/20	17	Pho	ne: (713) 381	-	Symple	Elean &	301S	)<	Attached		
Attach Addi	tional She	ets If Neces	ssary			WI	1671	05	1998	5		

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

Revised April 3, 2017

Form C-141

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

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

	Release Notification and Corrective Action												
					OF	PERATOR		$\boxtimes$	Initial I	Report		Final Report	
		nterprise F					omas Long	2000					
		ve, Farmir	igton, Ni	W 87401			No. <b>505-599-</b> 2						
Facility Nar	me <b>Latera</b>	I 2C-79				Facility Typ	e Natural Ga	s Gath	ering Pi	peline			
Surface Ov	vner <b>Jicar</b>	illa Apache	Tribe	Mineral C	wner	Jicarilla A	pache Tribe		Serial Nu	umber:			
				LOCA	TIOI	N OF REL	EASE						
Unit Letter	Section	Township	Range	Feet from	Nort	South	Feet from	East/	Vest	County		ė.	
ı	21	23N	3W	the NA	Line		the NA	Line		Rio Arrib	a		
		1.0	titudo 3	6 205206	ongitu	ıdo 107 16	3270 NAD83						
		Lo	allitude_ <u>5</u>			OF RELI							
Type of Rele	ease: Natur	al Gas and C	Condensat		OIL		Release Unkr	nown	Volume I	Recovered	None	9	
		lity Blowdown				Date and	Hour of Occurre			Hour of D		ery	
Was Immed	iate Notice	Given?				If YES, To	@ 4:45 p.m. Whom? : Notif	ication	to Vaness	<b>7 @ 4:45</b> p a Fields –	NMO	CD: Hobson	
D			☐ Yes	□ No ⊠ N	lot	Sandoval					NST.	3	
Required    Yes   No   Not   Sandoval													
By Whom?	Thomas Loi	ng				Date and Hour 9/20/2017 @ 0757 OIL CONST							
Was a Wate		ached?				If YES, Vo	olume Impacting	the W	atercourse	OCT 13	-		
			☐ Yes	⊠ No						00			
If a Waterco	urse was In	npacted, Des	scribe Full	y.*		1 10 0						100 =0	
							017, a third part on the ground su						
on October	3, 2017 and						on October 4, 2						
subsurface	soil.												
Describe Are	ea Affected	and Cleanu	Action T	aken.* The rer	nediat	ion is in prog	ress. The conta	aminant	mass will	be remove	ed by	mechanical	
				oort will be inc							,		
I hereby cer	tify that the	information	niven ahov	e is true and	comple	ate to the hes	at of my knowled	dae and	understa	nd that nur	suant	to NMOCD	
rules and re	gulations al	I operators a	re require	d to report and	l/or file	certain relea	ase notifications	and pe	erform corr	ective action	ons fo	r releases	
which may e	endanger pu	ublic health o	r the envi	ronment. The	accep	tance of a C-	141 report by the investigate and	re NMC	CD marke	ed as "Fina	I Rep	ort" does not	
ground water	r, surface v	vater, human	health or	the environme	ent. In	addition, NN	10CD acceptan	ce of a	C-141 rep				
operator of r	esponsibilit	y for complia	nce with a	any other fede	ral, sta	ite, or local la	ws and/or regu			DI) ((0)	211		
		6	0.				OIL CON	SERI	/ATION	DIVISIO	<u> </u>		
Signature:	MI	· tuse							/	//	4	1	
Printed Nam	e: Jon E. F	ields				Approved by	/ Environmental	Specia	alist:	my	1		
							10/0-1	T		/>			
Title: Directo	or, Environn	nental			Approval Date: 10/23/17   Expiration Date:  Conditions of Approval: Sample Sol								
E-mail Addre	ess: jefields	@eprod.com	1			Conditions of	of Approval:	angle	See				
Date: /o/	13/2017		Pho	ne: (713) 381-		T94, BT0	benzene.			Attache	d 🔀		

## Smith, Cory, EMNRD

From:

Smith, Cory, EMNRD

Sent:

Monday, October 23, 2017 8:35 AM

To: Cc: Long, Thomas (tjlong@eprod.com)

Subject:

Fields, Vanessa, EMNRD

Attachments:

Lateral 2C-79 C-141 Approval. 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 <u>lo/lq l </u> regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number <u>lxs122463601</u> 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 <u>division-approved corrective action</u> 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; C<sub>6</sub> thru C<sub>36</sub>), 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 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

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

Form C-141 Revised April 3, 2017

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

Release Notification and Corrective Action

			101040	o mounto	OF	PERATOR	3	× ( )	] Initial I	Report	П	Final Report
Name of C	ompany Ei	nterprise F	ield Ser	vices, LLC			omas Long		ı ınıdarı	Сроге		i iiai repor
Address 61							No. <b>505-599-</b>	2286				
Facility Na	me Lindrit	h Compre	ssor Stat	tion	-	Facility Typ	e Natural Ga	s Com	pressor	Station		
						licerille A	nacha Triba		Serial Nu	ımber:		
Surface Ov	wner Jicari	na Apacno	e iribe	Mineral C	wner	Jicarilla A	pache Tribe		Serial IV	amber.		
						OF REL						
Unit Letter	Section 18	Township 24N	Range 5W	Feet from the 1707	Norti Line	South	Feet from the 735	East/ Line	Vest	County Rio Arriba	1	
		La	atitude_3	6.310191 L	ongitu	ıde <u>107.39</u>	5614 NAD83					
				NAT	URE	OF RELI	EASE					
Type of Rele	ease: Conde	ensate and F	Produced \	Water		E SOCIOLOS SOCIOLOS EN CONTRACTOR DE LA	f Release 10-1 Condensate/W		Volume I	Recovered I	None	
Source of Release Facility Blowdown Vent Pipe  Date and Hour of Occurrence 9/27/2017 @ 8:30 a.m.  Date and Hour of Occurrence 9/27/2017 @ 8:30 a.m.											ery	
Was Immed	iate Notice	Given?				IF VEC T	M/hom2 · Notif	ication	to Manage	o Eioldo N	MACC	D; Hobson
			☐ Yes	□ No ⊠ N	ot	Sandoval	)			.15	1151	3
Required										ans. DIV	- 17	
By Whom?						Date and	Hour 10/12/201	7 @ 08	30 OIL	19	5011	
Was a Wate	ercourse Rea		☐ Yes	⊠ No		If YES, Vo	Hour 10/12/201	the W	atercourse	OCI I	4	
If a Waterco	uree was Im						*					
					n Sept		017, condensate					
					of lab	oratory anal	ysis, Enterprise	determ	ined that t	his release	was r	eportable
on October	11, 2017 du	e to the voil	ime of imp	acted soil.								
							35 feet long by					
				neduling proces with the "Final."			int mass will be	remove	ed by meci	nanical exca	avatio	n. A third
party correc		- Port 11 20		The Times	0							
							st of my knowled					
							ase notifications -141 report by the					
							investigate and					
ground water	er, surface w	ater, humar	health or	the environme	ent. In	addition, NN	<b>IOCD</b> acceptan	ce of a	C-141 rep			
operator of i	responsibility	y for complia	ance with a	any other feder	ral, sta	ite, or local la	ows and/or regu OIL CON			DIVISIO	NI	
	< 1	6	1.				OIL CON	SERI	ATION	DIVISIO	IN	$\cap$
Signature:	- IN	· Ku	Lef							1	-	4
Printed Nam	ne: Jon E. Fi	elds				Approved by	y Environmenta	l Specia	alist:	me !	_	4/
Title: Directo	or, Environm	nental		140		Approval Da	ate: 16/23/1	7	Expiration	Date:		
			2				1007					
E-mail Addr	/ /	weprod.con	1		Conditions of Approval:					Attached	X	
Date: 10,	113/2017	5		ne: (713) 381-							~~	
* Attach Addi	tional Shee	ets If Neces	ssary 🛨	Thes 17	285	30939	5					



## Smith, Cory, EMNRD

From:

Smith, Cory, EMNRD

Sent:

Monday, October 23, 2017 9:30 AM

To:

Long, Thomas (tjlong@eprod.com)

Cc: Subject: Fields, Vanessa, EMNRD

Attachments:

Lindrith C-141 Approval. 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 \( \frac{0/19/17}{17} \) regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number \( \frac{123539}{1723539} \) has been assigned. **Please refer to this case number in all future correspondence.** 

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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.

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#### Jim Griswold

OCD Environmental Bureau Chief 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505-476-3465 jim.griswold@state.nm.us <u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District III

1000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

## State of New Mexico **Energy Minerals and Natural** Resources

Form C-141 Revised April 3, 2017

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

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

	Salita Fe, Nivi 87505											
		F	Releas	e Notifica	atior	and C	orrective	Acti	on			
					OP	ERATO	₹		Initial	Report	$\boxtimes$	Final Report
		nterprise F					omas Long					
		Ave, Farmii 6 Inch Pig					No. <b>505-599-</b> 2 oe <b>MA 16 Inch</b>		ossiver	4		
	197.111		Receive				De WA TO INCH	i Pig K		A 2/8,075	e/Call	
Surface O	wner <b>BLM</b>	7		Mineral C	wner	BLM			Serial	No. NM C	80782	2
- 3			9			OF REI						
Unit Letter	Section 22	Township 30N	Range 7W	Feet from the	North Line	South	Feet from the	East/ Line	West	County Rio Arri	ha	
		3014	/**	1411	LIIIC		903	Line		INIO AITI	Du .	
		L	atitude 36	6.801549 Lon	gitude	-107.5524	06 NAD83					
NATURE OF RELEASE												
Type of Rel	ease Produ	ced Water					f Release Great	ter	Volume	Recovered	d None	•
Source of R	delease Hun	nan Error		*		Date and	Hour of Occurre	ence		Hour of I		ery
Was Immed	liate Notice	Given?					' @ 5:30 p.m. O Whom? : Cour	tesv No		7 @ 5:30 Cory Smit		MOCD:
			Yes	□ No □ N	ot		homas - BLM	tooy	, anodaon	001, 011111		.002,
Required												
By Whom?							Hour March 30,					
Was a Wate	ercourse Re	ached?		If YES, V	olume Impacting	the W	atercourse	9.				
If a Waterco	ourse was Ir	mpacted, Des		⊠ No								
Describe Ca	ause of Prol	blem and Re	medial Ac	tion Taken On			mployee was w					
							on the upstream					
piping.	ed the boils	secured the	signal to the	le piping. Once	e remo	veu, trie pig	signal and prod	iuceu w	ater was	ejected ou	it Of the	e top or trie
							submitted to Ne					
(NMOCD) a	ınd subsequ aluated imp	ently approv	red. Upon ermine pot	favorable wea	ther co	onditions, so tion. The lat	il samples for la oratory analyse	borator	y analysis a flow path	were coll	ected t	from affected
indicate cor	nbined GRO	O/DRO/MRO	concentra	ations ranging t	from 41	3 mg/kg to	2,380 mg/kg, v	vhich a	e exceed	the NMO	CD site	specific
							OCD site specific					
emaii appro	ival for close	are from the	NINIOCD	n June 19, 20	17. A u	iira party iriv	estigation repor	t is inci	uded with	this Fina	i. C-12	+1
							st of my knowled					
							ase notifications -141 report by th					
							investigate and					
							MOCD acceptan		C-141 rep	ort does r	not reli	eve the
operator of	responsibili	ty for compile	anee with a	any other reder	ai, stat	e, or local la	OIL CON		/ATION	DIVISI	ON /	1
	(/.	/	//,				OIL COIN	SLIN	ATION	DIVISI		
Signature:	IN	. tu	M						/.	/		1 4
Printed Nan	ne: Jon E. F	ields				Approved by	y Environmental	Specia	llist:	The same	1	1
Title: Direct	or, Environn	nental				Approval Da	nte: ///3/1-	7	Expiration	Date:	)	
E-mail Addr	ess: jefjelds	s@eprod.con	n				of Approval:				. –	
0	25/201			01 (742) 204 0						Attache	ed 📙	la l
Date: 7/	C3/00/	<u> </u>	Pnon	e: (713) 381-6	084	4						

\* Attach Additional Sheets If Necessary

#NCS1713152930





## 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

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.

OIL CONS. DIV DIST. 3

Thank you,

Shiver J. Nolan

Sr. Compliance Administrator

Nolen

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

Prepared for:

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

Prepared by:

Chad D'Aponti Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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#### **CORRECTIVE ACTION REPORT**

Lateral 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.



Ra	Ranking Score		
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	0
	>100 feet	0	
Wellhead Protection Area • <1,000 feet	Yes	20	
from a water source, or; <200 feet from private domestic water source.	No	0	0
Distance to Confess	<200 feet	20	
Distance to Surface Water Body	200 to 1,000 feet	10	20
vvaler body	>1,000 feet	0	
Total	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 RALs 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.

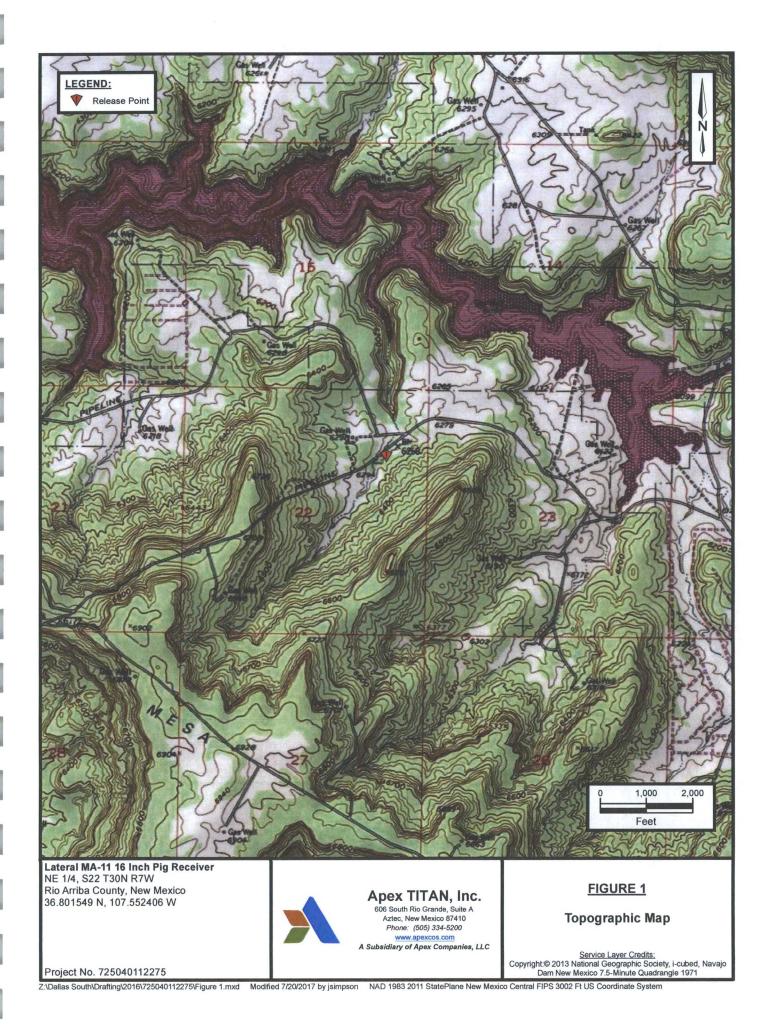
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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





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

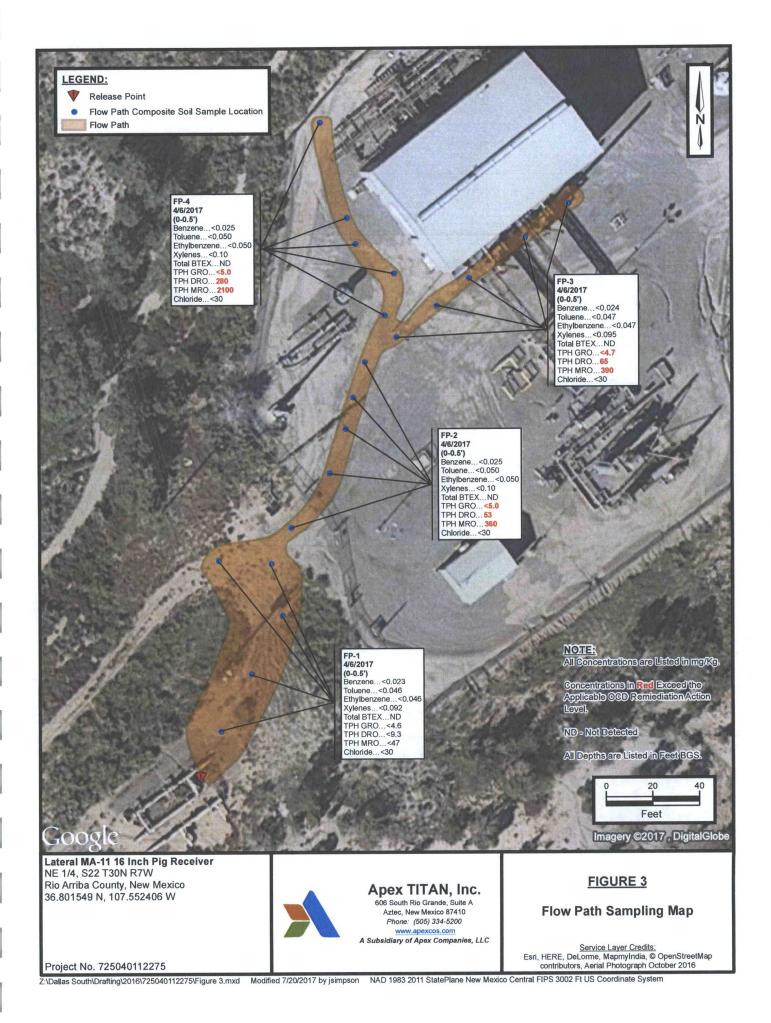
## FIGURE 2

Site Vicinity Map

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

Project No. 725040112275

2:\Dallas South\Drafting\2016\725040112275\Figure 2.mxd Modified 7/20/2017 by jsimpson NAD 1983 2011 StatePlane New Mexico Central FIPS 3002 Ft US Coordinate System





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 Sa	mples Collected from	n the Primary Flov	v 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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 qualifers 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

andy

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	ND	30	mg/Kg	20	4/12/2017 3:17:59 PM	31203
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analys	t: 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 RAM	NGE				Analys	t: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: 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.
- 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 Page 1 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- 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-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 Qu	al 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 RANG	GE ORGANICS	6			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 RAN	IGE				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.
- 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 Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- 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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	ND	30	mg/Kg	20	4/12/2017 3:42:48 PM	31203
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: 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 RAN	NGE				Analys	t: 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					Analys	t: 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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 8 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- 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 RANG	SE ORGANICS	3				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 RAN	GE					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
<b>EPA METHOD 8021B: VOLATILES</b>						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.
- 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 Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# 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

LowLimit

Client ID:

PBS

Batch ID: 31203

%REC

RunNo: 42066

HighLimit

4/12/2017 Analyte Result

Analysis Date: 4/12/2017

SeqNo: 1322090

Units: mg/Kg

**RPDLimit** 

Qual

Chloride

Prep Date:

**PQL** ND 1.5

Sample ID LCS-31203 **LCSS** 

SampType: LCS

TestCode: EPA Method 300.0: Anions

Batch ID: 31203

1.5

RunNo: 42066

Prep Date: 4/12/2017

SeqNo: 1322091

Units: mg/Kg

110

Analyte

Client ID:

Analysis Date: 4/12/2017

HighLimit

Qual

**PQL** 

SPK value SPK Ref Val 15.00

SPK value SPK Ref Val

%REC 93.9

%RPD **RPDLimit** 

%RPD

Chloride

Qualifiers:

Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D

H Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

ND Not Detected at the Reporting Limit RPD outside accepted recovery limits В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 5 of 8

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

### 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

99.1

102

Units: mg/Kg

Analyte Diesel Range Organics (DRO)

Sample ID MB-31157

Prep Date: 4/10/2017

Result **PQL** 50 10

5.1

Result

ND

ND

11

%REC

HighLimit %RPD LowLimit 63.8 116

130

**RPDLimit** Qual

Surr: DNOP

SampType: MBLK

TestCode: EPA Method 8015M/D: Diesel Range Organics

%RPD

Client ID: **PBS** 

Batch ID: 31157 Analysis Date: 4/11/2017

RunNo: 42017 SeqNo: 1319775

HighLimit

Units: mg/Kg

Analyte Diesel Range Organics (DRO)

PQL 10 50

SPK value SPK Ref Val %REC LowLimit

70

**RPDLimit** Qual

Motor Oil Range Organics (MRO) Surr: DNOP

10.00

SPK value SPK Ref Val

50.00

5.000

110

70

130

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В 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
- Sample container temperature is out of limit as specified

Page 6 of 8

#### Hall Environmental Analysis Laboratory, Inc.

950

WO#:

1704288

13-Apr-17

Client:

APEX TITAN

Project:

M 16 Pig Receiver

Sample ID	MB-31130	SampType: M	BLK
Client ID:	PBS	Batch ID: 31	130

Batch ID: **31130** RunNo: **42001**Analysis Date: **4/10/2017** SeqNo: **1319435** Units: **mg/Kg** 

TestCode: EPA Method 8015D: Gasoline Range

Prep Date: 4/7/2017 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 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

963.4

HighLimit Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 4.8 23.95 0 92.2 61.3 150 957.9 Surr: BFB 970 101 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 HighLimit SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte Result PQL LowLimit Qual Gasoline Range Organics (GRO) 96.0 23 4.8 24.08 0 61.3 150 4.57 20

98.7

54

150

#### Qualifiers:

Surr: BFB

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

Page 7 of 8

0

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

SampType: LCS

WO#:

1704288

13-Apr-17

Client:

APEX TITAN

**Project:** 

Sample ID LCS-31130

M 16 Pig Receiver

Sample ID MB-31130	SampT	ype: ME	BLK	TestCode: EPA Method 8			8021B: Vola	Volatiles			
Client ID: PBS	Batch	n ID: 31	130	RunNo: 42001							
Prep Date: 4/7/2017	Analysis Date: 4/10/2017			SeqNo: 1319454			Units: mg/k	(g			
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				

Client ID: LCSS	Batch ID: 31130			R	RunNo: <b>42001</b>						
Prep Date: 4/7/2017	Analysis Date: 4/10/2017			S	eqNo: 1	319455	Units: mg/K	/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				

TestCode: EPA Method 8021B: Volatiles

Sample ID 1704288-001AMS	SampTy	pe: MS	5	Test	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: FP-1	Batch I	D: <b>31</b> 1	130	R	RunNo: 42001					
Prep Date: 4/7/2017	Analysis Da	te: 4/	10/2017	S	SeqNo: 1	319458	Units: mg/K	g		
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 1704288-001AMS	D SampT	ype: MS	SD	Tes	tCode: El					
Client ID: FP-1	Batch	ID: 31	130	F	RunNo: 4					
Prep Date: 4/7/2017	e: 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.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 8 of 8

P Sample pH Not In Range

Reporting Detection Limit

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		July Mago		
Completed By: Ashley Gallegos	4/7/2017 11:08:43 AM		A Jungo		
			24		
Reviewed By:	4/7/47				
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 sample	s?	Yes 🗹	No 🗆	NA 🗆	
5. Were all samples received at a temperature	re 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 tes	t(s)?	Yes 🗹	No 🗌		
8. Are samples (except VOA and ONG) prop	erly 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 bro	oken?	Yes	No 🗹	# of preserved	
42 Dans are and south home labels		Yes 🗸	No 🗆	bottles checked for pH:	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes W	NO L		>12 unless noted)
13. Are matrices correctly identified on Chain	of Custody?	Yes 🗹	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?		Yes 🗹	No 🗌		
15. Were all holding times able to be met?		Yes 🗹	No 🗌	Checked by:	
(If no, notify customer for authorization.)			-		
Special Handling (if applicable)					
16. Was client notified of all discrepancies with	h this order?	Yes	No 🗆	NA 🗹	
Person Notified:	Date				
By Whom:	**************************************	eMail 🗍	Phone Fax	In Person	
Regarding:		***************************************		mentense en	
Client Instructions:	MACCOCCACACACACACACACACACACACACACACACACA	askrávak "Advákájokolokákokákolóká	ininahadda anndoedda milli	ANTENNA DE CHANTON A MANDON A MANDA A	
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp °C Condition		Seal Date	Signed By		
1 1.6 Good Y	'es		ļ		

			CHAIN OF CUSTOD	Y RECORD
APEX Office Location Artic Nm  Project Manager K Sumus Sampler's Name Chad Di Apanti	Phone:PO/SO#:	« MAN		
Proj. No. Project Name 7357010 113 3 75 M 16 P.	a Receiver	No/Type of Containera		
Matrix Date Time C G I Identifying Ma	rks of Sample(s)	VOA 1LL 250 ml Glass Jar PYO	Lab Sample ID (Lat	Use Only)
5 76/17 1000 0 FA-1 5 1005 10 F7-2		1	1704288.0	10
5 1005 10 FP-2		1	-00	2
5 1010 10 12-	3	1	-00	3
5 / 1015 x = 2-1			1111 -006	7
			259	
	50% Rush 100% Rush			
	Time: Received by: (Signa	ture) Date:	Time: NOTES:	
Relinquished by (Signature) Date:	Time: Received by (Signa	ture) Date:	Time: Bill to for Long	
Reinquished by (Signature) Date:	Time: Received by: (Signa	ture) Date:	Time: AFE # N30071	
Relinquished by (Signature) Date:	Time: Received by: (Signa	ture) Date:	Time:	
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/3 - Amber / 0	S - Soil SD - Solid L - Liquid or Glass 1 Liter 250 ml -		harcoal tube SL - sludge O - Oil 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 ( tilong@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
corv.smith@state.nm.us

From: Long, Thomas [mailto:tilong@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 ( tilong@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 ( tilong@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); l1thomas@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 ( tilong@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

Corv.

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 (
tilong@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.

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 District III

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Hobbs, NM 88240

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

#### State of New Mexico **Energy Minerals and Natural** Resources

Form C-141 Revised April 3, 2017 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Oil Conservation Division Santa Fe, NM 87505

**Release Notification and Corrective Action** 

1220 South St. Francis Dr.

					OP	<b>ERATOR</b>	3	$\boxtimes$	Initial F	Report		Final I	Report
Name of C	ompany E	nterprise F	ield Serv	rices, LLC		Contact <b>Thomas Long</b> Telephone No. <b>505-599-2286</b>							
Address 6	14 Reilly A	Ave, Farmir	ngton, NI	M 87401		Γelephone	No. <b>505-599-</b> 2	2286					
Facility Na	me <b>San J</b> ι	uan 30-6 #4	103			Facility Type Natural Gas Gathering Pipeline							
Surface Ov	wner <b>BLM</b>			Mineral	Owner I	BLM			Serial	No. NM (	07676	2	
				LOC		OF REL	EASE						
Unit Letter <b>G</b>	Section 9	Township 30N	Range 6W	Feet from the 1817	North Line	South	Feet from the 2248	East/ Line	Vest	County Rio Arri	ba		
		La	atitude 36	6.829257	Longitue	de <u>107.46</u>	7122 NAD83						
				NA	TURE	OF RELI							
		al gas and Na					f Release Unkn			Recovered			
Source of R	elease Inter	rnal Corrosio	n of the Pi	peline			Hour of Occurre 7 @ 12:40 p.m.			Hour of E			
Was Immed	liate Notice						Whom? : Cour						
Required			☐ Yes	□ No ⊠	Not								
By Whom?						Date and	Hour November	r 17, 201	17 @ 7:24	a.m.			
Was a Wate	ercourse Re		☐ Yes	⊠ No		If YES, Vo	olume Impacting	the Wa	tercourse	).			
		npacted, Des											
							017, a contractor essurized, locke						6
Describe Ar	as Affastad	and Claanu	n Action T	okon * No flu	ida abaa		n the around ou	reference D	Domodiati	on lo la na			
Enterprise h	as determin		ase reporta	able per NMC			n the ground su to the volume of						ctive
I hereby cer	tify that the	information	given abov	e is true and	complet	o to the hos	st of my knowled	dae and	undoretor	ad that nu	reuent	to NIMC	CD
rules and re	gulations al	Il operators a	re require	d to report ar	nd/or file	certain relea	ase notifications	and per	rform corr	ective acti	ions fo	r releas	ses
							141 report by th						
							investigate and MOCD acceptan						
							aws and/or regu		о тчттор	ort dood i	iot roil	340 1110	
		1/10	/.				OIL CON	SERV	ATION	DIVISI	МO		)
Signature:		W. 4	6						/	1			
Printed Nan	ne: Jon E. F	ields			1	Approved by Environmental Specialist:						10	
Title: Directo					Approval Date: /// Expiration Date:								
		@eprod.com	n	y .			7 7 0				4 C		
Date: /a	1/201	7	Phon	e: (713) 381-	6684	PA, Bte	of Approval: S	Zerer		Attache	a 🔀	8	
Attach Addi	tional She	ets If Neces	ssary	NY514	016	5562	2						



Operator/Responsible Party,		
The OCD has received the form C-141 you provided on contained on that form has been entered into our incident databas	_ regarding an unauthorized release. e and remediation case number MCS	
been assigned. Please refer to this case number in all future corre	•	

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 <u>division-approved corrective action</u> 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 Note. 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; C<sub>6</sub> thru C<sub>36</sub>), 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; C<sub>6</sub> thru C<sub>36</sub>), 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

Form C-141 Revised April 3, 2017

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

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

Release Notification and Corrective Action													
	OPERATOR   ☑ Initial Report ☐ Final Report												
Name of C Address 61						Contact <b>Thomas Long</b> Telephone No. <b>505-599-2286</b>							
				1 0 7 40 1		Facility Type Natural Gas Gathering Pipeline							
Facility Na		, ,	e Natural Ga	as Gath									
Surface Ov	Surface Owner <b>BLM</b> Mineral Owner								Serial	No NM	11158	<b>31</b>	
						OF REL	EASE						
Unit Letter	Unit Letter Section Township Range Feet from the 2388					South	Feet from the 86	East/ Line	Vest	County Rio Arri	ba	r.	
	Latitude_36.826352Longitude107.441559_NAD83												
				NATU	RE	OF RELI	EASE						
		al gas and Na					f Release Unki			Recovered			
Source of R	elease inte	rnal Corrosio	on of the Pi	peline			Hour of Occurr 7 @ 1:37 p.m.			17 @ 1:3	of Discovery 1:37p.m.		
Was Immed	iate Notice		☐ Yes	□ No ⊠ Not		If YES, To	Whom? : Cou	irtesy No	tification (	Cory Smit	n – NN	MOCD	
Required			☐ 1es										
By Whom?						Date and Hour November 22, 2017 @ 3:33 p.m.							
Was a Wate	ercourse Re		Yes	⊠ No		If YES, Volume Impacting the Watercourse.							
If a Waterco	urse was Ir	npacted, De	scribe Fully	/.*									
				ion Taken.* On led the release a									
Enterprise h	as determin		ase reporta	aken.* No fluids able per NMOCD C-141.									
rules and re which may relieve the o ground water	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.												
		161	/,			OIL CONSERVATION DIVISION							
Signature:	In												
Printed Nam	ne: Jon E. F		Approved by Environmental Specialist:										
Title: Directo	or, Environn		Approval Date:										
E-mail Addr	ess: jefields	@eprod.con	n			Conditions of Approval: Sample Fer Attached X							
Date:	12/1/2	17	Phone	e: (713) 381-668	34	TPH	Btex.	Benz	cene.		74		
* Attach Addi	tional She	ets If Neces	ssary +	FNCS 186	310	65531	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 NS 180165535 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 <u>division-approved corrective action</u> 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; C<sub>6</sub> thru C<sub>36</sub>), 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; C<sub>6</sub> thru C<sub>36</sub>), 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

<u>District I</u> 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 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

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

Form C-141 Revised April 3, 2017

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

	Release Notification and Corrective Action												
						PERATO	Miles - 10		Subse	equent	Final Report		
Name of C		nterprise F lve, Farmir					omas Long	2206					
Facility Na						Telephone No. 505-599-2286  Facility Type Natural Gas Compressor Station							
			pressor				e Natural Gas	s Com					
Surface Ov	wner <b>Priva</b>	ite		Mineral (	Owner I	BLM			Serial No	umber:			
						OF REL		_					
Unit Letter D	Section 31	Township 30N	Range 7W	Feet from the 635	Line	North South Feet from the 120 EastWest County Rio Arriba							
	Latitude 36.77467 Longitude 107.61787 NAD83												
T (D.)		1 - 1 - 1 1	0:1	NAT	URE	OF RELI			Values	Descripted Name			
Type of Rel	ease: Fresh	Lubrication	Oil				f Release 8-10 Fresh Lubricati	on	Volume	Recovered <b>None</b>	•		
Source of R	elease Day	Tank					Hour of Occurre 7 @ 12:00p.m.	ence		d Hour of Discover 17 @ 12:00p.m.			
Was Immed	liate Notice						Whom? : Notifi	ication					
Required			☐ Yes	□ No ⊠ N	NOt								
By Whom?						Date and Hour 11/15/2017 @ 11:34 a.m.							
Was a Wate	ercourse Re		☐ Yes	⊠ No		If YES, Volume Impacting the Watercourse.							
If a Waterco	urse was Ir												
Describe Ca switch failed	If a Watercourse was Impacted, Describe Fully.*  Describe Cause of Problem and Remedial Action Taken.* On November 14, 2017, a technician was filing 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.												
has been re	moved by h	and tools. A	third part	y developed s	soil reme	ediation wor		s imple		of the contamin January 11, 2018			
rules and re which may relieve the o ground water	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.												
		15	/,			OIL CONSERVATION DIMISION							
Signature:	In	11. 1	well						//		9		
Printed Nan	ne: Jon E. F	ields				Approved by	y Environmental	Specia	alist:	ary I	1		
Title: Directo	or, Environn	nental			/	Approval Da	nte: 2/6/18		Expiration	Date:			
E-mail Addr	ess: jefields	@eprod.con	n		(	Conditions of	of Approval:						
Date: /	124/2	1018		ne: (713) 381						Attached			
Attach Addi	tional She	ets If Neces	ssary #	NVFI73	>404	7736					20		



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: Rel	ease 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
ТРН	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 Dexsil® 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

Showna Chubbuck

#### **ATTACHMENTS:**

#### Figures:

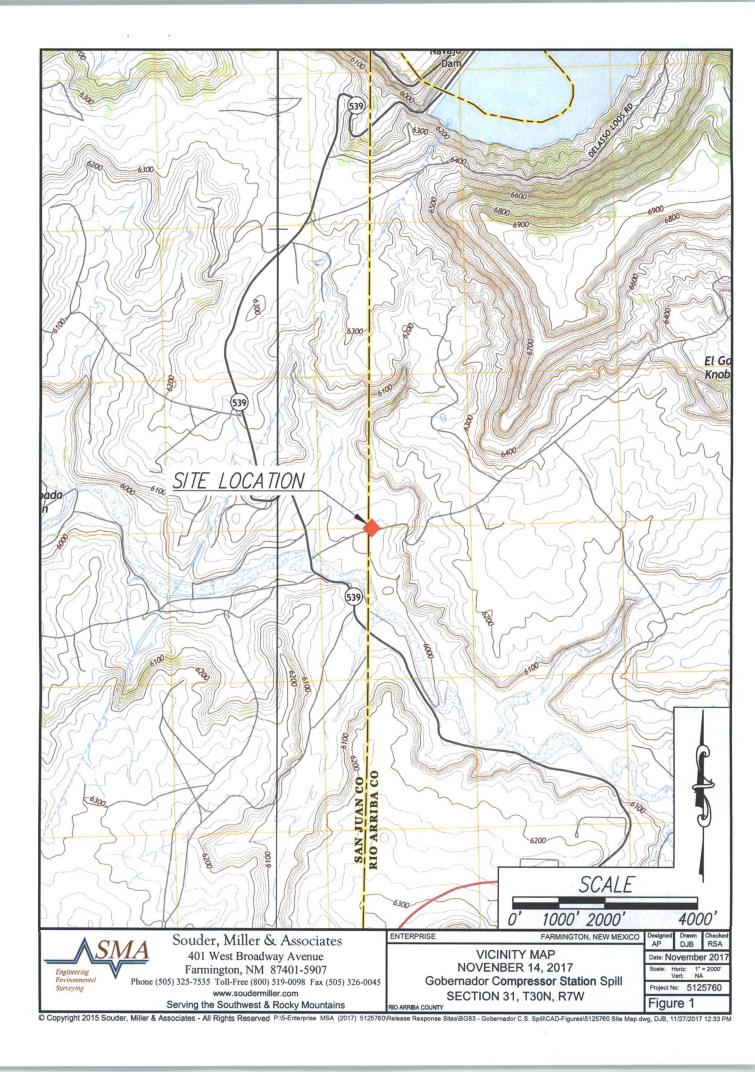
Figure 1: Vicinity Map Figure 2: Site Location Map

Figure 3: Proposed Sampling Area Map

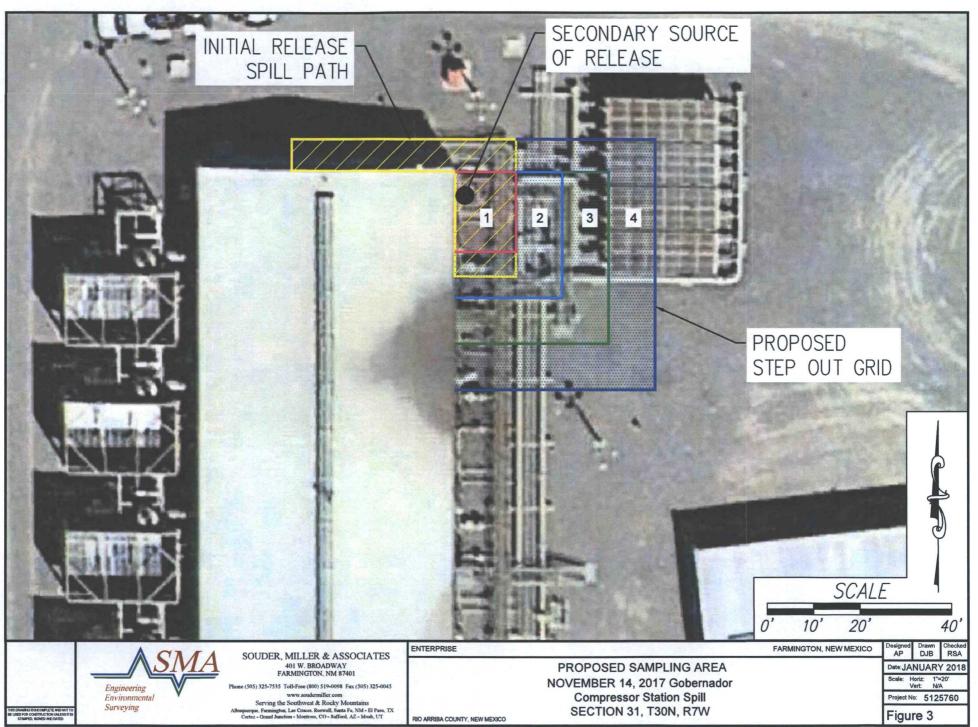
#### Appendices:

Appendix A: Form C-141 Initial Appendix B: NMOSE Wells Report Appendix C: Photo Log

**FIGURES** 







# APPENDIX A FORM C141 INITIAL

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** 

Muni & Yola

**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,

Shiver J. Nolan

Sr. Compliance Administrator

enclosures

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

#### State of New Mexico **Energy Minerals and Natural** Resources

Form C-141 Revised April 3, 2017

Oil Conservation Division 1220 South St. Francis Dr. Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

				Sa	inta F	e, NM 87	505							
		F	Releas	e Notific	atic	n and C	orrective	Acti	on					
					0	PERATO	2		Initial I	Report		Final Repor		
				vices, LLC	•	Contact Thomas Long								
Address 61	14 Reilly A	ve, Farmir	ngton, Ni	M 87401		Telephone No. 505-599-2286								
Facility Na	Facility Name Gobenador Compressor Station						e Natural Ga	s Con	pressor	Station				
Surface Ov	Surface Owner Private Mineral Owner						er BLM Serial Number:							
				LOC	ATIO	N OF REL	EASE							
Unit Letter Section 30N Range Feet from the 635 Line					South Feet from East			e County RIo Arriba						
	Latitude 36.77467 Longitude 107.61787 NAD83													
			0.11	NAT	URE	OF RELI								
Type of Rele	ease: Fresh	Lubrication	Oil				f Release 8-10 Fresh Lubricati	ion	Volume I	Recovered	Recovered None			
Source of R	elease Day	Tank				Date and		d Hour of Discovery						
Was Immed	iate Notice		_			11/14/2017 @ 12:00p.m.   11/14/2017 @ 12:00p.m.   If YES, To Whom? : Notification to Cory Smith – NMOCD								
Required			∐ Yes	□ No ⊠ I	Not									
By Whom?							Hour 11/15/201							
Was a Wate			Yes			If YES, Volume Impacting the Watercourse.								
If a Waterco	urse was in	npacted, Des	scribe Full	y.*	Da Mari	ombor 14 20	17, a techniciar	· ····································	line the de	v tonk one	d Alexandra			
switch failed compressor	causing fre	sh lubricatio	n oil to ov	erflow the day	y tank.	An estimate	d volume of 8-10	) barre	ing the day	y tank and ased and	flower	d out of the		
							cheduling proce e included with				s will b	e removed		
rules and re- which may e relieve the o ground wate	gulations all endanger pu perator of li er, surface w	operators a blic health o ability should rater, human	re required r the envir d their ope health or	d to report and conment. The rations have the the environm	d/or file accep falled t ent. Ir	e certain relea stance of a C- to adequately addition, NM	t of my knowled ase notifications 141 report by th investigate and IOCD acceptan aws and/or regul	and pe e NMC remed ce of a	erform com CD marke late contar C-141 rep	ective acti d as "Fina mination th	ions for al Rep nat pos	or releases ort" does not se a threat to		
							OIL CONSERVATION DIVISION							
Signature:	IN	Approved by Environmental Specialist:												
Printed Nam	e: Jon E. Fi	Approved by	- I I A II O I I I I C I I C I	ohania										
Title: Directo	r, Environm	ental				Approval Da	te:		Expiration	Date:				
E-mail Addre	ess: jefields	@eprod.com	1			Conditions of	f Approval:							
Date: 11/17 /17 Phone: (713) 381-														

<sup>\*</sup> 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	161			NA ST					Marie S.		
POD Number	Sub-		Q		800	Two	Pna			A CONTRACTOR OF THE PARTY OF TH	Charles Co.	Water Column
SJ 00028	Code basin County SJ	-	-	_	TANCO COMPANY				4071283*	606	300	306
SJ 04051 POD1	SJ	2	3	1	01	29N	W80	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

# APPENDIX C PHOTO LOG

## **Site Photographs**

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



Figure 1. View of above around 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) tilong@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:tilong@eprod.com]

Sent: Monday, January 8, 2018 2:09 PM

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

<<u>Vanessa.Fields@state.nm.us</u>>

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)
tilong@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 <u>District IV</u> 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.

1 A.,	Release Notification and Corrective Action											
					OF	PERATO	3		Initial	Report	$\boxtimes$	Final Repor
				vices, LLC		Contact Thomas Long						
50		Ave, Farmii	ngton, N	M 87401		Telephone No. 505-599-2286						
Facility Na	Facility Name Lateral 2C-79					Facility Typ	e Natural Ga	s Gath	nering Pi	peline		141
Surface O	wner <b>Jicar</b>	illa Apach	e Tribe	Mineral	Owner	Jicarilla A	pache Tribe		Serial N	lumber:		2017
ETT ; LOCATI				OITA	N OF REI	EASE				. 3	District Office	
Unit Letter	Section 21	Township 23N	Range 3W	Feet from the NA	Nort Line	/Soutb	Feet from the NA	East/	Vest	County	al	15.29 N VIAC.
122		2011			Line				II CONIC			grade grown
ING SERV		La	atitude 3	6.205296	Longitu	ide_107.16	3270 NAD83	U	IL CONS	. DIV DI	51. 5	SECTION : MATERIANS
	NATURE OF RELEASE											
Type of Rel	ease: Natur	al Gas and C	Condensat		OIL		Release 5.64	MCF	Volume	Recovered	d None	e relispor
N.					Gas ;10-1 Condens	5 BBLs of						
Source of R	elease Faci	lity Blowdown	Vent Pipe			Date and	Hour of Occurre	ence	Date an	d Hour of [	Discov	ery
The state of the s						@ 4:45 p.m. Whom? : Notif	Section		17 @ 4:45		CD: Hobooh	
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not				Vot	Sandoval	VVIIOIII?. NOUI	ication	to variess	a rieius –	INIVIO	JD, HODSON	
Required										að í	District Office	
By Whom? Thomas Long					Date and	Hour 9/20/2017	@ 075	7	, ,	3	TO SEN VAC	
Was a Watercourse Reached?						lume Impacting			Э.		Service State	
☐ Yes ⊠ No											co mas assistantes	
		npacted, Des				1 10 0						100.70
pipeline. A r	ninimal amo 3, 2017 and	ount of conde	ensate and	d produced wa	ater was	s observed o	017, a third part n the ground su on October 4, 2	ırface. F	Repairs ar	nd remedia	ation w	ere initiated
subsurface	SOII.											
Describe Ar	ea Affected	and Cleanup	Action T	aken.* The co	ntamina	ant mass wa	s removed by n	nechani	cal excav	ation. The	final e	excavation
							8 to 16 feet dee il Conservation					
				his "Final" C-		W MEXICO O	ii Conservation	DIVISIO	гарргоче	u lanu lam	Tacili	bestict thica
rules and re	gulations al	operators a	re require	d to report and	d/or file	certain relea	t of my knowled	and pe	rform cor	rective acti	ions fo	to NMOCD
which may endanger public health or the environment. The accertile relieve the operator of liability should their operations have failed ground water, surface water, human health or the environment.				failed to ent. In	adequately addition, NM	investigate and IOCD acceptan	remedi ce of a	ate conta	mination th	nat pos	se a threat to	
Sperator of responsibility for compliance with any other federal, st				iai, Sidi	e, or local la			/ATION	DIVISIO	MC	13,000	
Signature: For Fields					OIL CONSERVATION DIVISION							
Printed Nam	e: Jon E. F	ields			,	Approved by Environmental Specialist:						
LX	2					A	2/2	, 4		6.5		eval n
Title: Directo	or, Environm	iental			- /	Approval Date: // A//19 Expiration Date:				117		
E-mail Address: jefields@eprod.com					Conditions of Approval: Attached Attached					o MC D		

Attach Additional Sheets If Necessary #WCS 17 296 30119

ra

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,

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:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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#### **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 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 ENMRD 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:



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

Enterprise Field Services, LLC Corrective Action Report Lateral 2C-79 (9/19/17) Release January 5, 2018



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.

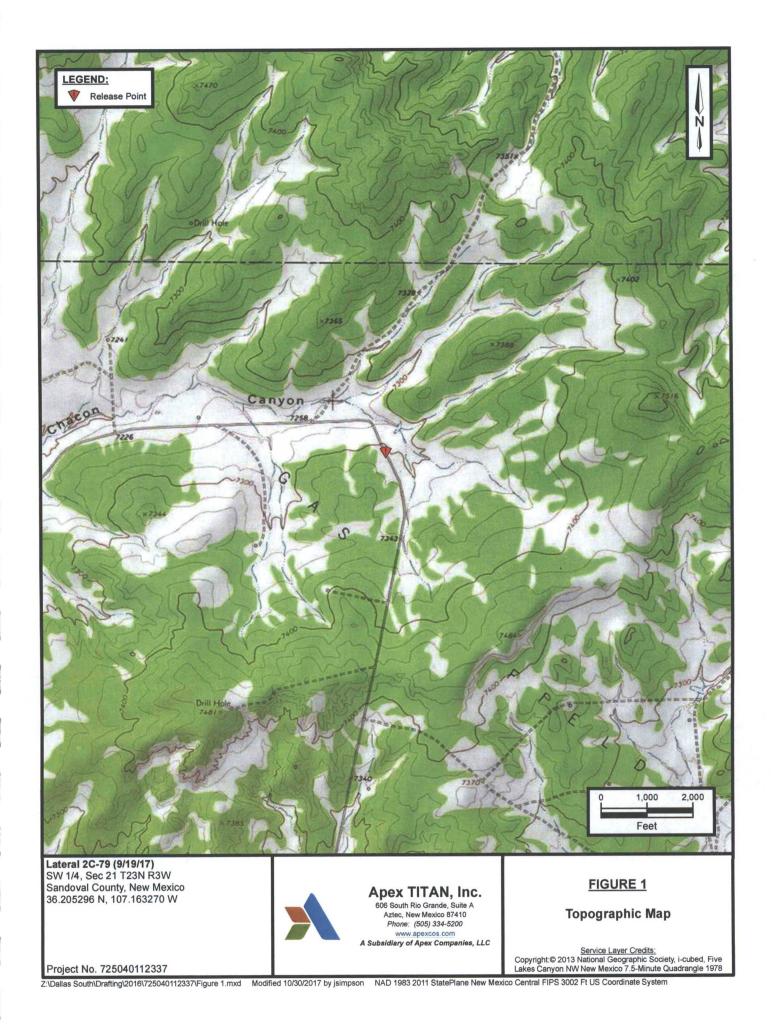
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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



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

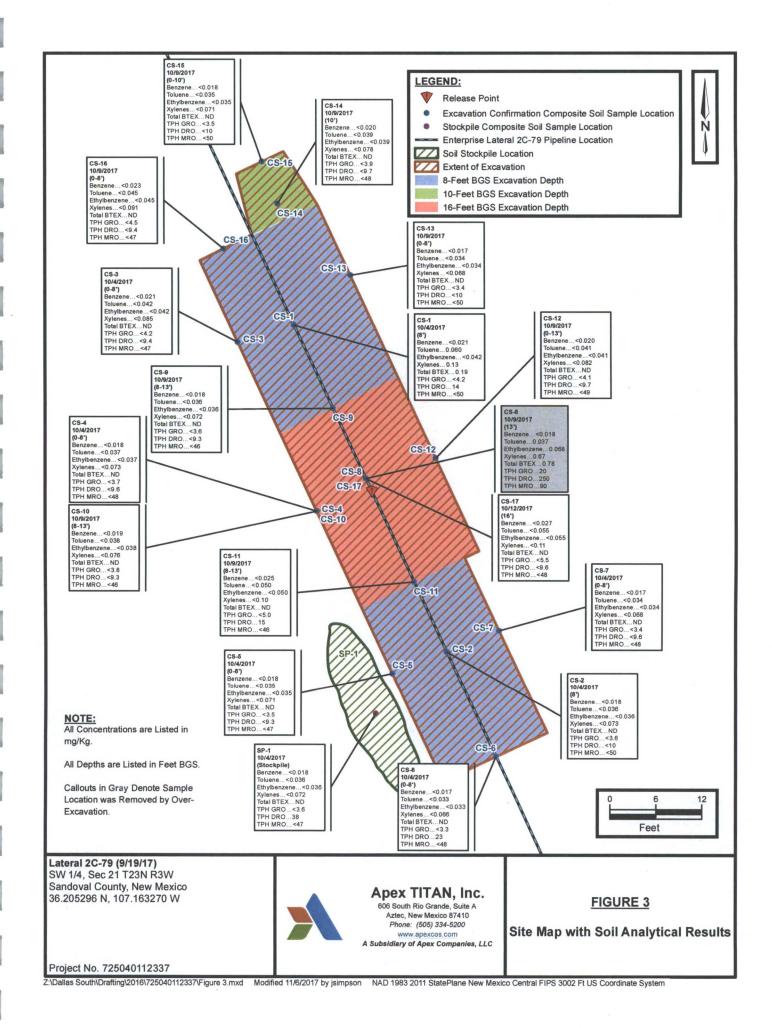
#### **Site Vicinity Map**

Service Layer Credits:

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

Project No. 725040112337

Z:\Dallas South\Drafting\2016\725040112337\Figure 2.mxd Modified 10/30/2017 by jsimpson NAD 1983 2011 StatePlane New Mexico Central FIPS 3002 Ft US Coordinate System





**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

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.

## 1220 S. St. Francis Dr., Santa Fe, NM 87505 REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE **Generator Name and Address:** Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401 **Originating Site:** Lateral 2C-79 Pipeline Location of Material (Street Address, City, State or ULSTR): Set/Oct 2017 Section 21 Township 23 North Range 3 West; 36.205296, -107.163270 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 50 (vd³) bbls Known Volume (to be entered by the operator at the end of the haul) GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, Thomas Long , representative or authorized agent for Enterprise Products Operating do hereby **Generator Signature** certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-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 9-21-17, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete I, Thomas Long **Generator Signature** the required testing/sign the Generator Waste Testing Certification. , 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. Transporter: OFT or subcontractors, West States, Calder Services, HBL, Stan Horn **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 ☐ Landfill ☐ Other Waste Acceptance Status: X APPROVED DENIED (Must Be Maintained As Permanent Record) TITLE: Environmental Manager DATE: 9/21/17 TELEPHONE NO.:



APPENDIX C
Photographic Documentation



## Photograph 1

View of the release area, facing northwest.



## Photograph 2

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



## Photograph 3

View of the excavation, facing southeast.





## SITE PHOTOGRAPHS

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

## 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)
	THE RESERVE AND ADDRESS OF THE PARTY OF THE	k Natural Resource n, Remediation Act	es Department, Oil tion Level	10	NE	NE	NE	50		100	
			Confirmation Soil S	Sample Removed b	y Excavation and	Transported to Envir	rotech Landfarm f	or Disposal/Remedia	ation	7 1 2 8 1 1 2 5 to	
CS-8	10.09.17	С	13	<0.018	0.037	0.068	0.67	0.78	20	250	90
	Page No. of the	<b>"特别"。但又</b> 的			Soil Sample Collec	ted from Stockpiled	Soils	<b>阿尔斯</b> 亚西河南部	<b>医水管外外型的</b>	WAS TO THE SERVICE	BALL STATE
SP-1	10.04.17	С	Stockpile	<0.018	<0.036	<0.036	< 0.072	ND	<3.6	38	<47
		2015年1月1日			Excavation Con	firmation Soil Sampl	es	GUETO E VINE AL	NEW PLANS		
CS-1	10.04.17	С	8	<0.021	0.060	<0.042	0.13	0.19	<4.2	14	<50
CS-2	10.04.17	С	8	<0.018	<0.036	<0.036	< 0.073	ND	<3.6	<10	<50
CS-3	10.04.17	С	0 to 8	<0.021	<0.042	<0.042	<0.085	ND	<4.2	<9.4	<47
CS-4	10.04.17	С	0 to 8	<0.018	<0.037	<0.037	< 0.073	ND	<3.7	<9.6	<48
CS-5	10.04.17	С	0 to 8	<0.018	<0.035	<0.035	< 0.071	ND	<3.5	<9.3	<47
CS-6	10.04.17	С	0 to 8	<0.017	<0.033	<0.033	<0.066	ND	<3.3	23	<48
CS-7	10.04.17	С	0 to 8	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.6	<48
CS-9	10.09.17	С	8 to 13	<0.018	<0.036	<0.036	< 0.072	ND	<3.6	<9.3	<46
CS-10	10.09.17	С	8 to 13	<0.019	<0.038	<0.038	< 0.076	ND	<3.8	<9.3	<46
CS-11	10.09.17	С	8 to 13	<0.025	<0.050	<0.050	<0.10	ND	<5.0	15	<46
CS-12	10.09.17	С	0 to 13	<0.020	<0.041	<0.041	<0.082	ND	<4.1	<9.7	<49
CS-13	10.09.17	С	0 to 8	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<10	<50
CS-14	10.09.17	С	10	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.7	<48
CS-15	10.09.17	С	0 to 10	<0.018	<0.035	<0.035	<0.071	ND	<3.5	<10	<50
CS-16	10.09.17	С	0 to 8	<0.023	<0.045	<0.045	<0.091	ND	<4.5	<9.4	<47
CS-17	10.12.17	С	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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1710281

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	ĎF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analyst:	том
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 RAN	IGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1710281

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			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 RAN	IGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 10 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1710281

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analyst	ТОМ
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 RAN	IGE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 10 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1710281

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	S			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 RANG	GE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 10 J
- Sample pH Not In Range P
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1710281

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	6			Analys	: 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 RAN	IGE				Analys	: 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					Analys	: 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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 10 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1710281

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	3			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 RANG	GE				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
<b>EPA METHOD 8021B: VOLATILES</b>					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.

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 10
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1710281

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	S		Analyst:	том
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 RAN	IGE			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.

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 10 J
- Sample pH Not In Range P
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## **OC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1710281

06-Oct-17

Qual

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

%RPD

%RPD

Prep Date:

10/5/2017

Analysis Date: 10/5/2017

SeqNo: 1467304

Analyte Diesel Range Organics (DRO) Result PQL

Units: mg/Kg

HighLimit SPK value SPK Ref Val %REC LowLimit 44 10 50.00 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 Analysis Date: 10/5/2017 RunNo: 46121

Prep Date: 10/5/2017

SeqNo: 1467305

Units: mg/Kg

Analyte

Surr: DNOP

Result

**PQL** 10

SPK value SPK Ref Val %REC LowLimit

130

HighLimit

**RPDLimit** 

Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

ND ND 50

10

10.00

103

70

**RPDLimit** Qual

Sample ID 1710281-001AMS

Client ID: CS-1

SampType: MS

TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 46121

Prep Date: 10/5/2017

Batch ID: 34256 Analysis Date: 10/5/2017

SPK Ref Val

SeqNo: 1467908

Units: mg/Kg

122

130

HighLimit

Qual

Qual

Analyte Diesel Range Organics (DRO) Result **PQL** 59 9.6 47.76

SPK value SPK Ref Val %REC 13.85 93.6 LowLimit 55.8

70

%RPD **RPDLimit** 

Surr: DNOP

SampType: MSD

95.1

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID:

CS-1

Batch ID: 34256

PQL

10

RunNo: 46121

Prep Date: 10/5/2017

Sample ID 1710281-001AMSD

Analysis Date: 10/5/2017

SeqNo: 1467909 %REC

Units: mg/Kg

**HighLimit** 

**RPDLimit** 

20

0

Page 8 of 10

Analyte Diesel Range Organics (DRO)

Surr: DNOP

57 4.6

Result

4.5

SPK value 49.95 4.995

4.776

13.85 86.1 92.7 LowLimit 55.8 70

122 130 2.96

%RPD

## Qualifiers:

Value exceeds Maximum Contaminant Level.

Not Detected at the Reporting Limit

- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank B
- 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 8015D: Gasoline Range

LowLimit

Client ID: PBS

Batch ID: **G46134** 

RunNo: 46134

Analysis Date: 10/5/2017

Units: mg/Kg

%RPD

%RPD

Prep Date:

**PQL** 

SeqNo: 1468603

HighLimit

**RPDLimit** Qual

Analyte Gasoline Range Organics (GRO) Result ND 900

1000

SPK value SPK Ref Val

90.0

%REC

150

Surr: BFB

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: G46134

PQL

5.0

5.0

RunNo: 46134

Prep Date:

Analysis Date: 10/5/2017

SeqNo: 1468604

Units: mg/Kg

Analyte

Result

28

990

SPK value SPK Ref Val

%REC 111 **HighLimit** 

**RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

25.00 1000

99.1

76.4 54

LowLimit

LowLimit

LowLimit

77.8

54

77.8

54

125 150

Sample ID 1710281-001AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: CS-1

Batch ID: G46134

RunNo: 46134

150

Prep Date: Analyte

Analysis Date: 10/5/2017 PQL

SeqNo: 1468605

%REC

Units: mg/Kg

Qual

Qual

Gasoline Range Organics (GRO)

Result 33 1100

SPK value SPK Ref Val

3.240 25.00 121 1000 108 HighLimit 128 %RPD **RPDLimit** 

Surr: BFB

SampType: MSD

32

1100

5.0

TestCode: EPA Method 8015D: Gasoline Range

116

107

Client ID: Prep Date: **CS-1** 

Sample ID 1710281-001AMSD

Batch ID: **G46134** 

Analysis Date: 10/5/2017

PQL

5.0

RunNo: 46134

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

Surr: BFB

Result

25.00

1000

SPK value SPK Ref Val %REC

3.240

SeqNo: 1468606

HighLimit 128

150

%RPD

0

**RPDLimit** 3.99

20 0

Page 9 of 10

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- **PQL** Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- 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
- Sample container temperature is out of limit as specified

## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

SampType: LCS

WO#:

1710281

06-Oct-17

Client:

APEX TITAN

Project:

Sample ID 100NG BTEX LCS

Lateral 2C-79

Sample ID RB	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: <b>B46134</b>			RunNo: 46134						
Prep Date:	Analysis D	ate: 10	/5/2017	S	SeqNo: 1	468632	Units: mg/K	g		
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			

Client ID: LCSS	Batch	n ID: <b>B4</b>	6134	R	tunNo: 4	6134				
Prep Date:	Analysis D	ate: 10	/5/2017	S	SeqNo: 1	468633	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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			

TestCode: EPA Method 8021B: Volatiles

Sample ID 1710281-002AMS	SampT	SampType: MS TestCode: EPA Method					8021B: Volat	iles		
Client ID: CS-2	Batch	n ID: <b>B4</b>	6134	RunNo: 46134						
Prep Date:	Analysis D	ate: 10	0/5/2017	S	SeqNo: 1	468634	Units: mg/K	g		
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 1710281-002AMS	ISD SampType: MSD TestCode: EPA Method 8021B: Volatiles									
Client ID: CS-2	Batch ID: <b>B46134</b> RunNo: <b>46134</b>									
Prep Date:	Analysis D	ate: 10	/5/2017	S	SeqNo: 1	468635	Units: mg/K	ζg		
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	

- \* 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 Quanitative 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
- Page 10 of 10

- 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 AZTE	EC Work Order Num	ber: 1710281		RcptNo: 1	
Received By: Anne Thoracter Completed By: Anne Thoracter			am Il-		
Reviewed By:	5 10/5/17		Cina y,		
Chain of Custody					
1. Custody seals intact on se	ample bottles?	Yes	No 🗌	Not Present	
2. Is Chain of Custody comp	plete?	Yes 🗹	No 🗆	Not Present	
3. How was the sample delik	vered?	Courier			
Log In					
4. Was an attempt made to	cool the samples?	Yes 🗹	No 🗆	na 🗆	
5. Were all samples receive	d at a temperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6. Sample(s) in proper conta	ainer(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	o bottles?	Yes	No 🗹	NA 🗆	
10.VOA vials have zero head	dspace?	Yes	No 🗆	No VOA Vials   ✓	
11. Were any sample contain	ners received broken?	Yes 🗆	No 🗹		
12. Does paperwork match bo	ottle labels?	Yes 🗹	No 🗆	# of preserved bottles checked for pH:	
(Note discrepancies on ch	••		🗖	(<2 or Adjusted?	>12 unless noted)
13. Are matrices correctly ide		Yes ✓	No 🗆	Adjusted:	
<ol> <li>14, Is it clear what analyses w</li> <li>15. Were all holding times ab</li> </ol>		Yes ✓	No □	Checked by:	
(If no, notify customer for		Yes <b>⊻</b>	NO L		
Special Handling (if ap)	olicable)				
16. Was client notified of all d		Yes	No 🗆	NA 🗹	
Person Notified:		THE THE PERSON NAMED IN COLUMN TWO	BUTTER STATE OF THE STATE OF TH	10.2	
By Whom:	Date Via:		hone  Fax	In Person	
Regarding:		eiviaii P	none rax	III Person	
Client Instructions:	OF THE POST OF THE PROPERTY OF THE POST OF	MATERIA DE SERVICIO DE LA COMPANSIONA DE LA CARRADA DE LA	over the second	MANUSAS ASSESSMENT TO SHIRT HEIGHT STATEMENT AND THE STATEMENT AND	
17. Additional remarks:					
18. Cooler Information  Cooler No Temp °C  1 1.4	Condition Seal Intact Seal No	Seal Date	Signed By	*	
Language of the state of the st	1000		PARTIE ATTENDED BEFORE THE TO THE TO A TO		

					CHAIN OF CUSTODY RECORD
-4		S		ANALYSIS / /	/ / / Lab use only
		unanmental	Long	REQUESTED //	/ / / / Due Date:
APEX	Laboratory: And	1	,	HEQUESTED Pall	04/6-14
	Address: 4901 H				Temp. of coolers when received (C°):
Office Location	Albuquerque, 1	VIVE 8 +109			1 2 3 4 5
ipro S. R. O Grande Suite A	Contact: AF				
AZTECINM 87410	Phone: 505-34			43/	/ / / Pageof
Project Manager KSUMM013		<u>never</u>			1. / 1/ /
Sampler's Name	Sampler's Signature			998//	
Rance Deedully	Knowhilly			\$231.61EX	
Proj. No. Project Name	5 40	No/Type of Contain	ners		, , , , , ,
	C-19			/ 7 / / /	
Matrix Date Time C G r Identifying Ma	rks of Sample(s)	VOA 4/G † LL	Glass Jar P/O		Lab Sample ID (Lab Use Only)
5 1014/17 1300 X CS			}	XX	17/0-281-001
5 10/4/17 1310 X CS	-2		1	XX	702
5 10117 1320 CS	-3		1	XX	703
5 194/17 1336 CB	-9		1	XX	704
5 10/4/17 1340 X CS	-5		1	XX	705
S 16417 1350 × CS			1	XX	-206
4 153	,-7		1	XX	767
J 1117 1100 X	3-7		-		0.5
	NB				
Turn around time Normal 25% Rush	150% Rush - 2 100% Rush	SAME	)AV		
	Time: Received by: (\$igna	iture)	Date:	Time: NOTES:	
	Time: Received by: (Signa		Date:	[812 Time: ]2	Sill to Tom Long (EPROD) Nonafe NBROGS
1 Muco 10/4/19	21/1/100 =	11 10	105/11	6700	Auto ACE NIZZO
Relinguished by (Signature)	Time: Received by: (Signa	ature)	Date:	Time:	NOWAVE N 32098
Relinquished by (Signature) Date:	Firme: Received by: (Signa	ature)	Date:	Time: SAT	OAY_
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / O	S - Soil SD - Solid L - Liquid r Glass 1 Liter 250 ml -	d A - Air Bag Glass wide mouth		rcoal tube 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 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1710282

Date Reported: 10/6/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Lateral 2C-79

Lab ID: 1710282-001

Project:

Matrix: SOIL

Client Sample ID: SP-1

Collection Date: 10/4/2017 2:20:00 PM

Received Date: 10/5/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3			Analysi	: 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 RA	NGE				Analys	: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	: 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.

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1710282

06-Oct-17

Client:

**APEX TITAN** 

Project:

Lateral 2C-79

Sample ID LCS-34256 Client ID: LCSS Prep Date: 10/5/2017 SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

Batch ID: 34256 Analysis Date: 10/5/2017 RunNo: 46121

SeqNo: 1467304

Units: mg/Kg

%RPD

Analyte Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit Diesel Range Organics (DRO) 44 10 50.00 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

PQL

RunNo: 46121

%REC

HighLimit

Prep Date: 10/5/2017 Analysis Date: 10/5/2017 SegNo: 1467305 Units: mg/Kg

LowLimit

%RPD **RPDLimit** Qual

Page 2 of 4

**RPDLimit** 

Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Surr: DNOP

ND 10 ND 50 10

Result

10.00

SPK value SPK Ref Val

103

70

130

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- I Analyte detected below quantitation limits
  - Sample pH Not In Range
- RL Reporting Detection Limit

P

W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1710282

06-Oct-17

Client:

APEX TITAN

Project:

Lateral 2C-79

Sample ID RB

Prep Date:

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

54

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

**PBS** 

Batch ID: G46134

PQL

5.0

RunNo: 46134

Analysis Date: 10/5/2017

SeqNo: 1468603

Units: mg/Kg

%RPD

**RPDLimit** Qual

Gasoline Range Organics (GRO)

Result ND

1000

90.0

150

HighLimit

Analyte Surr: BFB

900

Sample ID 2.5UG GRO LCS

SampType: LCS

Client ID: LCSS Prep Date:

Batch ID: G46134 Analysis Date: 10/5/2017 RunNo: 46134

SPK value SPK Ref Val %REC

SeqNo: 1468604

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

PQL Result

SPK value SPK Ref Val %REC 111 0

HighLimit LowLimit 76.4

%RPD **RPDLimit** Qual

Surr: BFB

28 5.0 990

25.00 1000

99.1

54

125 150

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 3 of 4

- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

Result

0.95

WO#:

1710282

06-Oct-17

Client:

APEX TITAN

Project:

Lateral 2C-79

Sample ID RB Client ID:

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

PBS

Batch ID: **B46134** 

PQL

RunNo: 46134

Prep Date:

Analysis Date: 10/5/2017

SeqNo: 1468632

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg HighLimit

%RPD

**RPDLimit** Qual

Qual

Analyte Benzene Toluene

ND 0.025 ND 0.050 Ethylbenzene ND 0.050 ND 0.10 Xylenes, Total

Surr: 4-Bromofluorobenzene

1.000

95.2

66.6

132

Client ID:

Sample ID 100NG BTEX LCS SampType: LCS

Batch ID: **B46134** 

RunNo: 46134

TestCode: EPA Method 8021B: Volatiles

Prep Date:

LCSS

Analysis Date: 10/5/2017

SeqNo: 1468633

Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
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		

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded H
- Not Detected at the Reporting Limit
- **PQL** Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Page 4 of 4

- Sample pH Not In Range
- Reporting Detection Limit RL
- 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

Clier	nt Name:	APEX AZTE	С	Work C	order Numb	er: 1710	282			RcptNo:	1
Rece	elved By:	Anne Thor	ne	10/5/2017	7 7:00:00 A	M		ann s	N		
Com	pleted By:	Anne Thor	ne	10/5/2017	7 7:43:08 A	M		am :	1.	_	
Revie	ewed By:	DDS	10	15/1-	7			0,111	,,		
<u>Chai</u>	n of Cus	tody									
1. 0	Custody sea	als intact on sa	mple bottles?			Yes		No		Not Present	
2. Is	s Chain of	Custody comp	lete?	v.		Yes	<b>~</b>	No		Not Present	
3. H	low was the	e sample deliv	ered?			Cour	ier				
Log	<u>In</u>										
4. \	Was an atte	empt made to	cool the samp	les?		Yes	V	No		NA 🗆	
5. V	Were all sa	mples received	d at a tempera	ture of >0° C	to 6.0°C	Yes	<b>V</b>	No [		NA 🗆	
6. 5	Sample(s) i	n proper conta	iner(s)?			Yes	<b>V</b>	No			
7. 8	Sufficient sa	ample volume	for indicated te	est(s)?		Yes	V	No		*	
8. A	re samples	s (except VOA	and ONG) pro	operly preserve	ed?	Yes	<b>V</b>	No			
9. v	Vas preser	vative added to	bottles?			Yes		No	V	NA 🗌	
10.v	/OA vials h	ave zero head	space?			Yes		No		No VOA Vials	
11.1	Were any s	ample contain	ers received b	roken?		Yes		No	<b>V</b>	# of preserved	
12 -			ttle leb-le0			Vaa		No	$\neg$	bottles checked for pH:	
		work match bo pancies on ch		)		Yes	•	NO I	_		or >12 unless noted)
-				n of Custody?		Yes	<b>V</b>	No		Adjusted?	
		nat analyses w				Yes	<b>V</b>	No			
		ding times abl				Yes	V	No		Checked by:	
,	ii iio, iiotiiy	Castorner lor	additional addition								
Spec	cial Hand	lling (if app	olicable)								
16. V	Vas client r	notified of all di	screpancies v	vith this order?		Yes		No		NA 🗹	
, [	Perso	n Notified:			Date				MORELLE P		
	By W	nom:			Via:	☐ eMa	ail 🗀	Phone 📑	Fax	in Person	
	Regar	ding:				**************************************		**************************************	heli oceanne de		
, [	Client	Instructions:									
17. /	Additional r	remarks:									
18. 9	Cooler Info										
	Cooler N	-	Condition	Seal Intact	Seal No	Seal D	ate	Signed B	у		
	[1	1.4	Good	Yes	- Late and the control of the contro						

			CHAIN OF CUSTODY REC	CORD
Office Location  Lock S. P.o Grande Shirt A  Anter NM 87410  Project Manager Ksummers	Laboratory: Analysis L. Address: UPOI Hawkin Albuquerque, NM S. Contact: A. Freemar Phone: 505-3-15-1 PO/SO#: Sceno	aloatery 15 NE 13109 1 3975	ANALYSIS REQUESTED  Lab use only Due Date:  Temp. of coolers when received (C°):  1 2 3 4  Page	): \$   5
72504012337 Lateral 2				
Matrix Date Time O r Identifying Marks		A/G 11. 250 ml Glass Jar P/O		Only)
5 1014/17 1420 1 32-	i	l l	1710282-00	100
	VIX.			
	V			
·				
	me: Propertied by: (Signature)	SAME DAY	Time: NOTES:	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 Vinant Wal	+ 10/4/17		
Relinquished by Signature)  Date: Tir	me: Received by: (Signature)	Date:	Time: Bill to Ton Long (EPROD)  Time: Non AFF N 32095	
Flelinquished by (Signature) Date: Tir	me: Received by: (Signature)	Date:	Time: 1 32095	
Relinquished by (Signature) Date: Tir	me: Received by: (Signature)	Date:	Time: SAME DAY	
Matrix WW - Wastewater W - Water S - Container VOA - 40 ml vial A/G - Amber / Or 0	- Soil SD - Solid L - Liquid A - / Glass 1 Liter 250 ml - Glass wid	Air Bag C - Chan	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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Un	nits	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	S				Analyst:	ТОМ
Diesel Range Organics (DRO)	250	9.8	m	g/Kg	1	10/11/2017 10:13:44 AM	1 34326
Motor Oil Range Organics (MRO)	90	49	m	g/Kg	1	10/11/2017 10:13:44 AM	34326
Surr: DNOP	104	70-130	%	Rec	1	10/11/2017 10:13:44 AM	1 34326
EPA METHOD 8015D: GASOLINE RAN	GE					Analyst:	NSB
Gasoline Range Organics (GRO)	20	3.5	m	g/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	m	g/Kg	1	10/10/2017 5:37:07 PM	B46228
Toluene	0.037	0.035	m	g/Kg	1	10/10/2017 5:37:07 PM	B46228
Ethylbenzene	0.068	0.035	m	g/Kg	1	10/10/2017 5:37:07 PM	B46228
Xylenes, Total	0.67	0.070	m	g/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.

- \* 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 Quanitative 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 Page 1 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analy	yst: 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 RAN	IGE				Analy	yst: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	yst: 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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 12 J
- Sample pH Not In Range P
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	3			Analy	st: 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 RANG	GE				Analy	st: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: 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.

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 12 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	3			Analy	st: 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 RAN	IGE				Analy	st: 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					Analy	st: 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.

- \* 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 Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	3			Anal	yst: 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 RAN	IGE				Anal	yst: 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					Anal	yst: 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	3 PM B46228

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

- 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 Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analy	st: 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 RA	NGE				Analy	st: 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					Analy	st: 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.

- \* 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 Quanitative 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 Page 6 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-14

Project: Lateral 2C-79

Collection Date: 10/9/2017 2:10:00 PM

1710490-007 Lab ID:

Matrix: SOIL

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	8			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	10/11/2017 12:26:00 P	M 34326
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	10/11/2017 12:26:00 P	M 34326
Surr: DNOP	95.7	70-130	%Rec	1	10/11/2017 12:26:00 P	M 34326
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	t: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: 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	M B46228

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

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 7 of 12 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	S			Analy	st: 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 RAN	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	10/10/2017 1:13:04 P	M G46228
Surr: BFB	93.7	54-150	%Rec	1	10/10/2017 1:13:04 P	PM G46228
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: NSB
Benzene	ND	0.018	mg/Kg	1	10/10/2017 1:13:04 F	PM B46228
Toluene	ND	0.035	mg/Kg	1	10/10/2017 1:13:04 F	PM B46228
Ethylbenzene	ND	0.035	mg/Kg	1	10/10/2017 1:13:04 F	PM B46228
Xylenes, Total	ND	0.071	mg/Kg	1	10/10/2017 1:13:04 F	PM B46228
Surr: 4-Bromofluorobenzene	99.3	66.6-132	%Rec	1	10/10/2017 1:13:04 F	PM B46228

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 8 of 12 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1710490

Date Reported: 10/12/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	3			Analyst	том
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 RAN	GE				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.

- \* 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 Quanitative 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 Page 9 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

Result

Result

42

WO#:

1710490

12-Oct-17

Client:

APEX TITAN

Project:

Lateral 2C-79

Sampl	e ID	LCS-	34326

SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics

Client ID: LCSS

Batch ID: 34326

RunNo: 46256

%RPD

Units: mg/Kg

114

130

Prep Date:

10/10/2017

Analysis Date: 10/11/2017

SeqNo: 1473179

LowLimit

LowLimit

73.2

70

HighLimit

**RPDLimit** Qual

Analyte Diesel Range Organics (DRO) Surr: DNOP

4.3 5.000

**PQL** 

10

TestCode: EPA Method 8015M/D: Diesel Range Organics

%REC

83.6

85.8

Client ID:

PBS

SampType: MBLK Batch ID: 34326

RunNo: 46256

Prep Date: 10/10/2017

Sample ID MB-34326

Analysis Date: 10/11/2017

SeqNo: 1473180

%REC

Units: mg/Kg

Analyte Diesel Range Organics (DRO) PQL 10 50

250.3

HighLimit

**RPDLimit** Qual

Motor Oil Range Organics (MRO)

ND ND 9.8

10.00

49.46

4.946

SPK value SPK Ref Val

SPK value SPK Ref Val

50.00

98.2

70

70

Sample ID 1710490-001AMS

SampType: MS

TestCode: EPA Method 8015M/D: Diesel Range Organics

%RPD

Client ID:

Surr: DNOP

CS-8

Batch ID: 34326

RunNo: 46256

122

130

130

Prep Date: 10/10/2017

Sample ID 1710490-001AMSD

Analysis Date: 10/11/2017

SeqNo: 1474120

Units: mg/Kg

20

0

Analyte Diesel Range Organics (DRO) Result **PQL** SPK value SPK Ref Val 9.9

%REC LowLimit -206 55.8 HighLimit %RPD

0

**RPDLimit** Qual

S

Qual

RS

Surr: DNOP

TestCode: EPA Method 8015M/D: Diesel Range Organics

SampType: MSD

RunNo: 46256

101

Client ID: CS-8 Prep Date: 10/10/2017

Diesel Range Organics (DRO)

Batch ID: 34326 Analysis Date: 10/11/2017

9.6

Analyte

Surr: DNOP

Result POI 330

5.0

150

5.0

SPK value SPK Ref Val

47.76

4.776

SegNo: 1474121

105

Units: mg/Kg

130

HighLimit %RPD %REC **RPDLimit** LowLimit 250.3 168 55.8 122 76.0

70

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank

Sample container temperature is out of limit as specified

- E Value above quantitation range
- J Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Detection Limit

W

Page 10 of 12

## 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** 

**PQL** 

5.0

RunNo: 46228

Prep Date:

Analysis Date: 10/10/2017

SeqNo: 1472358

Units: mg/Kg

%RPD

**RPDLimit** 

Analyte Gasoline Range Organics (GRO) Surr: BFB

Result ND

970

1000

SPK value SPK Ref Val %REC

96.6

150

HighLimit

Qual

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Prep Date:

Client ID: LCSS

Batch ID: G46228

RunNo: 46228

SeqNo: 1472359

54

LowLimit

LowLimit

Units: mg/Kg

HighLimit

Analyte

Analysis Date: 10/10/2017 Result

SPK value SPK Ref Val PQL 5.0 25.00

%REC 112

0

76.4 54 %RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

28 1000

1000

105

125 150

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- **PQL** Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- Page 11 of 12

- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1710490 12-Oct-17

Client:

APEX TITAN

Project:

Lateral 2C-79

Sample ID RB	SampT	уре: МЕ	BLK	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	Batch ID: <b>B46228</b>			RunNo: 46228						
Prep Date:	Analysis D	oate: 10	/10/2017	<b>/2017</b> SeqNo: <b>1472376</b> U				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 LC	S SampT	ype: LC	LCS TestCode: EPA Method 8021B: Volatiles								

Client ID: LCSS	Batc	h ID: <b>B4</b>	6228	R	RunNo: 4	6228					
Prep Date:	Analysis [	Date: 10	0/10/2017	17 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	Samp	Samp Type: MS TestCode: EPA Method 8021B: Volatiles									
Client ID: CS-8	Bato	Batch ID: <b>B46228</b> RunNo: <b>46228</b>									
Prep Date:	Analysis I	ysis Date: 10/10/2017 SeqNo: 1472388 U					Units: mg/K	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 1710490-001AN	ISD SampT	mpType: MSD TestCode: EPA Method 8				8021B: Volat	tiles				
Client ID: CS-8	Batch	1D: <b>B4</b>	: <b>B46228</b> RunNo: <b>46228</b>								
Prep Date:	Analysis D	Analysis Date: 10/10/2017 SeqNo: 1472389 Units					Units: mg/k	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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

Page 12 of 12

- 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 Numbe	er: 1710490	0		RcptNo:	1
- marin (1981)				-			
Received By:	Anne Thorne	10/10/2017 7:10:00 A	M	ann.	Am	_	
Completed By:	Anne Thome	10/10/2017 7:22:42	M	ann.	Am	_	
Reviewed By:	go	iolistia					
Chain of Cus	tody						
	als intact on sample bo	ttles?	Yes	No		Not Present	
	Custody complete?		Yes Y	No		Not Present	
3. How was the	e sample delivered?		Courier	1			
Log In							
4. Was an atte	empt made to cool the	samples?	Yes 5	<b>✓</b> No		na 🗆	
5. Were all sa	mples received at a ter	nperature of >0° C to 6.0°C	Yes 🗹	No		NA 🗆	
6. Sample(s) i	n proper container(s)?		Yes	<b>✓</b> No			
7. Sufficient sa	ample volume for indica	ated test(s)?	Yes 🛚	No			
8. Are samples	s (except VOA and ON	G) properly preserved?	Yes Y	No		- 1	
9. Was preser	vative added to bottles	?	Yes	No	V	NA 🗆	
10.VOA vials h	ave zero headspace?		Yes [	No		No VOA Viais	
11. Were any s	ample containers recei	ved broken?	Yes	No	<b>V</b>	# of preserved	
			_			bottles checked	
Annual Control of the	work match bottle labe		Yes 1	<b>∠</b> No		for pH: (<2 or	>12 unless noted)
	s correctly identified on	•	Yes Y	No		Adjusted?	
14. Is it clear wh	nat analyses were requ	ested?	Yes V	No			
	ding times able to be no customer for authorization		Yes Y	No		Checked by:	
()		,					
Special Hand	lling (if applicable	<u>•)</u>					
16. Was client r	notified of all discrepan	cies with this order?	Yes	No		NA 🗹	
Perso	n Notified:	Date		AND THE PROPERTY OF THE PARTY O	MENTONIAN		
By Wi	nom:	Via:	_ eMail	Phone	Fax	☐ In Person	
Regar	ANTONIO MARKANIA MARK					Anger - Charles Services of the Charles Services of the Charles Services	,
Client	Instructions:	· · · · · · · · · · · · · · · · · · ·					
17. Additional r	emarks:						
18. Cooler Info				1			
Cooler N	o Temp °C Cond	tion Seal Intact Seal No	Seal Date	Signed	Ву		
(A - A - A - A - A - A - A - A - A - A -		The state of the s	and the second of the AS A second of the sec	1, 19, 10, 10, 10, 10, 10, 10, 10, 10, 10, 10		I	

									CHAIN OF CUSTODY RECORD
-4				1		ANALY	sis / /	117	/ / Lab use only
		HUIVERY				REQU	ESTED / J		/ / Due Date:
APEX	Laboratory: An	,			_		/ 1/4	///	25 (5+10-15
	Address: 4961				_		/ 🕱 /	///	ZS-CF-1:0 = 7:5 femp. of coolers when received (C°):
Office Location	Albuquerque	e, ruin	8+10	19_	_		/ 24 /	/ / /	1 2 3 4 5
606 Si Riobrande Suite A	Contact:				-		./\$//	///	
AztecINM 87410	Phone:S%			5_	_		# 2 / /		/ / Pageot
Project Manager K.Summers PO/SO#: See Notes  Sampler's Name Sampler's Signature 1							ESTED PARTY TO THE PROPERTY OF		
Sampler's Name Range Deechilly			18//						
	h bene	1				803	3 / / /		/ /
Proj. No. Project Name	10.10	No/Ty	pe of Conta	liners		007	ob/ / /		/ .
725046112337 Lateral 6		= -		T <sub>0</sub>	_	/			/
Matrix Date Time C G r Identifying Ma	rks of Sample(s)	Depth	4AG + Lt. 250	Glass	P/0		/////	/ / /	Lab Sample ID (Lab Use Only)
S 10/9/17 1236 X CS-	8			1		XX			1710490-001
S 10/9/12 1240 X CS-	9			1		XX			7.02
S 10/9/17 1250 X CS-	10			1		XX			703
13 149/17/1307 X CS-	13	1. 1		1		XX			704
S 10/9/17 1310 X CS-				1		XX			705
15 10/9/17/1400 X CS-						XX			-ZOLo
5 1019 14 1410 X CS-						XX			707
S 10917 1420 X CS-				1		XI			708
S 10/9/17 1430 X CS-				1		XX			709
	WYS					7		1	
	2 50% Rush □ 100% Ru		Next	de	iv				
Ranhor 10/9/17/17	Time: Received by: (S	gnature)		Date:		Time:	NOTES:	1 to To	m Long (EPROD)
Relinquished by (Signature) Date: 109/17 19	Signature)		Date:	117	Time:		o Att	m Long (EPROD) N32095	
	Time: Received by: (S	Signature)		Date:	_	07/0 Time:	- 17	IN AFE	1032095
							_		15 haba
Relinquished by (Signature) Date:	Time: Received by: (S	Signature)		Date	1	Time:	/VEX	rday_	10/11/17



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

FAX

RE: Lateral 2C-79

TEL: (903) 821-5603

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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1710757

Date Reported: 10/16/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	S			Anal	yst: 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	5 AM 34400
EPA METHOD 8015D: GASOLINE RAN	IGE				Anal	yst: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Anal	yst: 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.

- 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 Quanitative 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 Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## 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

%RPD

88.3

86.4

Prep Date:

10/13/2017

Analysis Date: 10/13/2017

Result

44

SeqNo: 1475537

Units: mg/Kg

Analyte

**PQL** SPK value SPK Ref Val

50.00

5.000

%REC

HighLimit

%RPD **RPDLimit** Qual

Diesel Range Organics (DRO) Surr: DNOP

4.3 SampType: MBLK

TestCode: EPA Method 8015M/D: Diesel Range Organics

130

Client ID: PBS

Batch ID: 34400

RunNo: 46322

SeqNo: 1475538

LowLimit

73.2

70

Units: mg/Kg

Analyte

Prep Date: 10/13/2017

Motor Oil Range Organics (MRO)

Sample ID MB-34400

Analysis Date: 10/13/2017 Result PQL

SPK value SPK Ref Val

10.00

%REC LowLimit

HighLimit

**RPDLimit** Qual

Diesel Range Organics (DRO)

Surr: DNOP

ND ND

9.5

10 50

94.9

70

130

## Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit **PQL**
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits J
  - Sample pH Not In Range
- RL Reporting Detection Limit

P

Sample container temperature is out of limit as specified

Page 2 of 4

## 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

Analyte

Result

ND

950

**PQL** SPK value SPK Ref Val %REC

Units: mg/Kg

HighLimit

**RPDLimit** Qual

Gasoline Range Organics (GRO)

5.0

1000

LowLimit

LowLimit

54

150

%RPD

Surr: BFB

Sample ID LCS-34383

Client ID: LCSS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

94.7

Prep Date: 10/12/2017

Batch ID: 34383 Analysis Date: 10/13/2017 RunNo: 46333 SeqNo: 1476153

Units: mg/Kg HighLimit

Analyte

Result

30

1100

SPK value SPK Ref Val 25.00

%REC 119

0

75.9

%RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

5.0 1000

109

54

131 150

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Page 3 of 4

# 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 RunN				RunNo: 4	46333					
Prep Date: 10/12/2017	Analysis D	ate: 10	/13/2017	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 8					8021B: Volat	iles				
Client ID: LCSS	Batch	ID: 34	383	R	6333						
Prep Date: 10/12/2017	Analysis D	ate: 10	)/13/2017	S	SeqNo: 1	476176	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				

- \* 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 Quanitative Limit
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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 4 of 4

- 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

# Sample Log-In Check List

Website: www.hallenvironmental.com APEX AZTEC RcotNo: 1 Client Name: Work Order Number: 1710757 ann Am Received By: **Anne Thorne** 10/13/2017 7:56:00 AM **Anne Thorne** 10/13/2017 8:15:03 AM Completed By: AT/DDS 1013117 Reviewed By: **Chain of Custody** No 🗆 Yes Not Present V 1. Custody seals intact on sample bottles? No 🗆 Not Present Yes 🗸 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log in No 🗆 NA 🗌 Yes 🗸 4. Was an attempt made to cool the samples? 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No 🗀 NA 🗌 No 🗆 Yes 🗸 6. Sample(s) in proper container(s)? No 🗆 7. Sufficient sample volume for indicated test(s)? Yes V No 🗌 Yes V 8. Are samples (except VOA and ONG) properly preserved? No 🗸 NA 🗌 Yes 9. Was preservative added to bottles? No 🗌 10. VOA vials have zero headspace? Yes No VOA Vials Yes No 🗸 11. Were any sample containers received broken? # of preserved bottles checked Yes 🗸 No 🗌 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes 🗸 No 🗌 13. Are matrices correctly identified on Chain of Custody? Yes 🗸 No 🗆 14. Is it clear what analyses were requested? No 🗌 Yes 🗸 Checked by: 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes No 🗆 NA 🗸 Person Notified: Date By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C | Condition | Seal Intact | Seal No | Seal Date | Yes

			CHAIN OF CUSTODY RECO
*	Laboratory: Lab	Envisonment	(NEGOLSTED / , p7 / / / / / /
IAPEX	Address: 4901	HANKINS NE	
Office Location Artec NM	Albuquerque Contact: A Fice	NM 87109	Temp. of coolers (-C). when received (C°):
606 S. his Grande	Contact: A Fice	nen	when received (C°):  1 2 3 4 5
Suite A	Phone: 505 3		
Project Manager K SummerS	PO/SO#:		
Sampler's Name	Sampler's Signature	100	
	South		
Proj. No. Project Name	481	No/Type of Containers	
725040112337 Leteral	ac-79		
	rks of Sample(s) Start Depth	VOA A/G 11t. 250 ml Glass Jar	Lab Sample ID (Lab Use Only)
5 Photo 1030 0 CS-1	7 - 16	1	8 x 1710757-00
			110107 30
The second secon	150% Rush A 100% Rush Time: Received by: (Signa	Same day	:   Time: NOTES:
12 11-600	25 VITTING		in 1252 (EPROD)
Relinquished by (Signature) Date: 1	Time: Received by: (Signa	ature) Date:	: Time: 8,1/ to 100 2009
	Time: Received by: (Signa		:   Time: AFE N 32095
Relinquished by (Signature) Date: 1	Time: Received by: (Signature)	ature) Date:	Time: NOTES:  NOTES:  NOTES:  Time: 8:// to Ton long (EPROD)  Time: AFE N 32095  Time: Same Day
Matrix WW - Wastewater W - Water S	S - Soil SD - Solid L - Liqui	id A-AirBag C-0	- Charcoal tube SL - sludge O - Oll

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

Date: 1/22/2018

re er er

Attach Additional Sheets If Necessary

## 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

o not

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

				S	anta Fe	e, NM 87	505					
		F	₹eleas	e Notifi	cation	n and C	orrective	Action				
				9/		PERATO		☐ Initial F	Report	$\boxtimes$	Final F	Repor
Name of Company Enterprise Field Services, LLC						omas Long	222					
Address 614 Reilly Ave, Farmington, NM 87401 Facility Name Lateral K-7						No. <b>505-599-2</b> be <b>Natural Gas</b>	s Gathering Pip	eline		140		
Surface O				Mineral					No. 5370	1116	Form C	.1/1
ist :	Wher <b>BLIVI</b>							Serial	10. 5570	110	2 April 3	
Unit Letter	Section	Township	Range	Feet from	THE RESERVE CO.	The South Feet from EastWest County 29 NV/AC.						
[ <u>iisi</u>	22	26N	7W	the 775	Line		the 1577	Line OLGO	Rio Arri	ba	3	/AU.
un Worlant II fi		La	atitude_3	6.477253	_Longitu	de <u>107.5</u> 6	66568NAD83	*	-		HE HARRY TO LOOK	i menusakennya
70 0				NA	TURE	OF RELI	EASE	JA	N 26	201		
Type of Rel	ease Natura	al Gas and N	atural Gas	Liquids		Volume of Gas ;15-2 Condens		MCF Volume F	Recovered	None	i inel I	epon
Source of R	elease: Inte	rnal Corrosio	on			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 Immed	iate Notice		⊠ Yes	□ No □	Not	If YES, To Whom?: Courtesy Notification Vanessa Fields – NMOCD;					D:41	
Required											e de la	ffice
地 /											SN.	
By Whom? Was a Water								r 26, 2017 @ 4:20 the Watercourse				
vvas a vvale	icourse Ne		⊠ Yes	☐ No		11 1E3, VC	nume impacting	the watercourse.	i			- QUARANTA NAME
				y.* The Later d on the grou			es Palluche Wa	sh. The release v	vas disco	vered	on the w	est
Describe Ca	ause of Prob	olem and Rer	medial Act	tion Taken.*(	On Augus	st 21, 2017 E	Enterprise techni Minimal fluids	icians discovered were observed on	a release the grou	on the	e Latera face.	I K-7
Describe Ar	ea Affected	and Cleanur	Action T	akon * Tho o	ontomino	nt mass wa	a ramayad by m	echanical excava	tion Th	Area	aveauet	
dimensions were excava report is incl	measured a ated and trai luded with th	approximately nsported to a nis "Final" C-	y 44 feet lo a New Mea 141.	ong by 32 fee xico Oil Cons	et by 14 f servation	feet deep. <i>I</i> Division ap	Approximately 69 proved land farm	92 cubic yards of n facility. A third	hydrocart party corr	oon im ective	pacted s action	soil 2017
hereby cer	tify that the i	information g	jiven abov	re is true and	d complet	te to the bes	t of my knowled	ge and understan and perform corre	d that pur	suant	to NMO	CD
which may e relieve the o ground wate	endanger pu perator of lia er, surface w	iblic health oi ability should ater, human	r the envir d their ope health or	onment. The rations have the environn	e accepta failed to nent. In a	ance of a C- adequately addition, NM	141 report by the investigate and IOCD acceptance	e NMOCD marked remediate contant ce of a C-141 repo	d as "Fina	al Repo	ort" does se a thre	not at to
operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.  OIL CONSERVATION DIVISION												
Signature: /w tull						F7.						
				Approved by Environmental Specialist:								
Title: Directo	or, Environm	iental			A	Approval Da	te:2/27/20	Expiration [	Date:			PIL 1
E-mail Addre	ess: jefields	@eprod.com	ı			Conditions o	f Approval:		Attache	d 🗌	Charles Shows a	1770
1100	10040		Dhana (	740) 004 00							MMC	O

NVF1727054995

Phone: (713) 381-6684



#### **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:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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	3.1	Soil Excavation Activities	2
	3.2	Soil Sampling Program	3
	3.3	Laboratory Analytical Methods	3
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	4.1	Soil Samples	3
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		Figure 2 – Site Vicinity Map	
		Figure 3 – Site Map with Soil Analytical Results	
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Thh	CHUIX L	Executed 0-130 Solid Waste Acceptance Form	
App	endix C	: Photographic Documentation	
, , bb	onaix c	Thotographic Bootimentation	
App	endix C	): Table	
App	endix E		
		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) ½ 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 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.



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

Enterprise Field Services, LLC Corrective Action Report Lateral K-7 (9/26/17) Pipeline Release January 8, 2018



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 Dexsil 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

Enterprise Field Services, LLC Corrective Action Report Lateral K-7 (9/26/17) Pipeline Release January 8, 2018



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.

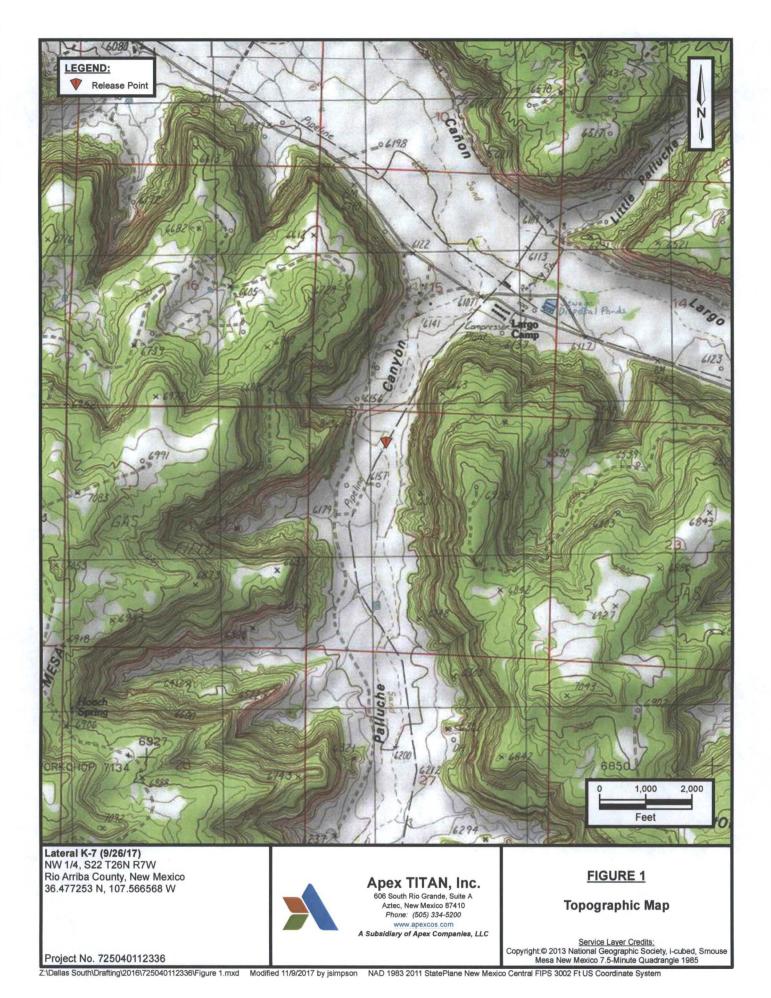
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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



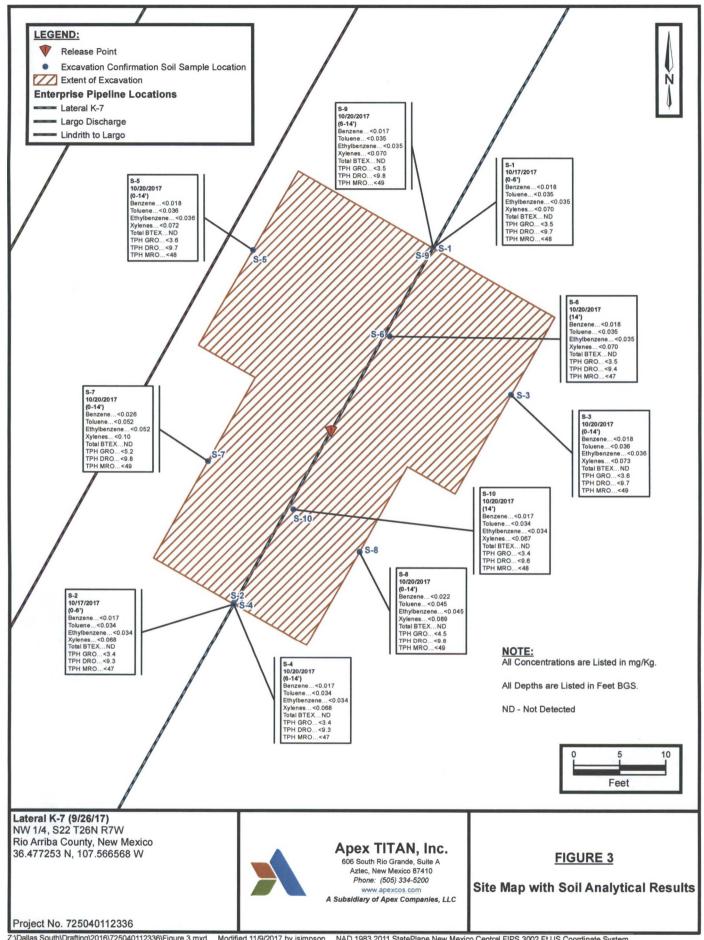
APPENDIX A

Figures





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

97057- 0864 Revised August 1, 2011

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

DEQUEST FOR ADDROVAL TO ACCEPT SOLID WASTE

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 Volume50yd³ bbls Known Volume (to be entered by the operator at the end of the haul)692yd³ bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby PRINT & SIGN 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, 10-17-17 , representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete the required Generator Signature testing/sign the Generator Waste Testing Certification.
I,
5. Transporter: Foutz and Bursum Calder Service, DeHerrera, Esparza, Stan Horn
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 Crabbree TITLE: Environmental Manager DATE: 10/20/17
SIGNATURE: TELEPHONE NO.: 505-632-0615 Surface Waste Management Facility Authorized Agent



APPENDIX C

Photographic Documentation





Lateral K-7 (9/26/17) Pipeline Release

## Photograph 1

View of excavation activities, facing northeast.



## Photograph 2

View of excavation activities, facing north.



## Photograph 3

View of stockpiled soils, facing east.





#### SITE PHOTOGRAPHS

Lateral K-7 (9/26/17) Pipeline Release

## 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)
Departmen	ergy, Mineral & nt, Oil Conserva nediation Action	STATE OF THE PERSON NAMED IN COLUMN 2 IS NOT THE OWNER.	10	NE	NE	NE	50		100	
3/6 1857		ON PLANTS OF STREET	C	onfirmation Comp	osite Soil Sample Co	llected from Excav	ration		AT NO. TO SHE	<b>斯里斯 医</b> 拉克氏
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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

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 Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS				Analy	st: 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 RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	10/23/2017 9:48:20 A	M G46557
Surr: BFB	113	15-316	%Rec	1	10/23/2017 9:48:20 A	M G46557
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: NSB
Benzene	ND	0.018	mg/Kg	1	10/23/2017 9:48:20 A	M B46557
Toluene	ND	0.036	mg/Kg	1	10/23/2017 9:48:20 A	M B46557
Ethylbenzene	ND	0.036	mg/Kg	1	10/23/2017 9:48:20 A	M B46557
Xylenes, Total	ND	0.073	mg/Kg	1	10/23/2017 9:48:20 A	M B46557
Surr: 4-Bromofluorobenzene	116	80-120	%Rec	1	10/23/2017 9:48:20 A	M B46557

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

- 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 Quanitative 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 Page 1 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 RAN	GE ORGANICS				Analy	st: 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 RAM	IGE				Analy	st: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: 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.

- \* 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 Quanitative 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 Page 2 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS				Analy	st: 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 RAN	GE				Analy	st: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: 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.

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 12 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

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

1710B74-004 Lab ID:

Matrix: MEOH (SOIL)

Received Date: 10/21/2017 11:15:00 AM

Analyses	Result	PQL (	Qual U	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS					Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	10/23/2017 11:45:45 A	M 34558
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	10/23/2017 11:45:45 A	M 34558
Surr: DNOP	103	70-130		%Rec	1	10/23/2017 11:45:45 A	M 34558
EPA METHOD 8015D: GASOLINE RAN	GE					Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	10/23/2017 10:59:33 A	M G46557
Surr: BFB	128	15-316		%Rec	1	10/23/2017 10:59:33 A	M G46557
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	0.018		mg/Kg	1	10/23/2017 10:59:33 A	M B46557
Toluene	ND	0.035		mg/Kg	1	10/23/2017 10:59:33 A	M B46557
Ethylbenzene	ND	0.035		mg/Kg	1	10/23/2017 10:59:33 A	M B46557
Xylenes, Total	ND	0.070		mg/Kg	1	10/23/2017 10:59:33 A	M B46557
Surr: 4-Bromofluorobenzene	120	80-120	S	%Rec	1	10/23/2017 10:59:33 A	M B46557

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 12 J
- Sample pH Not In Range P
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analy	st: 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 RAM	NGE				Analy	st: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: 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.

- 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 Quanitative 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 Page 5 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	1			Analy	st: 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 RAN	GE				Analy	st: 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
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: 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.

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 12 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1710B74

Date Reported: 10/24/2017

## Hall Environmental Analysis Laboratory, Inc.

**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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS				Analy	st: 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 RAN	IGE				Analy	st: 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					Analy	st: 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.

- 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 Quanitative 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 Page 7 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS				Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	10/23/2017 1:13:29 PM	A 34558
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	10/23/2017 1:13:29 PM	A 34558
Surr: DNOP	106	70-130	%Rec	1	10/23/2017 1:13:29 Pf	A 34558
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	10/23/2017 12:34:37 F	M G46557
Surr: BFB	112	15-316	%Rec	1	10/23/2017 12:34:37 F	M G46557
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.017	mg/Kg	1	10/23/2017 12:34:37 F	M B46557
Toluene	ND	0.034	mg/Kg	1	10/23/2017 12:34:37 F	M B46557
Ethylbenzene	ND	0.034	mg/Kg	1	10/23/2017 12:34:37 F	M B46557
Xylenes, Total	ND	0.067	mg/Kg	1	10/23/2017 12:34:37 F	M B46557
Surr: 4-Bromofluorobenzene	111	80-120	%Rec	1	10/23/2017 12:34:37 F	M B46557

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

- 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 Quanitative 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 Page 8 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1

1710B74

24-Oct-17

Client:

APEX TITAN

**Project:** 

Lateral K-7 (2017)

Sample ID LCS-34558	SampT	ype: LC	S	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch	1D: <b>34</b>	558	R	tunNo: 4	6549				
Prep Date: 10/23/2017	Analysis D	ate: 10	)/23/2017	S	eqNo: 1	482728	Units: mg/K	(g		
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	1D: <b>34</b>	558	R	tunNo: 4	6549				
Prep Date: 10/23/2017	Analysis D	ate: 10	)/23/2017	S	eqNo: 1	482729	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Discal Dance Organics (DDO)										
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND ND	10 50								
,			10.00		99.8	70	130			

Sample ID 1710B74-001AMS	SampT	SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: S-3	Batch	ID: <b>34</b>	558	R	RunNo: 4	6549				
Prep Date: 10/23/2017	Analysis D	ate: 10	)/23/2017	S	SeqNo: 1	483203	Units: mg/h	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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	1710B74-001AMSE	SampTy	pe: MS	SD	Test	Code: El	PA Method	8015M/D: Die	esel Range	Organics	
Client ID:	S-3	Batch	ID: 34	558	R	unNo: 4	6549				
Prep Date:	10/23/2017	Analysis Da	ate: 10	0/23/2017	S	eqNo: 1	483204	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range C	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	

- 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 Quanitative 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
- Page 9 of 12

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

SampType: LCS

WO#: 17

1710B74

24-Oct-17

**Client:** 

APEX TITAN

Project:

Sample ID 2.5UG GRO LCS

Lateral K-7 (2017)

Sample ID RB	SampT	ype: ME	BLK	Test	Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	ID: <b>G4</b>	6557	R	tunNo: 4	6557				
Prep Date:	Analysis D	ate: 10	0/23/2017	S	eqNo: 1	483268	Units: mg/K	(g		
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			

Client ID: LCSS	Batch	ID: <b>G4</b>	6557	R	RunNo: 4	6557				
Prep Date:	Analysis D	ate: 10	)/23/2017	S	SeqNo: 1	483269	Units: mg/K	(g		
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			

TestCode: EPA Method 8015D: Gasoline Range

Sample ID	1710B74-001AMS	SampT	ype: MS	3	Test	Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID:	S-3	Batch	ID: G4	6557	R	tunNo: 4	6557				
Prep Date:		Analysis D	ate: 10	)/23/2017	S	eqNo: 1	483270	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Gasoline Range	e 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	SampT	ype: MS	SD	Test	Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID:	S-3	Batch	ID: <b>G4</b>	6557	R	RunNo: 4	6557				
Prep Date:		Analysis D	ate: 10	)/23/2017	S	SeqNo: 1	483271	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Gasoline Rang	e 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	MD-34334	Samp Type.	MIDEK	1631	Coue.	PA Welliou	outob. Gas	nine Kange	8		- 1
Client ID:	PBS	Batch ID:	34534	R	RunNo:	46557					
Prep Date:	10/20/2017	Analysis Date:	10/23/2017	S	SeqNo:	1483272	Units: %Re	С			
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB		1100	1000		115	15	316				_

Sample ID	LCS-34534	SampType	: LC	S	Test	Code:	EPA Method	8015D: Gas	oline Rang	е		
Client ID:	LCSS	Batch ID	: 34	534	R	unNo:	46557					
Prep Date:	10/20/2017	Analysis Date	: 10	0/23/2017	S	eqNo:	1483273	Units: %Re	C			
Analyte		Result F	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB		1300		1000		129	15	316			-	

- 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 Quanitative 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
- Page 10 of 12

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1710B74

24-Oct-17

Client:

APEX TITAN

Project:

Lateral K-7 (2017)

Sample ID RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	n ID: <b>B4</b>	6557	R	RunNo: 4	6557				
Prep Date:	Analysis D	oate: 10	)/23/2017	8	SeqNo: 1	483300	Units: mg/K	g		
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 LC	S SampT	ype: LC	S	Test	tCode: El	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batch	h ID: <b>B4</b>	6557	R	RunNo: 4	6557				
Prep Date:	Analysis D	Date: 10	)/23/2017	S	SeqNo: 1	483301	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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	SampT	ype: MS	3	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: S-4	Batch	ID: <b>B4</b>	6557	F	RunNo: 4	6557				
Prep Date:	Analysis D	ate: 10	)/23/2017	8	SeqNo: 1	483302	Units: mg/K	(g		
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 17	710B74-002AMS	<b>D</b> SampT	ype: MS	SD	Test	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: S	-4	Batch	ID: <b>B4</b>	6557	R	RunNo: 4	6557				
Prep Date:		Analysis D	ate: 10	0/23/2017	S	SeqNo: 1	483303	Units: mg/K	(g		
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-Bromofle	uorobenzene	0.80		0.6770		118	80	120	0	0	

- \* 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 Quanitative 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
- Page 11 of 12

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## 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

80

TestCode: EPA Method 8021B: Volatiles

LowLimit

120

%RPD

**PQL** 

SPK value SPK Ref Val %REC

HighLimit

Surr: 4-Bromofluorobenzene

1.1

1.000

SPK value SPK Ref Val %REC

LowLimit

**RPDLimit** 

Qual

Sample ID LCS-34534

SampType: LCS

RunNo: 46557

114

Client ID: **LCSS**  Batch ID: 34534

Units: %Rec

Prep Date: 10/20/2017

Analysis Date: 10/23/2017 PQL

SeqNo: 1483305

HighLimit

%RPD **RPDLimit** 

Qual

Surr: 4-Bromofluorobenzene

1.2

1.000

122

80

120

S

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range

Reporting Detection Limit

- J Analyte detected below quantitation limits
- Sample pH Not In Range

RL

Sample container temperature is out of limit as specified

Page 12 of 12



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 Numb	er: 1710E	374		Rop	tNo: 1
Received By: John Caldwell	10/21/2017 11:15:00	) AM		ahneller.	u	
Completed By: Erin Melendrez	10/23/2017 8:09:16	AM		unas	5	
Reviewed By:	10/23/17					
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes		No 🗌	Not Present	V
2. Is Chain of Custody complete?		Yes	*	No 🗌	Not Present	
3. How was the sample delivered?		Cour	ier			
Log In						
Was an attempt made to cool the sample	ee?	Yes	~	No 🗆	NA	
even all accompt move to could be camp		100			101	*Season
5. Were all samples received at a temperat	ure of >0° C to 6.0°C	Yes	<b>V</b>	No 🗆	NA	
6. Sample(s) in proper container(s)?		Yes	V	No 🗌		
7. Sufficient sample volume for indicated te	st(s)?	Yes	V	No 🗌		
8. Are samples (except VOA and ONG) pro	perly preserved?	Yes	<b>V</b>	No 🗔		
9. Was preservative added to bottles?		Yes		No 🗹	NA	
10.VOA vials have zero headspace?		Yes		No 🗌	No VOA Viais	✓
11, Were any sample containers received by	oken?	Yes		No 🗹	M of account	
			1000		# of preserved bottles checke	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	4	No 🗔	for pH	(<2 or >12 unless noted)
13. Are matrices correctly identified on Chair		Yes	<b>V</b>	No 🗌	Adjusted	A CONTRACTOR OF THE PROPERTY O
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	<b>V</b>	No 🗌	Checked	by:
Special Handling (if applicable)						
Special Handling (if applicable)	ish ship and a O			N. []	NA	
16. Was client notified of all discrepancies w		Yes		No 🗆	NA	
Person Notified:	Date:			DI		
By Whom: Regarding:	Via:	eMa		Phone Fax	In Person	envi
Client Instructions:		not had the Parkate and a trans				915
17. Additional remarks:						
4 1 2 2						
18. Cooler Information  Cooler No   Temp °C   Condition	Seal Intact   Seal No	Seal Da	ite	Signed By		
	Yes			and the same of th		

															CHAIN OF CUSTODY RECORD
,	An					54	n	411	Env	ror	nne	ntal		ANALYS	
- 4						Laboratory:		-						REQUE	ESTED S
A	PEX					Address:	490	1 7	lan	Ki	25 /	NE			Temp. of coolers 3.0
Offic	e Locatio	n 606.	5	hi	o Grande	Albuqu	219	ve	Nm 87109				-		when received (C°):
	o:+ A					Contact:									1 2 3 4 5
A	rtec	N.M				Phone:	200	- 3	-345-3975				_	,	Page ot Page
Proj	ect Mana	ger 5	So	me	w/S	PO/SO #:	725	040	112	330	6		_	3	
Samp	er's Name					Sampler's Sign	ature	1.						do	VV / / / / / /
/	had	DASO	1;			167	10	6						7.	124
Proj.	No.		Proj	ect N					No/Ty	ype of C	Containe	rs		T.	4
725	040112	336	C	Les	teral 1	5-7 (2	_	1					4	13	W / / / / JINRTH
Matrix	Date	Time	CoEp	G a b	Identifying Ma	rks of Sample(s)	Start	End	VOA	A/G	25G	Pio Cass	2	MI	Lab Sample ID (Lab Use Only)
5	19/20/17	1300	V		5-3		0	14				1		Vy	-001
5	10/20/1	1305	¥		5-4		6	14				(		z y	-002
5	10/zoln	1310	¥		5-5		0	14				(		4 4	-003
5	10/20/17	1315	V		5-6		_	14				1		y y	-004
5	10/20/17		7		5-7		0	14				1	7	VV	-005
5	pooln		y.		5-8		0	14				1		41	-006
5	Trolo	1330	×		5-9		6	14				1	,	x Y	-007
5	1060/2	1335	K		5-10		-	14					,	XX	-008
-														-	
	round time	□ Nor	-				100%		Sa	- 0					
Helino	uisfied by (	Signature)			7/07/2010/2010	Time: Receiv	red by:	(Signa	alt		1.77	late:		Time: /558	Bill to Ton long (EAROD)
Relina	uished by (	Signature)			Date;	Time: Receiv	ed by	(Signal	ture	1	, E	ate:		Time:	Bill to low range
	elinquished by (Signature) Date: Time: Deceived by: (Signature)						(Signa	turei		A STATE OF	2/1/ late:	1	/// 5 Time:	AFE # N 32135	
-													1		
Relino	uished by (	(Signature)			Date:	Time: Receiv	Received by; (Signature) Date:				ate:	1	Time:	(Some day)	
Matrix Contai		V - Wastewa A - 40 ml via			W - Water A/G - Amber / C	S - Soil SD - Soil r Glass 1 Liter		L - Liquio	Glass v	- Air Ba	ig outh			oal tube tic 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 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 <a href="www.hallenvironmental.com">www.hallenvironmental.com</a> 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

Indy

4901 Hawkins NE

Albuquerque, NM 87109

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS				Analy	st: 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 RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	10/18/2017 1:35:00 F	PM 34440
Surr: BFB	95.2	15-316	%Rec	1	10/18/2017 1:35:00 F	PM 34440
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.018	mg/Kg	1	10/18/2017 1:35:00 F	PM 34440
Toluene	ND	0.035	mg/Kg	1	10/18/2017 1:35:00 F	PM 34440
Ethylbenzene	ND	0.035	mg/Kg	1	10/18/2017 1:35:00 F	PM 34440
Xylenes, Total	ND	0.070	mg/Kg	1	10/18/2017 1:35:00 F	PM 34440
Surr: 4-Bromofluorobenzene	99.3	80-120	%Rec	1	10/18/2017 1:35:00 F	PM 34440

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

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 5 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

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 Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analy	st: 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 RAN	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	10/18/2017 1:58:35 P	M 34440
Surr: BFB	93.7	15-316	%Rec	1	10/18/2017 1:58:35 P	M 34440
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: NSB
Benzene	ND	0.017	mg/Kg	1	10/18/2017 1:58:35 P	M 34440
Toluene	ND	0.034	mg/Kg	1	10/18/2017 1:58:35 F	M 34440
Ethylbenzene	ND	0.034	mg/Kg	1	10/18/2017 1:58:35 F	M 34440
Xylenes, Total	ND	0.068	mg/Kg	1	10/18/2017 1:58:35 F	M 34440
Surr: 4-Bromofluorobenzene	96.7	80-120	%Rec	1	10/18/2017 1:58:35 F	PM 34440

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

- 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 Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 5 J

- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1710952

20-Oct-17

Client:

APEX TITAN

Project:

Lateral K-7 2017

Sample ID LCS-34486	SampT	ype: LC	S	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				S	SeqNo: 1	480236	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	MB-34486 SampType: MBLK			Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS Batch ID: 34486			R	RunNo: 46473								
Prep Date: 10/18/2017	Analysis D	ate: 10	/19/2017	S	SeqNo: 1	480237	Units: mg/K	(g				
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					

- \* 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 Quanitative 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
- Page 3 of 5

- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1710952

20-Oct-17

Client:

APEX TITAN

**Project:** 

Lateral K-7 2017

Sample ID	MB-34440
1	

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

15

Client ID: PBS

Batch ID: 34440

RunNo: 46441

Prep Date: 10/17/2017

Analysis Date: 10/18/2017

SeqNo: 1480009

Units: mg/Kg

316

Analyte Gasoline Range Organics (GRO)

Prep Date: 10/17/2017

PQL Result ND 5.0

HighLimit

**RPDLimit** 

%RPD

%RPD

Qual

Surr: BFB Sample ID LCS-34440

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: 34440

RunNo: 46441

95.9

SeqNo: 1480010

Gasoline Range Organics (GRO)

Analysis Date: 10/18/2017 Result SPK value SPK Ref Val

%REC

Units: mg/Kg

HighLimit

**RPDLimit** Qual

29 5.0 0

SPK value SPK Ref Val %REC

75.9

LowLimit

131

Surr: BFB

1100

960

25.00 1000

1000

118 109

15

316

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

**PQL** Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Value above quantitation range E

J Analyte detected below quantitation limits

Page 4 of 5

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1710952

20-Oct-17

Client:

APEX TITAN

Project:

Lateral K-7 2017

Sample ID MB-34440	SampT	ype: ME	BLK	Test						
Client ID: PBS	Batch ID: 34440			R	tunNo: 4	6441				
Prep Date: 10/17/2017	Analysis D	ate: 10	/18/2017	S	eqNo: 1	480047	Units: mg/K	g		
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			S	TestCode: EPA Method 8021B: Volatiles									
Client ID: LCSS	Batch	ID: 344	440	F	RunNo: 46441								
Prep Date: 10/17/2017	Analysis D	ate: 10	)/18/2017	S	SeqNo: 1	480048	Units: mg/K	(g					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	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.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative 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
  - 5

Page 5 of 5

- 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 AZTE	С	Work Order Num	ber: 17109	52		RoptN	lo: 1
Received By:	Anne Thor	ne	10/18/2017 7:10:00	D AM		Ann Am		
Completed By	: Anne Thor	ne	10/18/2017 7:29:44	4 AM		an Ilm		
Reviewed By:	ENM		10/18/17					
Chain of Cu	istody							
1. Custody s	eals intact on sa	mple bottles?		Yes	$\checkmark$	No 🗆	Not Present	
2. Is Chain o	f Custody comp	lete?		Yes	✓	No 🗌	Not Present	
3. How was	he sample deliv	ered?		Courie	<u>er</u>			
Log In								
4. Was an a	ttempt made to	cool the samples?		Yes	<b>✓</b>	No 🗌	NA.	
5. Were all s	amples received	i at a temperature	of >0° C to 6.0°C	Yes	<b>V</b>	No 🗆	NA [	]
6. Sample(s	) in proper conte	liner(s)?		Yes	<b>V</b>	No 🗌		
7. Sufficient	sample volume	for indicated test(s	)?	Yes	✓	No 🗆		
8. Are sample	es (except VOA	and ONG) properl	y preserved?	Yes	<b>V</b>	No 🗆		
9. Was prese	ervative added to	bottles?		Yes		No 🗸	NA [	]
10.VOA vials	have zero head	space?		Yes		No 🗆	No VOA Vials	
11. Were any	sample contain	ers received broke	n?	Yes		No 🗹	# of preserved	
						🗆	bottles checked	
	erwork match bo repancies on ch			Yes		No L	for pH:	2 or >12 unless noted)
		ntified on Chain of	Custody?	Yes	$\checkmark$	No 🗆	Adjusted?	
14. Is it clear	what analyses w	ere requested?		Yes	$\checkmark$	No 🗆	*	
	olding times abl			Yes	$\checkmark$	No 🗆	Checked by	y:
(II IIO, IIOL	ly customer for a	authorization.)						
Special Har	ndling (If app	olicable)						
16. Was clien	t notified of all di	screpancies with t	his order?	Yes		No 🗆	NA 5	
Pers	on Notified:		Dat	te [	MANAGARAN AND AND AND AND AND AND AND AND AND A			
By V	Vhom:		Via	: 🗌 eMa		Phone  Fax	In Person	
Reg	arding:						DATES A AREA PER AN TOTAL OF THE SERVICE AND A SERVICE AND	
Clie	nt Instructions:		THE RESIDENCE OF THE PARTY OF T					
17. Additiona	I remarks:							
18. Cooler Ir Cooler		Condition Se	pal Intact   Seal No	Seal Da	te	Signed By		

							CHAIN OF CUSTODY RECORD
		4011	Enn		ANALYS	sis /.5/ /	/ / Lab use only
31	l aboratory:	1 h	-10,70	nnen s	REQUES	STED /	/ / / Due Date:
APEX	Laboratory:	1 Ho	.Kins	NE	-	/ 4/ / / /	
Office Location 606.5 Rio Grande	Alburance	4.0 A	in s	7/09	-	/ / / / / / / / / / / / / / / / / / /	Temp. of coolers / 🗸 when received (C°):
Suit A	Contact: A.	Files	man		-	. [ ]	1 2 3 4 5
Arter NM	Phone: 505				- 1	x / 1 / /	Pageof
Project Manager K . Sonners	04011			d d		/ / /	
Sampler's Name	Sampler's Signature	1			- 4	/	
Ched DAponti	Pale	1			1/3		/ / /
Proj. No. Project Name		No	/Type of Con	tainers	91/	7 / / / /	
725040112336 Laterd K-					1 1/2	1	
Matrix Date Time C G r Identifylng Matrix	arks of Sample(s)	End Depth	A/G 1 L.	Glass Jar P/O	10/2		Lab Sample ID (Lab Use Only)
5 19/1/1 1230 10 S-1	0	6	·	1	10 x		1710952-001
S 19/1/17 1330 N 5-2	D	6		1	rx		-602
					++++		
			+	+-	+ + +		
			+	++	+		
Turn around time Normal 25% Rush	⊒ 50% Rush □ 100%	Rush 5	and Suy	Resu	alts 1	910	
	Time: Redelved by:			Date:	Time:	NOTES:	n long (Elrod) AFE N32135
Retinquished by (Signature) Date;	Time: /Regeived by:	(Signature	1	Date:	ISTY Time:	B:11 to 101	n long
must walk 10/11/2	SUY (Mhn	1 St	~	10/18/17	0710	a dam	AFE N32133
Relinquished by (Signature) Date:	Time: Beceived by:	(Signature	<del>!</del> )	Date:	Time:	2 only	-
Relinquished by (Signature) Date:	Time: Received by:	(Signature	)	Date:	Time:	10-19-17	7
Matrix WW - Wastewater W - Water	S - Soil SD - Solid I	L - Liquid	A - Air Bag	C - Ch	arcoal tube	SL - sludge O - Qil	
Container VOA - 40 ml vial A/G - Amber / C		250 ml - Glas	s wide mouth		Plastic or other		