## 3R-1011

# Release Report/ General Correspondence

**Enterprise SJ** 

Date: Oct-Dec 2017

District II

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. Form C-141 Revised April 3, 2017

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

### Santa Fe, NM 87505 Release Notification and Corrective Action

1			r	Keleas	e Notifi	catio	n and C	orrective	ACTIO	on			0.00	
1 2 2						OF	PERATOR	3		Initial	Report	$\boxtimes$ F	Final Re	port
Na	me of C	ompany E	nterprise F	ield Ser	vices, LLC			omas Long						
			ve, Farmir					No. 505-599-2	2286					to the Heat
		me <b>Latera</b>					Facility Typ	e Natural Ga	s Gath	ering Pi	peline		164	gen.
Qu	rface Ov	vner <b>BLM</b>			Mineral	Owner	RIM			API No			1 1	41
L Vis	riace Ov	VIIEI BLIVI			IVIIIIeiai	Owner	DLIVI			AFINO	)			017
E 111	-				LOC		N OF REL	EASE					17 C. 17 FE	ice
36.00	it Letter	Section	Township	Range	Feet from	The second second	South	Feet from	East	West	County		29.1.1/18	۱Ç.
I Es	( <b>F</b>	22	28N	10W	the 2023	Line		the <b>1500</b>	Line		San Juan			
			1.8	atitude 3	-	Longiti	ıde -107 8	86875_NAD83						No. policy
der och ner	21			atitudo <u>o</u>			OF RELI						were to be supply	Asidtis To Roseco
Tyr	oe of Pel	assa Natura	al Gas and N	atural Gas		TUKE		Release:14.22	MCE	Volume	Recovered	None	mai da	nart
		ease matura	ai Gas and iv	aturai Gas	s Liquius		Gas; 10-1		WICE	volume	Recovered	None	1.11	port
1	ř						Condens							10.5
So	urce of R	elease Inte	rnal Corrosio	on				Hour of Occurre	ence		Hour of Di		y	A LA RESIDENCE OF THE
MA	e Immed	iate Notice	Given?				If VES To	@ <b>2:30 p.m.</b> Whom? : Cour	toey No	tification	7 @ 2:30 p	.m.	NMOCD.	
VVC	is illillieu	iate Notice		Yes	□ No ⊠	Not		Smith - BLM	lesy ive	Milication	vanessa i id	sius –	INIVICED,	41
Re	quired			_			,						1	711
By	Whom?	Runell Seal	Δ				Date and	Hour July 27, 2	017@	1:42 n m	-	13.66	HAN DAI	describerate and
		rcourse Re						olume Impacting				1 114		
44	2			☐ Yes	No     No			, and mpassing	,	atorooaroc				
If a	Waterco	urse was Ir	npacted, Des	scribe Full	v *								and a serior	Driving twist
						On July	21, 2017, Er	nterprise respon	ded to a	a possible	natural gas	leak	on the	
Lat	eral 2B-2	4 pipeline.	Enterprise te	chnician v	erified the le	eak and i	nitiated notif	cation procedur	es to G	as Contro	I, local man	ageme	ent, safet	
								emented. This is				oipelin	e. An are	a
THE PARTY NAMED IN	4.5							s wide was affe						100 1251
								vere completed eximately 27 feet						COMMITTEE OF THE PARTY OF THE P
								d transported to						al one godd
app	proved la	nd farm fac	ility. A third	party corre	ective action	report w	ill be include	d with the "Fina	I." C-14	1.			ewa, u,	41
13	3													
The	ereby cer	tify that the	information	given abov	ve is true and	d comple	te to the bes	t of my knowled	lge and	understa	nd that purs	uant to	NMOCI	Ď
7.3.		T						ase notifications				_		
								141 report by the investigate and						
								10CD acceptan						10
								ws and/or regul	lations.				in his on	¥
			, ,	- 1-				OIL CON	SERV	ATION	DIVISIO	M	it is fet	Fr . C . C . S. C.
Sig	nature:	Ma	m K	elelo						1	~	1	11.9	ladi
6	5 4	X	, , , ,	000			Approved by	/ Environmental	Specia	list.	1			
Pri	nted Nam	on E. F	ields				/ Approved by	Liviloiiiicitai	Opcolo			-	<u> </u>	
Titl	e: Directo	or, Environn	nental				Approval Da	te: \\\27[	T	Expiration	Date:		77. Ph. 12	41
E-n	nail Addre	ess: jefields	@eprod.com	n			Conditions of	of Approval:				_	100	
Ba	to:			Dha	no: (712) 20	1					Attached	· [6]		2:
Dat 668	34	10-19	9-21/7	Pno	ne: (713) 38	1-	~				260	ion	referses	A John
Atta	ch Addi	tional She	6-20/7 ets If Neces	ssary			NIVE	17257	20	200			a theat	
140				,			1246	11077	07	000	)		alle III	



#### **CORRECTIVE ACTION REPORT**

Property:

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

September 21, 2017 Apex Project No. 725040112318

Prepared for:

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

Prepared by:

Chad D'Aponti Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

#### **TABLE OF CONTENTS**

1.0	INTRO 1.1 1.2	DUCTION
2.0	SITE F	ANKING1
3.0	RESPO 3.1 3.2 3.3	ONSE ACTIONS2Soil Excavation Activities2Soil Sampling Program3Laboratory Analytical Methods3
4.0	DATA 4.1	EVALUATION
5.0	FINDIN	IGS AND RECOMMENDATIONS4
6.0	STANI	DARD OF CARE, LIMITATIONS, AND RELIANCE
LIST	OF AP	PENDICES
Арре	endix A	: Figure 1 – Topographic Map Figure 2 – Site Vicinity Map Figure 3 – Site Map with Soil Analytical Results
Appe	endix B	: Executed C-138 Solid Waste Acceptance Form
Appe	endix C	: Photographic Documentation
Appe	endix D	: Table



#### CORRECTIVE ACTION REPORT

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

Apex Project No. 725040112318

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

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

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

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

#### 1.2 Project Objective

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

#### 2.0 SITE RANKING

In accordance with the New Mexico 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	ring Criteria	22/07/201	Ranking Score
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	0
	>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	
	200 to 1,000 feet	10	20
Body	>1,000 feet	0	
Total R	anking Score		20

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

- One (1) water well (SJ 04072) was identified within a mile of the Site on the OSE website
  with a depth to water of 470 feet below grade surface (bgs). Based on this information
  and the absence of any identified water wells within 1,000 feet of the site, groundwater is
  estimated to be present at over 100 feet bgs, resulting in a ranking score of "0" for depth
  to groundwater.
- No water sources (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking score of "0".
- The Site is located adjacent to an unnamed ephemeral wash, identified as a "blue line" on the United States Geological Survey topographic map. The wash is located 90 feet from the pipeline release. This information supports a distance to surface water ranking score of "20".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

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

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

Enterprise Field Services, LLC Corrective Action Report Lateral 2B-24 Pipeline Release September 21, 2017



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

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

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

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

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

#### 3.2 Soil Sampling Program

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

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

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

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the New Mexico EMNRD OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These



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

#### 4.1 Confirmation Soil Samples

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

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

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

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

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

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

- The primary objective of the corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of silty sand and weathered shale.
- The final pipeline ROW excavation measured approximately 27 feet long by 18 feet wide, with a total maximum depth of approximately 9.5 feet bgs.



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

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

#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

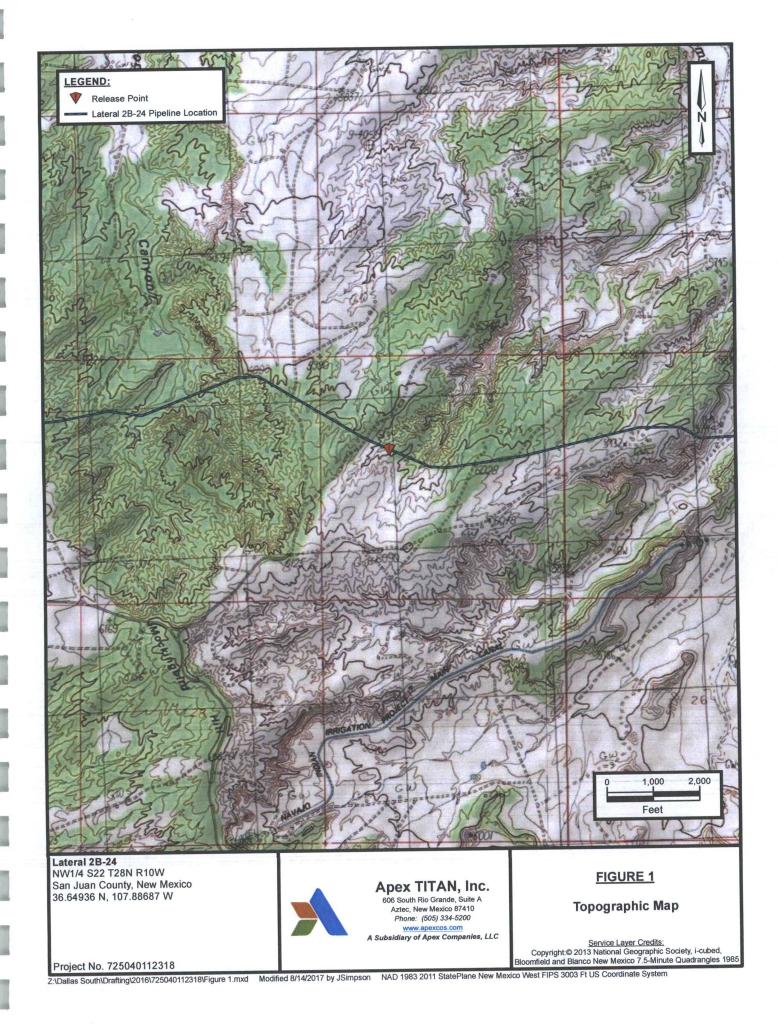
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

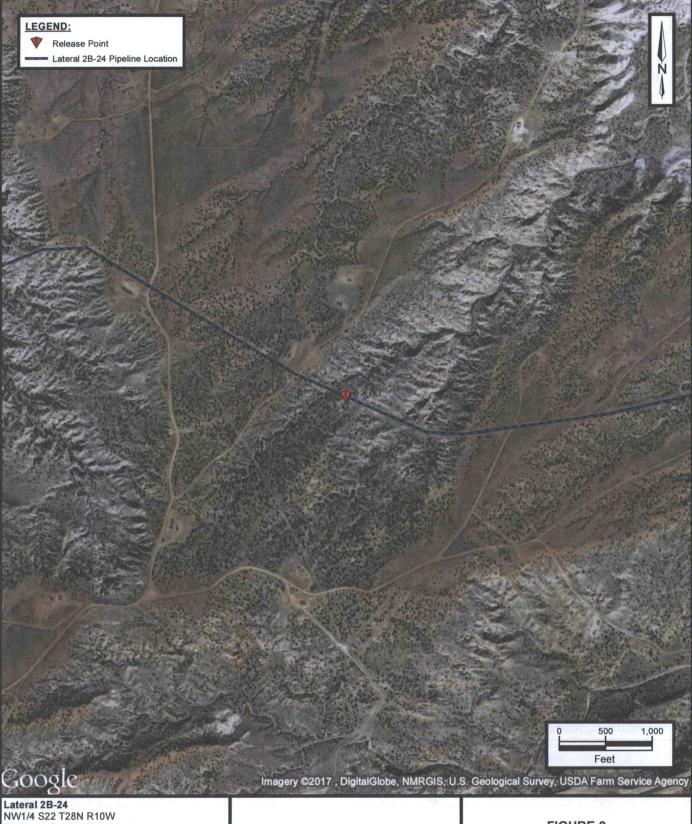
This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution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



APPENDIX A

Figures





San Juan County, New Mexico 36.64936 N, 107.88687 W



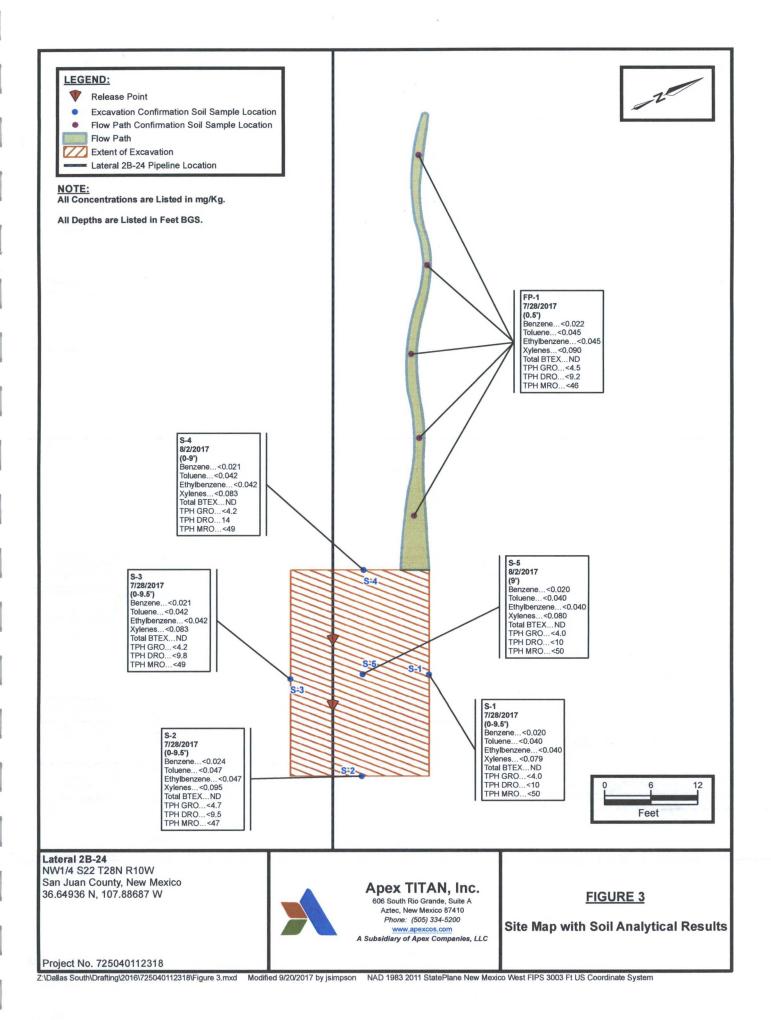
Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200 www.apexcos.com
A Subsidiary of Apex Companies, LLC

#### FIGURE 2

**Site Vicinity Map** 

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

Project No. 725040112318





APPENDIX B

Executed C-138 Solid Waste Acceptance Form

<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., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources 9 7057 - 8853 Revised August 1, 2011

Form C-138

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

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

#### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

Lateral 2B-24 Pipeline  Location of Material (Street Address, City, State or ULSTR): Unit Letter F, Section 22, T28N, R10W; 36.649366, -107.886875  Source and Description of Weste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline. Estimated Volume 50 yd bbls Known Volume (to be entered by the operator at the end of the haul) 216/276 yd //  S. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS  Runell Seale representative or authorized agent for Enterprise Field Services, LLC do hereby CONFAN NAME.  RURA & SIGN NAME representative or authorized agent for Enterprise Field Services, LLC do hereby CONFAN NAME.  RCRA Exempt: Oil field waste generated from oil and gas exploration and production operations and are not mixed with ne exempt waste.  RCRA Non-Exempt: Oil field waste subjected to demonstrate the above-described waste is non-hazardous that does not exceed the minimum standards for waste hazardocharacteristics 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. (C 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  GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION	
	July/August 2017
I, Runell Seale representative or authorized agent for Enterprise COMPANY certify that according to the Resource Conservation and Recovery Act (RCRA) and the	Field Services, LLC do hereby NAME e US Environmental Protection Agency's July 1988
characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed subpart D, as amended. The following documentation is attached to demonstrate	hazardous waste as defined in 40 CFR, part 261,
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION ST	ATEMENT FOR LANDFARMS
I,	rize Envirotech, Inc. to
complete the required testing/sign the Generator Waste Testing Certification.	
representative samples of the oil field waste have been subjected to the paint filter test have been found to conform to the specific requirements applicable to landfarms pursu of the representative samples are attached to demonstrate the above-described waste of 19.15.36 NMAC.	and tested for chloride content and that the samples ant to Section 15 of 19.15.36 NMAC. The results
6. Transporter: Envirotech Flying M, HBL, IMI	
OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: Address of Facility: Hilltop, NM	NM 01-0011
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm	Landfill Other
Waste Acceptance Status:	NIED (Must Be Maintained As Permanent Record)
PRINT NAME: Greg Crabtree TITLE: Environm	-1-1
	D.: 505-632-0615



APPENDIX C

Photographic Documentation





Photograph 1

Point of release.



Photograph 2

View of the flow path.



#### Photograph 3

Beginning of excavation activities.





#### Photograph 4

View of in-process excavation activities.



#### Photograph 5

View of the excavation, facing southeast.



#### Photograph 6

View of the final excavation, facing north.







#### Photograph 7

View of the final excavation.



#### Photograph 8

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



#### Photograph 9

View of the hand-excavated flow path.





APPENDIX D

Table



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

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departme	ergy, Mineral & nt, Oil Conserva mediation Action		10	NE	NE	NE	50		100	
		<b>大型型型型的</b>		Flowp	ath Confirmation Soi	I Samples				
FP-1	7.28.17	0.5	<0.022	<0.045	<0.045	<0.090	ND	<4.5	<9.2	<46
				Excava	tion Confirmation So	il Samples				
S-1	7.28.17	0 to 9.5	<0.020	<0.040	<0.040	< 0.079	ND	<4.0	<10	<50
S-2	7.28.17	0 to 9.5	<0.024	<0.047	<0.047	< 0.095	ND	<4.7	<9.5	<47
S-3	7.28.17	0 to 9.5	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<9.8	<49
S-4	8.02.17	0 to 9	<0.021	<0.042	<0.042	<0.083	ND	<4.2 14		<49
S-5	8.02.17	9	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<10	<50

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

August 01, 2017

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

**FAX** 

RE: Lateral 2B-24

OrderNo.: 1707E87

#### Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1707E87

Date Reported: 8/1/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2B-24

Lab ID: 1707E87-001 Client Sample ID: S-1

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

Matrix: MEOH (SOIL) Received Date: 7/29/2017 9:35:00 AM

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

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 1 of 7 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1707E87

Date Reported: 8/1/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2B-24

Lab ID: 1707E87-002 Client Sample ID: S-2

Collection Date: 7/28/2017 1:35:00 PM

Received Date: 7/29/2017 9:35:00 AM Matrix: MEOH (SOIL)

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	6			Analys	: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	7/31/2017 11:08:05 AM	33085
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	7/31/2017 11:08:05 AM	33085
Surr: DNOP	98.5	70-130	%Rec	1	7/31/2017 11:08:05 AM	33085
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	7/31/2017 10:45:43 AM	G44614
Surr: BFB	101	54-150	%Rec	1	7/31/2017 10:45:43 AM	G44614
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.024	mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Toluene	ND	0.047	mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Ethylbenzene	ND	0.047	mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Xylenes, Total	ND	0.095	mg/Kg	1	7/31/2017 10:45:43 AM	B44614
Surr: 4-Bromofluorobenzene	113	66.6-132	%Rec	1	7/31/2017 10:45:43 AM	B44614

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

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

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

Lab Order 1707E87

Date Reported: 8/1/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2B-24

Lab ID:

1707E87-003

Client Sample ID: S-3

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

Received Date: 7/29/2017 9:35:00 AM Matrix: MEOH (SOIL)

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	9.8	mg/Kg	1	7/31/2017 11:36:22 AM	33085
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	7/31/2017 11:36:22 AM	33085
Surr: DNOP	102	70-130	%Rec	1	7/31/2017 11:36:22 AM	33085
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	7/31/2017 11:09:30 AM	G44614
Surr: BFB	102	54-150	%Rec	1	7/31/2017 11:09:30 AM	G44614
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.021	mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Toluene	ND	0.042	mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Ethylbenzene	ND	0.042	mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Xylenes, Total	ND	0.083	mg/Kg	1	7/31/2017 11:09:30 AM	B44614
Surr: 4-Bromofluorobenzene	112	66.6-132	%Rec	1	7/31/2017 11:09:30 AM	B44614

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

- 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 7 J

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

Lab Order 1707E87

Date Reported: 8/1/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2B-24

Lab ID:

1707E87-004

Client Sample ID: FP-1

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

Matrix: MEOH (SOIL) Received Date: 7/29/2017 9:35:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	6			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	7/31/2017 12:04:40 PM	33085
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	7/31/2017 12:04:40 PM	33085
Surr: DNOP	86.8	70-130	%Rec	1	7/31/2017 12:04:40 PM	33085
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	7/31/2017 11:33:19 AM	G44614
Surr: BFB	103	54-150	%Rec	1	7/31/2017 11:33:19 AM	G44614
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.022	mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Toluene	ND	0.045	mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Ethylbenzene	ND	0.045	mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Xylenes, Total	ND	0.090	mg/Kg	1	7/31/2017 11:33:19 AM	B44614
Surr: 4-Bromofluorobenzene	112	66.6-132	%Rec	1	7/31/2017 11:33:19 AM	B44614

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

- 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
- 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 4 of 7 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

#### Hall Environmental Analysis Laboratory, Inc.

WO#:

1707E87

01-Aug-17

Client:

**APEX TITAN** 

Project:

Lateral 2B-24

Sample ID LCS-33075

Prep Date: 7/28/2017

SampType: LCS

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

Client ID: LCSS

Batch ID: 33075

RunNo: 44604

Analysis Date: 7/31/2017

SeqNo: 1410830

Units: %Rec

Analyte

87.2

HighLimit

Result 4.4 SPK value SPK Ref Val %REC 5.000

LowLimit

**RPDLimit** 

Qual

Surr: DNOP

Client ID:

SampType: MBLK

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

Sample ID MB-33075

**PBS** 

RunNo: 44604

130

Prep Date: 7/28/2017

Batch ID: 33075 Analysis Date: 7/31/2017

SeqNo: 1410831

%REC

Units: %Rec

%RPD

Qual

Page 5 of 7

Analyte

SPK value SPK Ref Val

85.3

70

LowLimit

HighLimit

%RPD

**RPDLimit** 

Surr: DNOP

8.5

Result

10.00

130

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Η

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

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

#### Hall Environmental Analysis Laboratory, Inc.

WO#: 1707E87

01-Aug-17

Client:

APEX TITAN

Project:

Lateral 2B-24

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

54

76.4

54

Client ID:

Batch ID: G44614

PQL

5.0

RunNo: 44614

Prep Date:

Analysis Date: 7/31/2017

SeqNo: 1410728

Units: mg/Kg

150

**RPDLimit** 

Analyte Gasoline Range Organics (GRO)

ND

25.00

1000

SPK value SPK Ref Val %REC LowLimit HighLimit

Qual

Surr: BFB

1000

Result

1000

TestCode: EPA Method 8015D: Gasoline Range

104

%RPD

Sample ID 2.5UG GRO LCS

LCSS

SampType: LCS Batch ID: G44614

RunNo: 44614

Prep Date:

Analyte

Client ID:

Analysis Date: 7/31/2017

SeqNo: 1410729

Units: mg/Kg

HighLimit %RPD

Gasoline Range Organics (GRO)

Client ID: S-1

PQL SPK value SPK Ref Val

%REC LowLimit

Surr: BFB

1100

5.0

Batch ID: G44614

0 95.2 113

125 150 **RPDLimit** 

Qual

Sample ID 1707E87-001AMS

SampType: MS

Result

24

TestCode: EPA Method 8015D: Gasoline Range RunNo: 44614

Analyte

Prep Date:

Analysis Date: 7/31/2017 Result PQL

SPK value SPK Ref Val

19.76

SeqNo: 1410730 %REC LowLimit

99.3

115

Units: mg/Kg HighLimit

128

150

%RPD

**RPDLimit** Qual

Qual

Gasoline Range Organics (GRO) Surr: BFB

20 4.0 910

790.5

0

0

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

Sample ID 1707E87-001AMSD

SampType: MSD Batch ID: G44614

Analysis Date: 7/31/2017

RunNo: 44614

99.7

116

77.8

54

77.8

54

Units: mg/Kg

150

**RPDLimit** 

Analyte Gasoline Range Organics (GRO) Surr: BFB

Prep Date:

Result

20

910

**PQL** SPK value SPK Ref Val 4.0 19.76 790.5

SeqNo: 1410731 %REC

LowLimit

HighLimit 128

%RPD

0.362

0

20 0

Page 6 of 7

#### Qualifiers:

Η

Value exceeds Maximum Contaminant Level.

Holding times for preparation or analysis exceeded

- D Sample Diluted Due to Matrix
- 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#:

**RPDLimit** 

1707E87

01-Aug-17

Qual

Qual

Client: Project: APEX TITAN

Sample ID RB

Lateral 2B-24

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

66.6

TestCode: EPA Method 8021B: Volatiles

Client ID:

PBS

Batch ID: **B44614** 

RunNo: 44614

Units: mg/Kg

Prep Date:

Result

ND

ND

Analysis Date: 7/31/2017 PQL

0.025

0.050

SeqNo: 1410736

SPK value SPK Ref Val %REC LowLimit

HighLimit

Analyte Benzene Toluene

Ethylbenzene Xylenes, Total

Surr: 4-Bromofluorobenzene

ND 0.050 ND 0.10 1.2

1.000

115

132

Sample ID 100NG BTEX LCS Client ID:

LCSS

SampType: LCS

Batch ID: **B44614** 

RunNo: 44614

Prep Date:

Analysis Date: 7/31/2017

SeqNo: 1410737

Units: mg/Kg

HighLimit %RPD **RPDLimit** 120

%RPD

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit 0.90 0.025 1.000 0 90.3 80 Benzene 0.90 0.050 1.000 0 90.0 80 120 Toluene 0.93 0.050 1.000 0 93.0 80 120 Ethylbenzene 0 93.6 80 120 2.8 0.10 3.000 Xylenes, Total Surr: 4-Bromofluorobenzene 1.2 1.000 120 66.6 132

Sample ID 1707E87-002AMS

SampType: MS

TestCode: EPA Method 8021B: Volatiles

Client ID:

Batch ID: **B44614** 

RunNo: 44614

Prep Date:

Analysis Date: 7/31/2017

SeqNo: 1410738

Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Benzene 0.90 0.024 0.9461 0 95.4 80.9 132 0.047 0.9461 0 92.3 79.8 136 Toluene 0.87 0.047 0.9461 0 96.2 79.4 140 Ethylbenzene 0.91 0.095 2.838 0 96.1 78.5 142 Xylenes, Total 2.7 0.9461 121 66.6 132 Surr: 4-Bromofluorobenzene 1.1

Sample ID 1707E87-002AMSD

SampType: MSD

TestCode: EPA Method 8021B: Volatiles

66.6

Client ID: S-2

Surr: 4-Bromofluorobenzene

Batch ID: **B44614** 

1.1

RunNo: 44614

132

Prep Date: Analysis Date: 7/31/2017 SeqNo: 1410739 Units: mg/Kg SPK value SPK Ref Val %REC %RPD Result PQL LowLimit HighLimit Analyte 0.88 0.024 0.9461 93.2 80.9 2.36 Benzene 0 132 0.86 0.047 0.9461 90.4 79.8 136 2.06 Toluene 0 0.89 0.047 0.9461 0 94.4 79.4 140 1.87 Ethylbenzene Xylenes, Total 2.7 0.095 2.838 0 95.5 78.5 142 0.605

0.9461

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

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

121

J Analyte detected below quantitation limits Page 7 of 7

**RPDLimit** 

20

20

20

20

0

Qual

P Sample pH Not In Range

RL 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 Numbe	r: 1707E87		RcptNo:	1
Received By:	Ashley Gallegos	7/29/2017 9:35:00 AM	А	A		
Completed By:	Ashley Gallegos	7/30/2017 2:45:57 PM	А	A		
Reviewed By:	TO	7 31 17		•		
Chain of Cus	stody					
1. Custody sea	als intact on sample bott	les?	Yes	No 🗌	Not Present	
2. Is Chain of	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 sa	amples?	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 indicate	ed test(s)?	Yes 🗹	No 🗆		
8. Are samples	s (except VOA and ONG	) 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	ed broken?	Yes	No 🗹	# of preserved	
40.5				N. 🗆	bottles checked	
	work match bottle labels epancies on chain of cus		Yes 🗹	No L.J	for pH: (<2 or	>12 unless noted)
13. Are matrices	s correctly identified on (	Chain of Custody?	Yes 🗹	No 🗆	Adjusted?	
14. Is it clear wh	hat analyses were reque	sted?	Yes 🗹	No 🗌		
	ding times able to be me customer for authorizati		Yes 🗹	No 🗆	Checked by:	
Special Hand	iling (if applicable)	)				
TALE STREET	notified of all discrepanci	•	Yes	No 🗌	NA 🗹	
Perso	n Notified:	Date		M. A. M. Markelly and a supplementary		
By Wh	nom:	Via:	eMail P	Phone Fax	☐ In Person	
Regar	ding:			Old Like Hillard Developer, perchannes and reason		
Client	Instructions:		A kinerariik ikim katerida istabila kelik maakas da bun			
17. Additional r	emarks:					
18. <u>Cooler Info</u> Cooler N		on   Seal Intact   Seal No	Seal Date	Signed By	ĺ	
1	3.8 Good	Yes				

															CHAIN OF CUSTODY RECOR
Office Sc Az Proje	ct Manager's Name	n 600 N.M	ymi	r1-c1	- SANDON	450 A 7 50 S	101 01 01 010 010 010	Han N.,	Z:n n 39	5	146	=		ALYSIS EQUESTED	Due Date:  Temp. of coolers 3.5 when received (C°): +0.2  1 2 3 4 5  Page 1 of 1
Proj. N		3.4	Proje	ect Na				printere interesses and	pe of C	ontain	ners			TIEN AND THE REAL PROPERTY OF THE PROPERTY OF	'
Matrix	Date Date	Time	CoEp	Grab	Identifying Marks of Sample(s)	- 5	End	VOA	A/G	. 250 m	Glass	P/O	- 5		Lab Sample ID (Lab Use Only)
5	768/17	1330	p	-	5-1	0	9.5			-	1		X	X	1707E87-001
5	Islin	1335	Ø		5-2	0	95				1		Y	Y	-002
5	30/17	1340	Y		5-3	0	95				(		¥	Y	-003
5	768/17	1345	p		F7-1		,5				1		¥	×	-003 -004
															NES
Turn a	round time	Nor	mal	02	25% Rush	100%	Rush								
Reling	uished by ( uished by ( uished by ( uished by (	(Signature)	-	7	Date: Time: Recei	ved by	(Signa (Signa (Signa (Signa	ture)	The (		Date 1/28	17	1	Time: NOTES:  ### BI //  ### BI /	1 to tem long Ehod N 31400 Server



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

August 04, 2017

Kyle Summers

APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Lateral 2B-24

OrderNo.: 1708192

#### Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1708192

Date Reported: 8/4/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2B-24

Lab ID: 1708192-001

Client Sample ID: S-4

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

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

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

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

- \* 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 1708192

Date Reported: 8/4/2017

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2B-24

**Lab ID:** 1708192-002

Client Sample ID: S-5

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

Matrix: SOIL

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

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

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

- \* 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 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#:

1708192

04-Aug-17

Client:

APEX TITAN

Project:

Lateral 2B-24

Sample ID LCS-33151	SampType: LC:	S	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 331	51	RunNo: 44701						
Prep Date: 8/3/2017	Analysis Date: 8/3	3/2017	SeqNo: 1413701			Units: mg/Kg			
Analyte	Result PQL	SPK value S	PK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47 10	50.00	0	93.3	73.2	114			
Surr: DNOP	4.6	5.000		92.0	70	130			

Sample ID MB-33151	SampType: MBLK TestCode:					EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 33151			RunNo: 44701								
Prep Date: 8/3/2017	Analysis D	Analysis Date: 8/3/2017			SeqNo: 1413702			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	ND	10										
Motor Oil Range Organics (MRO)	ND	50										
Surr: DNOP	9.4		10.00		94.3	70	130					
Sample ID 1708192-001AMS	SampT	SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics										
Client ID: S-4	Batch	ID: 331	51	RunNo: 44701								

Client ID: S-4	Batch ID: <b>33151</b> Analysis Date: <b>8/3/2017</b>			R	tunNo: 4	4701				
Prep Date: 8/3/2017				S	eqNo: 1	413856	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	9.9	49.26	13.98	93.5	55.8	122	4-2-3-11		
Surr: DNOP	4.8		4.926		98.2	70	130			

Sample ID 1708192-001AMS	SD SampT	ype: MS	SD	Tes	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: S-4	Batch	ID: 33	151	F	RunNo: 4	4701					ŀ	
Prep Date: 8/3/2017	Analysis Date: 8/3/2017				SeqNo: 1413857			Units: mg/Kg			١	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	52	9.3	46.55	13.98	80.7	55.8	122	15.2	20			
Surr: DNOP	4.6		4.655		99.5	70	130	0	0			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical 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

# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1708192

04-Aug-17

Client:

**APEX TITAN** 

Project:

Lateral 2B-24

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: **PBS** 

Batch ID: **G44704** 

PQL

RunNo: 44704

Prep Date:

Analysis Date: 8/3/2017

SeqNo: 1414005

Units: mg/Kg

Analyte

ND

SPK value SPK Ref Val %REC LowLimit

Gasoline Range Organics (GRO) 5.0

88.3

%RPD HighLimit

**RPDLimit** Qual

Surr: BFB

880

Result

1000

150

Sample ID 2.5UG GRO LCS

SampType: LCS Batch ID: G44704

RunNo: 44704

Client ID: Prep Date:

Analysis Date: 8/3/2017

SeqNo: 1414006

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

LCSS

Result 26

990

SPK value SPK Ref Val POL

%REC

TestCode: EPA Method 8015D: Gasoline Range

Surr: BFB

5.0 25.00 1000

0 103 99.2

LowLimit 76.4

54

**HighLimit** 125

150

%RPD **RPDLimit** 

Qual

Client ID:

Prep Date:

S-4

Sample ID 1708192-001AMS SampType: MS

Result

21

820

Batch ID: G44704

TestCode: EPA Method 8015D: Gasoline Range RunNo: 44704

SeqNo: 1414007

Units: mg/Kg

Qual

Analyte Gasoline Range Organics (GRO)

Analysis Date: 8/3/2017 PQL 4.2

SPK value SPK Ref Val %REC

20.78 831.3

LowLimit 98.8 98.3

0

0

77.8 54

HighLimit %RPD 128

**RPDLimit** 

Qual

Surr: BFB Sample ID 1708192-001AMSD

Client ID:

Prep Date:

SampType: MSD

Batch ID: **G44704** 

4.2

TestCode: EPA Method 8015D: Gasoline Range

RunNo: 44704

89.1

100

Units: mg/Kg

150

**RPDLimit** 

20

0

Analyte Surr: BFB

Gasoline Range Organics (GRO)

Analysis Date: 8/3/2017 Result **PQL** 

19

830

20.78

831.3

SeqNo: 1414008 SPK value SPK Ref Val

%REC

LowLimit 77.8

54

HighLimit 128

150

%RPD 10.3

0

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Η 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 5

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

# OC SUMMARY REPORT

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1708192 04-Aug-17

**Client:** 

APEX TITAN

Project:

Lateral 2B-24

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

LowLimit

Client ID:

Batch ID: **B44704** 

RunNo: 44704

Units: mg/Kg

Prep Date:

Analysis Date: 8/3/2017

SeqNo: 1414011

%RPD

%RPD

%RPD

HighLimit

**RPDLimit** 

Analyte Benzene

Result PQL ND 0.025 0.050 ND

Toluene ND 0.050 Ethylbenzene ND 0.10 Xylenes, Total

108

SPK value SPK Ref Val %REC

66.6

132

**RPDLimit** 

**RPDLimit** 

Qual

Qual

Qual

Sample ID 100NG BTEX LCS

SampType: LCS

1.1

Result

1.2

TestCode: EPA Method 8021B: Volatiles

Client ID:

LCSS

Surr: 4-Bromofluorobenzene

Batch ID: **B44704** 

**PQL** 

RunNo: 44704

120

120

120

120

Prep Date:

Analysis Date: 8/3/2017

SeqNo: 1414012 %REC

98.8

99.1

98.9

101

Units: mg/Kg HighLimit

Analyte Benzene Toluene Ethylbenzene

Xylenes, Total

0.99 0.025 1.000 0 0.99 0.050 1.000 0 1.000 0.99 0 0.050 3.0 0.10 3.000 0

1.000

1.000

SPK value SPK Ref Val

80 116 66.6 132

80

80

80

LowLimit

Sample ID 1708192-002AMS

Surr: 4-Bromofluorobenzene

SampType: MS

TestCode: EPA Method 8021B: Volatiles RunNo: 44704

Client ID:

Batch ID: **B44704** Analysis Date: 8/3/2017

SeqNo: 1414013

Units: mg/Kg

Analyte Benzene Toluene Ethylbenzene Xylenes, Total

Prep Date:

Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit 100 0.80 0.020 0.7981 80.9 0 132 0.82 0.040 0.7981 0.008620 101 79.8 136 0.81 0.040 0.7981 0 102 79.4 140 2.5 0.080 2.394 0.02730 103 78.5 142 0.90 0.7981 113 66.6 132

Sample ID 1708192-002AMSD

SampType: MSD

TestCode: EPA Method 8021B: Volatiles

Client ID: S-5

Surr: 4-Bromofluorobenzene

Surr: 4-Bromofluorobenzene

Batch ID: **B44704** 

RunNo: 44704

Prep Date:

Analysis Date: 8/3/2017

SeaNo: 1414014 Units: mg/Kg

Analyte Benzene Toluene Ethylbenzene

Xylenes, Total

SPK value SPK Ref Val %RPD **RPDLimit** Result PQL %REC LowLimit HighLimit 0.79 0.020 0.7981 0 98.8 80.9 132 1.38 20 0.7981 98.1 20 0.79 0.040 0.008620 79.8 136 3.04 0.80 1.21 0.040 0.7981 100 79.4 140 20 0 2.5 20 0.080 2.394 0.02730 102 78.5 142 1.18 0.92 0.7981 66.6 132 116 0

# Qualifiers:

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

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

RI. 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:	170819	2	Ropt	No: 1
Received By:	Anne Thorne	8/3/2017 7:10:00 AM		ane !	ham	
Completed By:	Anne Thome	8/3/2017 7:39:59 AM		Ame S	II.	
Reviewed By:	JE 8-3-17 880	D			•	
Chain of Cus	stody					
1. Custody sea	als intact on sample bottles	?	Yes	No [	Not Present	✓
2. Is Chain of C	Custody complete?		Yes V	No [	Not Present	
3. How was the	e sample delivered?		Courier			
<u>Log In</u>						
4. Was an atte	empt made to cool the sam	ples?	Yes	No	. NA	
5. Were all sar	mples received at a temper	rature of >0° C to 6.0°C	Yes ₩	No [	□ NA [	<b>-</b>
6. Sample(s) is	n proper container(s)?		Yes 8	No		
7. Sufficient sa	imple volume for indicated	test(s)?	Yes V	No [		
8. Are samples	(except VOA and ONG) p	roperly preserved?	Yes V	No [		
9. Was presen	vative added to bottles?		Yes	No 6	✓ NA	
10. VOA vials ha	ave zero headspace?		Yes [		No VOA Vials	<b>✓</b>
11. Were any s	ample containers received	broken?	Yes	No	# of preserved	
12 Dees name	Saladal although dates show		Yes V	No [	bottles checked for pH:	
	work match bottle labels? pancies on chain of custod	(y)	168			<2 or >12 unless noted)
13. Are matrices	s correctly identified on Cha	ain of Custody?	Yes V	No [	Adjusted?	?
14. Is it clear wh	nat analyses were requeste	d?	Yes V			
	ding times able to be met? customer for authorization.	.)	Yes Y	No [	Checked	Dy:
m state as						
	lling (if applicable)		_			_
16. Was client n	otified of all discrepancies	with this order?	Yes [	No [	NA	<u>~</u>
Person	n Notified:	Date		(COMPANIES AND	MODELLO*	
By Wh	THE REAL PROPERTY AND ADDRESS OF THE PARTY AND	Via:	eMail	Phone I	Fax In Person	-
Regard	All the base of the same of th			- The Control of the		-
Client	Instructions:					
17. Additional re	ernarks:					
18. Cooler info						
Cooler No			Seal Date	Signed By		
[7	1.1 Good	Yes				

						100 mm 200																	CH	AIN	OF	CUS.	TODY	RECO	RD
,							-	H	10-11	En	0:50	nm	en	4	AN	ALY	SIS		1/	$\overline{}$	1				$\mathcal{T}$	/	use only		
4	3					Labo	oratory:								RE	QUE	STE	D /	5		/	/	/	/	//	Due	Date:		
A	PEX						ress:		-	51777	- Kir	ر ی	NE	7				14	/		/	/	/ /	//	/ /	-		. , ,	,
Offic	e Locatio	606	S	Ric	o Gran													100	/ /	/ /	/ /	/ /	/				p. of coole n received		
S	1. + A	<b>.</b>				Con	bug	A.	FIL	Lem	an	79-					/	V		/	/	/	/			1	2 3	4 5	
_A	ztec	Nm		3-7	410		ne:										N.	P			/	/	/	/		Page	1	of	_
Proje	ect Mana	ger K	Sv.	man	10-9	PO/	SO#: _	725	040	112	3/8	7				1	10/1	Ú)			/	/ /	/ /	/ /					
	ler's Name	2					er's Sign		,	1.					1		5/	Y	/ /		/	/	/	/					
	Chal	DEP	bon.	Ji.			1/2	- A		2						>/	STO STORY	' /		/									
Proj. I			Proje	ect N	ame	1 -	2 -	/		No/T	ype of C	ontain	ners			W	V		/	/		/	/						
72	5040112	>318	_	6	T	ral 3			_				-		1	3	2/		/ /	/ ,	/ /	/ /	/ /						
Matrix	Date	Time	CoED	Grab	Identifyin	g Marks of S	ample(s)	Start	End	VO A	AG H	250 m	Glass	P/0		15	7	//			/				Lab S	Sample	ID (Lab U	se Only)	
2	8-2-17	1000	p		S-	-4		0	9	14-			1		K	K										170	819	2-00	k
	8-2-17	10005	0		S-	-5		0	9		M.		1	3 6	χ	X												002	1
_																				1							_		
										No.		AH																	
										3										+		+							
														- 0-				1		+		1			•				
																		-	1	2	+	+	+				•		
																		0	1	1	+	-						•	
										97										1	_	+	+					· ·	-
				-														+	-	+	1	+	+						_
Turn a	round time	□ Nor	mal	0:	25% Rush	□ 50% F	ush Z	100%	Rush												-	1	4		-				$\dashv$
Relinc	juished by	(Signature)			Date:	Time: 1145	Receiv / J	red by:	(Signa	itule)	1	8	Date	17		ime:	N	OTES	:		,	,	т.		2		_	PROL	<u> </u>
Relino	uished by	(Signature)			Date:	Time:	Receiv						Date VC3	:, 1	T	ime:		B	:11	,	10		10,	m	4	ong		1101	
	juished by				Date:	Time:	Receiv	red by:	(Signā	iture)	-		Date		_	ime:		Δ	E	H	N	319	100	7		5	end	PROL	
Relino	juished by (	(Signature)		1	Date:	Time:	Receiv	red by:	(Signa	iture)			Date	:	Т	ime:	1	71,6								_	De	2	
Matrix Contai		V - Wastewa A - 40 ml via			W - Water A/G - Amb	S - Soil er / Or Glass	SD - So	lid L	- Liquid	d A	- Air Ba	ag outh			rcoal to			- slud	<b>je</b>	0	- Oil								

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

# State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141 Revised April 3, 2017

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

# **Release Notification and Corrective Action**

					OP	ERATOR	₹		Initial I	Report	$\boxtimes$	Final Report
Name of C	ompany E	nterprise F	ield Serv	vices, LLC		Contact Th	omas Long					
		ve, Farmin				Telephone	No. 505-599-2	2286				
Facility Nar	ne Val Ve	rde Plant				Facility Typ	e Natural Gas	s Gath	ering Pi	peline		
Surface Ov	vner <b>Priva</b>	te		Mineral (	Owner	Federal			Serial	Number	N/A	···m··-141
103 ( 111 )				LOCA	AOITA	OF REL	EASE					2017
Unit Letter	Section	Township	Range		North		Feet from	East	West	County	7	5.201 VAC.
Dis CA	14	29N	11W	the <b>715</b>	Line		the 1173	Line		San Jua		
cac richal :		La	atitude_36	6.730987L	_ongitu	de <u>107.9</u>	55912NAD83					: Watching critical as
				NAT	URE	OF RELI	EASE					
Type of Rele	ease 50% V	Vater, 50% A	mine Solu				f Release 5-7 BI	BLs	Volume I	Recovered	None	Final Report
Source of R							Hour of Occurre			Hour of [		
A							@ 5:00 p.m.		3/11/201	7 @ 5:00	p.m.	
Was Immed	iate Notice					If YES, To	Whom?		Oll	CONS. D	IV DI	ST 3
Required			☐ Yes	□ No ⊠ N	lot				VIL	GUIVO. L	IV DI	
Kedulied										NOVE	201	7 -141
By Whom?						Date and	Hour			NOV 2	1 201	
Was a Wate	rcourse Re	ached?					olume Impacting	the Wa	atercourse	).		FOR MAC
				⊠ No								52.4118AU.
		npacted, Des										
							Enterprise techr					
		m open valve outh with in t			Jooler.	Approximat	ely 5-7 barrels o	of the A	mine solu	tion was r	ease	d and flowed
approximate	ly 50 leet s	Odin with in t	ine lacility.	•							21	
Describe Are	ea Affected	and Cleanur	Action T	aken * Entern	rise initi	ated remed	ation utilizing ha	and too	ls The im	pacted so	il was	removed as
							ic yards of impa					
							ded with this "Fir					
1-												
I hereby cer	tify that the	information g	given abov	ve is true and	comple	te to the bes	t of my knowled	lge and	understar	nd that pu	rsuant	to NMOCD
							ase notifications					
							141 report by th					
							investigate and MOCD acceptant					
							aws and/or regul		0-14116p	ort does i	iot rein	eve trie
11		1	7			,	OIL CON		ATION	DIVISI	ON	1/ 10
U i		9 1	//							-		Ved ved
Signature:	-/N	Tu	4						^	1	1	) ved
Printed Nam	o: lon E E	iolds			1	Approved by	y Environmental	Specia	ilist:		1	L mal larad
()	ic. Juli E. F	icius									Fid	tenab tenat tenovidas
Title: Directo	or, Environn	nental				Approval Da	te:1113711		Expiration	Date:		Frie psed
E-mail Addre	ess: jefields	@eprod.com	1			Conditions of	of Approval:					10.0
Tin v	1/									Attache	:d 🗌	· NA CDT
Date: //	15/2017	7	Pho	ne: (713) 381	-							e\$717
6684 Attach Addi	tional Sha	ote If Nonco	eary.			~ 1 ~	420	01				net
Allacii Audi	lional Sile	ers II Meres	osai y			MAF	17087	26	143			e a minal to

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

# State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-138 9 7057- 085/ Revised August 1, 2011

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. Originating Site: Val Verde Soil Box
3. Location of Material (Street Address, City, State or ULSTR): Unit B Sec 14 T 29N R 11W; 36.73073, -107.955920  4. Source and Description of Waste: Waste Soil from Soil Box; Hydrocarbon (Amine, Lube Oil or Condensate) Impacted Soils
4. Source and Description of Waste: Waste Soil from Soil Box; Hydrocarbon (Amine, Lube Oil or Condensate) Impacted Soils  5. Estimated Volume5 (d^1) bbls Known Volume (to be entered by the operator at the end of the haul) (yd^1) 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  COMPANY NAME  COMPANY NAME  COMPANY NAME
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency ☐ Monthly ☐ Weekly ☐ Per Load**
☐ 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, More Log 8-15-17, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to Generator Signature
complete the required testing/sign the Generator Waste Testing Certification.
I,
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
19.15.36 NMAC.  6. Transporter: Envirotech, Inc.
OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Injection I
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Greg Cranfree TITLE: Environmental Manager DATE: 8/21/17
SIGNATURE: TELEPHONE NO.: 505-632-0615



MANIFEST # 57386	
GENERATOR ENTERPRISE	
POINT OF ORIGIN VOI VERDE Flant	
TRANSPORTER E tech	
DATE K-11-17 100 # 97457-09	-/

PHONE	E: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FAHMINGTON, NEW MEXICO 87401 DATE DATE DATE DATE										
LOAD	СОМ	PLETE DESCRIP	TION OF SI	HIPMENT				TRANSPO	RTING COMPAN	IY	
NO.	DESTINATION	MATERIA	AL.	GRID	YDS	BBLS	TK	Г#	TRK#	TIME	DRIVER SIGNATURE
1	LFII 5	Con't 50	12	H-19	2	夏			686	1330	Throughers
2	LFII5	1 '		H19	14				559	1330	
3	LFII.5	7/	1/	H19	12	_			559	1459	
4	LFII5	17	11	1719	12	_			559	1636	1
					40	-					( /
							7				
										4	
RESUL	ΓS	LANDFARM	2	0	, .		EL	NOTES	S		,
~ 298	CHLORIDE TEST	EMPLOYEE	Gar	4 K	ober	Wan					
(H	PAINT FILTER TEST	FILTER TEST Certification of above receival & placement									

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

Generator Onsite Contact	Phone	A



DATE 8-21	TIME 13:30 Attach test strip	here
CUSTOMER	Enterprise	
SITE	Val Verde Gas Plant	4
DRIVER	Kory Peire	
SAMPLE	Soil Straight With Dirt	
CHLORIDE TEST	$-298_{\text{mg/Kg}}$	
ACCEPTED	YES NO	
PAINT FILTER TEST	Time started 1330 Time completed 1391	
PASS	YES , NO	
SAMPLER/ANALYST	Gay Robinson	
5796 US Hwy 64, Farmington, NI	187401∥ Ph (505) 632-0615 Fr (800) 362-1879 Fx (505) 632-1865∥ info@envirotech-inc.com envirotech-inc.com	

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. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Francis Dr. M 87505	(Cec 91	201	17 OCD	

		F	Releas	e Notifica	ation	and C	orrective	Acti	on					
						ERATO	7		Initial	Report	$\boxtimes$	Final Report		
		nterprise F					omas Long	2206						
		ve, Farmir k 10A Pipe		VI 07401		Telephone No. 505-599-2286 Facility Type Natural Gas Gathering Pipeline								
Surface Ov				Mineral O					API No	P. Taranta				
ourrace of	viici itava	jo mbai				411	E40E		ALTIN	J.14A				
Unit Letter	Section	Township	Range	Feet from	Norti	OF REL	Feet from	Faul	West	County				
M	15	25N	11W	the 328	Line	South	the 387	Line	W C.S.	San Jua	ın			
		La	atitude <u>36</u>	.3954413 Lo	ngitude	e - <u>107.999</u>	0745 NAD83							
					URE (	OF RELI								
Type of Rel	ease Natura	al Gas and N	atural Gas	Liquids			f Release 9.70 N BBLS of ate	<b>MCF</b>	Volume	Recovered	None			
		rnal Corrosio	n			7/12/2017	Hour of Occurre  @ 6:20 p.m.		7/12/201	d Hour of E 17 @ 6:20	p.m.	•		
Was Immed	iate Notice		☐ Yes	□ No ⊠ N	ot		Whom? : Court stin - NNEPA	tesy No	otification	Vanessa F	ields –	- NMOCD;		
Required			_ 100		O.	Otovo / tak	THE TAIL TA							
By Whom?				,			Hour July 13, 20							
Was a Wate	rcourse Re		☐ Yes	⊠ No		If YES, Vo	olume Impacting	the W	atercours	е.				
If a Wateree	ureo wae Ir	npacted, Des												
Describe Ca responded to around the	use of Prob o a natural release of g	olem and Regas release round surfac	medial Act on the Tru e of appro	ion Taken.* De nk 10A pipeline ximately 20 fee	e. The pet long	pipeline was by 15 feet v	roblem and Ren s isolated, depre vide was affecte on were compet	essurize d by flu	ed, locked iids releas	out and ta sed. Fluids	agged o	out. An area		
Describe Ar measured a from 3 to 15	ea Affected pproximate feet wide b	and Cleanuply 17 feet lonery 0.75 feet d	p Action Tag g by 12 fe leep. App	aken.* The cor et wide by 7 fe roximately 200	ntamina et deep cubic	nt mass wa b. The flow yards of hyd	s removed by m path excavation lrocarbon impac corrective action	nechani measi ted soi	ical excav ured appro	ration. The oximately 2 avated and	291 fee d transp	t ranging corted to		
rules and re which may e relieve the o ground water	gulations al endanger pu perator of li er, surface v	l operators a ublic health o lability should vater, human	re required or the envired their ope on health or	d to report and conment. The a rations have fa the environme	or file of accepta ailed to ent. In a	certain releance of a C- adequately addition, NN	at 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 ations.	erform cor OCD mark iate conta C-141 rep	rective acti ed as "Fina imination the port does n	ions for al Repo nat pos not relie	r releases ort" does not se a threat to		
			//				OIL CONS	SER\	/ATION	DIVISI	ON			
Signature:	m	1 (. fe	ul						1		1	) _		
Printed Nan	e: Jon E. F	ields			<i>P</i>	Approved by	Environmental	Specia	alist	ara	E	50		
Title: Directo	or, Environn	nental			A	Approval Da	te: 10/6/2	10	Expiration	Date:		A.		
E-mail Addr	1	@eprod.com	n			Conditions of	of Approval:			Attache	d 🗆	÷ - 3		
Date: 9	125/201	7		e: (713) 381-66	684									
Attach Addi	tional She	ets If Neces	ssary		1	ANA	17269	53	849	841				



CORRECTIVE ACTION REPORT

OIL CONS. DIV DIST. 3

Property:

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

> September 12, 2017 Apex Project No. 725040112314

> > Prepared for:

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

Prepared by:

Chad D'Aponti Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Project

Manager

# **TABLE OF CONTENTS**

1.0	INTRO 1.1 1.2	DUCTION Site Description & Background Project Objective	1
2.0	SITE R	ANKING	1
3.0	RESPO 3.1 3.2 3.3	ONSE ACTIONSSoil Excavation ActivitiesSoil Sampling ProgramLaboratory Analytical Methods	2 3
4.0	DATA 4.1	EVALUATIONConfirmation Soil Samples	
5.0	FINDIN	IGS AND RECOMMENDATIONS	4
6.0	STANI	OARD OF CARE, LIMITATIONS, AND RELIANCE	5
LIST	OF AP	PENDICES	
Appe	endix A	Figure 1 Topographic Map Figure 2 Site Vicinity Map Figure 3A Excavation Area Site Map with Soil Analytical Results Figure 3B Flow Path Site Map with Soil Analytical Results	
Appe	endix B	Executed C-138 Solid Waste Acceptance Form	
Appe	endix C	: Photographic Documentation	
Appe	endix D	: Table	
Appe	endix E	Laboratory Data Sheets & Chain of Custody Documentation	



#### CORRECTIVE ACTION REPORT

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

Apex Project No. 725040112314

### 1.0 INTRODUCTION

# 1.1 Site Description & Background

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

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

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

# 1.2 Project Objective

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

#### 2.0 SITE RANKING

The Site is subject to regulatory oversight by the Navajo Nation Environmental Protection Agency (NNEPA) and the New Mexico EMNRD OCD. In the absence of published/finalized NNEPA regulatory guidance, Apex TITAN, Inc. (Apex) referenced the New Mexico 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	
Depth to Groundwater	50 to 99 feet	10	0
	>100 feet	0	200
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	200 to 1,000 feet	10	10
Water Body	>1,000 feet	0	
Total	Ranking Score	10	

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

- No water wells were identified within a mile of the Site on the OSE website. There does
  not appear to be any water wells within 1,000 feet of the Site. Groundwater is anticipated
  to be greater than 100 feet below grade surface (bgs), resulting in a ranking score of "0"
  for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking score of "0".
- The Site is located approximately 665 feet east of an unnamed ephemeral wash which is identified as a "blue line" on the United States Geological Survey topographic map. This information supports a distance to surface water ranking score of "10".

### 3.0 RESPONSE ACTIONS

### 3.1 Soil Excavation Activities

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

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

Enterprise Field Services, LLC Corrective Action Report Trunk 10A Pipeline Release (July 2017) September 12, 2017



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

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

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

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

# 3.2 Soil Sampling Program

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

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

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

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

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



# 4.1 Confirmation Soil Samples

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

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

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Trunk 10A pipeline release Site is located within the Enterprise pipeline ROW in the SW ¼ of Section 15, Township 25 North, Range 11 West, in San Juan County, New Mexico. The Site is located on Navajo Nation Trust Land. The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas pipeline which traverses the area from northwest to southeast.

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

- The primary objective of the corrective actions was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand.
- The primary excavation measured approximately 17 feet long by 12 feet wide at the maximum extents. The depth of the excavation averaged seven (7) feet bgs. The final flow path excavation measured approximately 291 feet long by three (3) feet to 15 feet wide, with an average depth of eight (8) inches bgs.



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

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

# 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

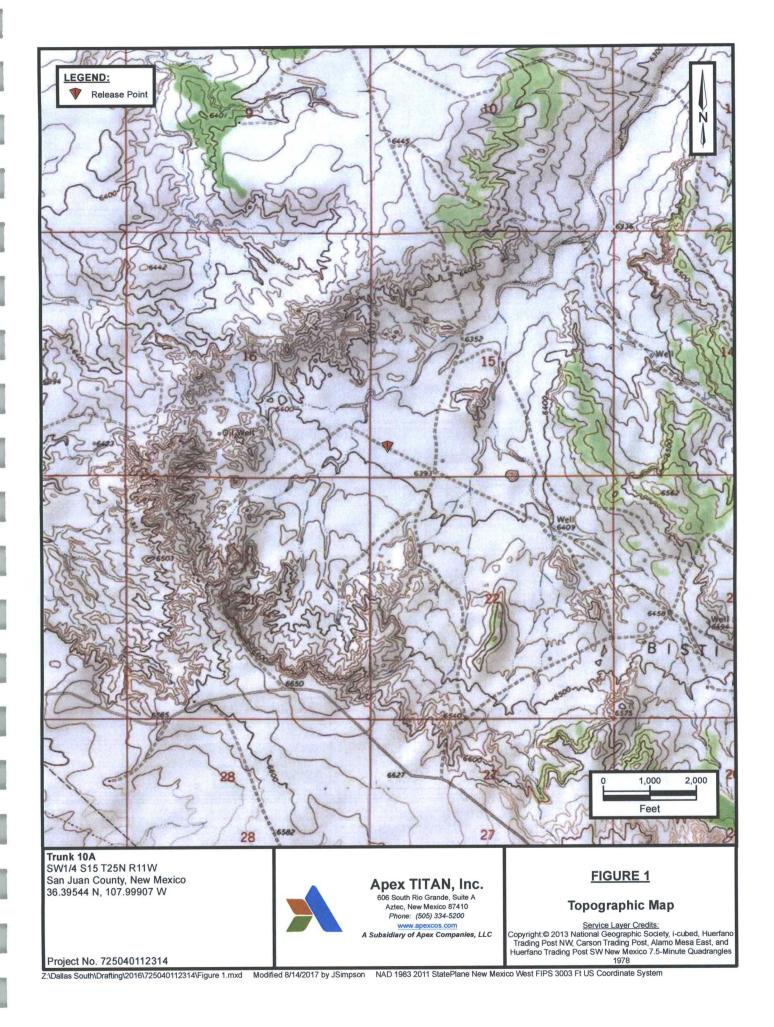
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

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



APPENDIX A

Figures





San Juan County, New Mexico 36.39544 N, 107.99907 W



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

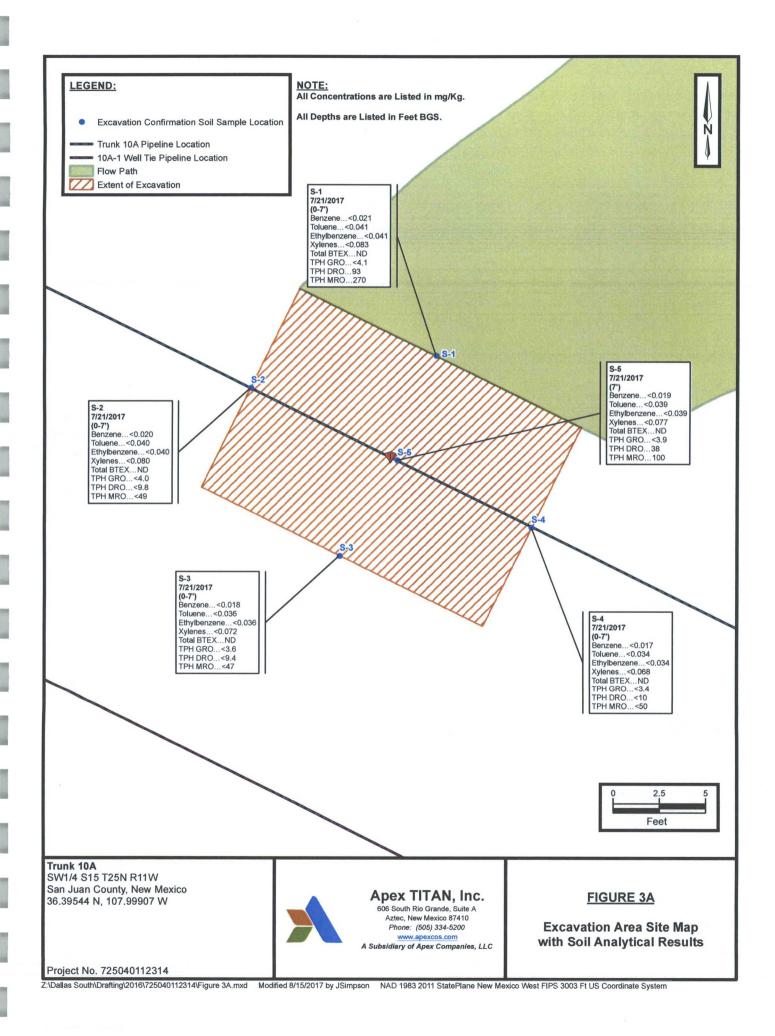
www.apexcos.com
A Subsidiary of Apex Companies, LLC

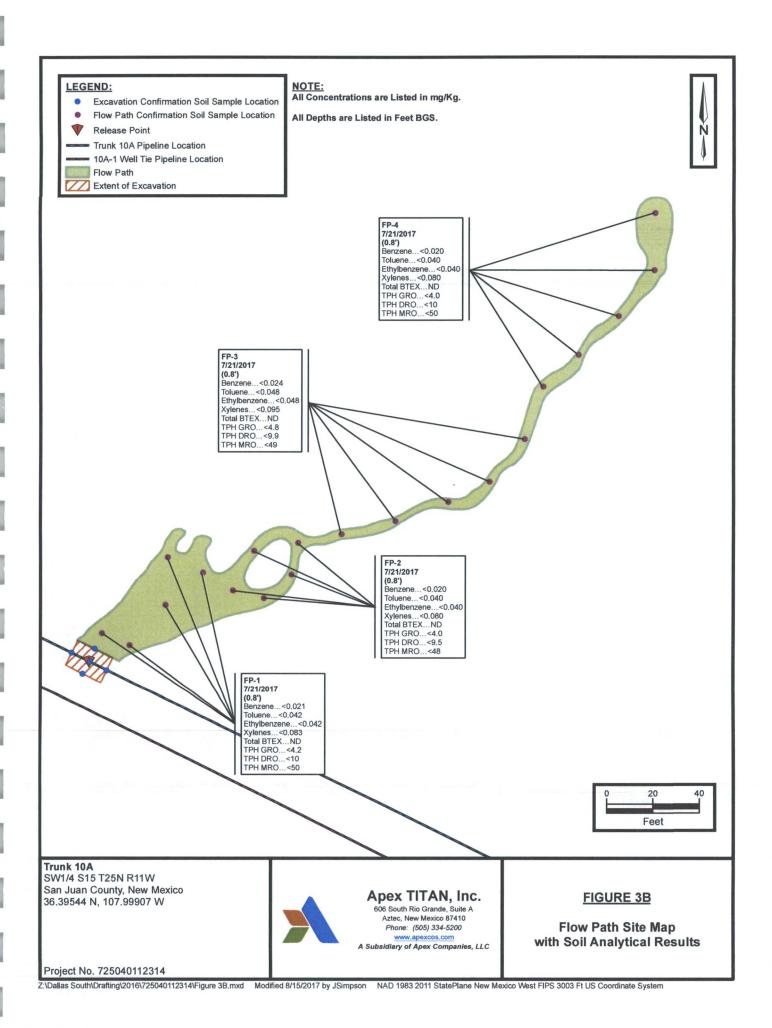
Project No. 725040112314

# FIGURE 2

**Site Vicinity Map** 

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







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

PRINT NAME: Grey Crantice

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

9 705 7-0852 Form C-138 Revised 08/01/11

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

# 1220 S. St. Francis Dr., Santa Fe, NM 87505 REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE 1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401 **Originating Site:** Trunk 10A Pipeline Location of Material (Street Address, City, State or ULSTR): UL M Section 15 T25N R11W; 36.3954413, -107.9990745 4. Source and Description of Waste: Source: Hydrocarbon impacted soil associated with a natural gas pipeline leak Description: Hydrocarbon impacted soil associated with a natural gas pipeline leak remediation activities. Estimated Volume 50 vd<sup>3</sup>/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 7-19-17, representative for Enterprise Products Operating authorize Envirotech, Inc. to complete I, Thomas Long Generator Signature the required testing/sign the Generator Waste Testing Certification. Envirotech, Inc. do hereby certify that , representative for 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 and subcontractors - Stan Horn, Teraco OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM01-0011 Address of Facility: Hill Top, NM Method of Treatment and/or Disposal: ☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill Waste Acceptance Status: M APPROVED ☐ **DENIED** (Must Be Maintained As Permanent Record)

TITLE: Environmental Manager DATE:

TELEPHONE NO.: 505-632-0615



APPENDIX C

Photographic Documentation





# Trunk 10A (2017) Pipeline Release

# Photograph 1

View of the flow path, facing southwest.



# Photograph 2

Initiation of excavation activities.



# Photograph 3

View of in-process excavation activities.





# **SITE PHOTOGRAPHS**

# Trunk 10A (2017) Pipeline Release

# Photograph 4

View of the final excavation.



# Photograph 5

View of the flow path excavation.





APPENDIX D

Table



# TABLE 1 Trunk 10A Pipeline Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departmen	ergy, Mineral & nt, Oil Conserva nediation Actio		10	NE	NE	NE	50		1000	
				Flow F	ath Confirmation So	il Samples				
FP-1	7.21.17	0.8	<0.021	< 0.042	<0.042	<0.083	ND	<4.2	<10	<50
FP-2	7.21.17	0.8	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.5	<48
FP-3	7.21.17	0.8	<0.024	<0.048	<0.048	< 0.095	ND	<4.8	<9.9	<49
FP-4	7.21.17	0.8	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<10	<50
		MATERIAL SHAPE	No.	Excava	ation Confirmation So	il Samples				
S-1	7.21.17	0 to 7	<0.021	<0.041	<0.041	<0.083	ND	<4.1	93	270
S-2	7.21.17	0 to 7	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.8	<49
S-3	7.21.17	0 to 7	<0.018	<0.036	<0.036	< 0.072	ND	<3.6	<9.4	<47
S-4	7.21.17	0 to 7	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<10	<50
S-5	7.21.17	7	<0.019	<0.039	<0.039	< 0.077	ND	<3.9	38	100

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

July 26, 2017

Kyle Summers
APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Trunk 10A

OrderNo.: 1707B81

Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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

Brokel

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1707B81

Date Reported: 7/26/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Trunk 10A

Client Sample ID: S-1

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

Project: Lab ID: 1707B81-001

Matrix: MEOH (SOIL)

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	3	.8		Analyst	том	
Diesel Range Organics (DRO)	93	10	mg/Kg	1	7/24/2017 11:38:15 AM	32963
Motor Oil Range Organics (MRO)	270	50	mg/Kg	1	7/24/2017 11:38:15 AM	32963
Surr: DNOP	99.2	70-130	%Rec	1	7/24/2017 11:38:15 AM	32963
EPA METHOD 8015D: GASOLINE RAM				Analyst	NSB	
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	7/24/2017 9:37:12 AM	32944
Surr: BFB	84.2	54-150	%Rec	1	7/24/2017 9:37:12 AM	32944
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.021	mg/Kg	1	7/24/2017 9:37:12 AM	32944
Toluene	ND	0.041	mg/Kg	1	7/24/2017 9:37:12 AM	32944
Ethylbenzene	ND	0.041	mg/Kg	1	7/24/2017 9:37:12 AM	32944
Xylenes, Total	ND	0.083	mg/Kg	1	7/24/2017 9:37:12 AM	32944
Surr: 4-Bromofluorobenzene	99.8	66.6-132	%Rec	1	7/24/2017 9:37:12 AM	32944

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

- 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 1 of 14 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1707B81

Date Reported: 7/26/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project:

Trunk 10A

Lab ID: 1707B81-002 Client Sample ID: S-2

Collection Date: 7/21/2017 10:35:00 AM

Matrix: MEOH (SOIL) Received Date: 7/22/2017 11:10:00 AM

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

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

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

Lab Order 1707B81

Date Reported: 7/26/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-3

Project: Trunk 10A

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

Lab ID: 1707B81-003

Matrix: MEOH (SOIL)

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

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

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

- \* 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 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1707B81

Date Reported: 7/26/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-4

Project: Trunk 10A

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

Lab ID: 1707B81-004

Matrix: MEOH (SOIL)

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	3			Analyst	: TOM	
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	7/24/2017 1:02:47 PM	32963
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	7/24/2017 1:02:47 PM	32963
Surr: DNOP	99.0	70-130	%Rec	1	7/24/2017 1:02:47 PM	32963
EPA METHOD 8015D: GASOLINE RANG				Analyst	: NSB	
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	7/24/2017 10:49:14 AM	32944
Surr: BFB	82.9	54-150	%Rec	1	7/24/2017 10:49:14 AM	32944
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.017	mg/Kg	1	7/24/2017 10:49:14 AM	32944
Toluene	ND	0.034	mg/Kg	1	7/24/2017 10:49:14 AM	32944
Ethylbenzene	ND	0.034	mg/Kg	1	7/24/2017 10:49:14 AM	32944
Xylenes, Total	ND	0.068	mg/Kg	1	7/24/2017 10:49:14 AM	32944
Surr: 4-Bromofluorobenzene	98.0	66.6-132	%Rec	1	7/24/2017 10:49:14 AM	32944

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

- \* 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 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1707B81

Date Reported: 7/26/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-5

Project: Trunk 10A

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

Lab ID: 1707B81-005 Matrix: MEOH (SOIL)

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

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

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

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

Lab Order 1707B81

Date Reported: 7/26/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-1

Project: Trunk 10A

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

Lab ID: 1707B81-006

Matrix: MEOH (SOIL)

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

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

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

- 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 6 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1707B81

Date Reported: 7/26/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-2

Project: Trunk 10A

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

Lab ID: 1707B81-007

Matrix: MEOH (SOIL)

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

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

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

- \* 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 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1707B81

Date Reported: 7/26/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-3

Project: Trunk 10A

Collection Date: 7/21/2017 11:05:00 AM

Lab ID: 1707B81-008

Matrix: MEOH (SOIL) Received Date: 7/22/2017 11:10:00 AM

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

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

- \* 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 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1707B81

Date Reported: 7/26/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-4

**Project:** Trunk 10A Collection Date: 7/21/2017 11:10:00 AM

1707B81-009 Lab ID:

Matrix: MEOH (SOIL) Received Date: 7/22/2017 11:10:00 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	10	mg/Kg	1	7/24/2017 3:25:17 PM	32963
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	7/24/2017 3:25:17 PM	32963
Surr: DNOP	89.9	70-130	%Rec	1	7/24/2017 3:25:17 PM	32963
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	7/24/2017 10:30:22 AM	A44437
Surr: BFB	97.5	54-150	%Rec	1	7/24/2017 10:30:22 AM	A44437
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.020	mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Toluene	ND	0.040	mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Ethylbenzene	ND	0.040	mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Xylenes, Total	ND	0.080	mg/Kg	1	7/24/2017 10:30:22 AM	C44437
Surr: 4-Bromofluorobenzene	106	66.6-132	%Rec	1	7/24/2017 10:30:22 AM	C44437

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

- 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
- E Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 14 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1707B81

26-Jul-17

Client:

APEX TITAN

Project:	Trunk 10A	A									
Sample ID LC	CS-32963	SampTy	ype: LC	s	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: LC	css	Batch	ID: 32	963	F	RunNo: 44	4432				
Prep Date: 7	//24/2017	Analysis Da	ate: 7/	24/2017	5	SeqNo: 14	404484	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	51	10	50.00	0	102	73.2	114			
Surr: DNOP		4.7		5.000		93.1	70	130			
Sample ID ME	B-32963	SampTy	ype: ME	BLK	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PE	38	Batch	ID: 32	963	F	RunNo: 44	4432				
Prep Date: 7	//24/2017	Analysis Da	ate: 7/	24/2017	5	SeqNo: 14	404485	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	ND	10								
Motor Oil Range O	rganics (MRO)	ND	50								
Surr: DNOP		9.3		10.00		92.7	70	130			
Sample ID 17	07B81-001AMS	SampTy	/pe: <b>MS</b>	3	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: S-	1	Batch	ID: 32	963	F	RunNo: 44	4432				
Prep Date: 7	/24/2017	Analysis Da	ate: 7/	24/2017	8	SeqNo: 14	405208	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	130	10	49.85	92.65	81.6	55.8	122			
Surr: DNOP		5.2		4.985		104	70	130			
Sample ID 17	07B81-001AMSE	SampTy	/pe: MS	SD	Tes	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: S-	1	Batch	ID: 32	963	F	RunNo: 44	1432				
Prep Date: 7	//24/2017	Analysis Da	ate: 7/	24/2017	8	SeqNo: 14	405209	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	130	9.9	49.26	92.65	72.4	55.8	122	3.80	20	

#### Qualifiers:

Surr: DNOP

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

5.2

4.926

- Not Detected at the Reporting Limit
- PQL 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

106

130

- J Analyte detected below quantitation limits
- Page 10 of 14

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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1707B81

26-Jul-17

Client:

APEX TITAN

Project:

Trunk 10A

0 1	10		
Sample	ID	MB-	3294

SampType: MBLK 14

Result

ND

810

TestCode: EPA Method 8015D: Gasoline Range

PBS

RunNo: 44436

Client ID: Prep Date:

Batch ID: 32944

Units: mg/Kg

HighLimit

Analyte

Surr: BFB

Client ID:

7/21/2017

Analysis Date: 7/24/2017 **PQL** 

5.0

SeqNo: 1405041

LowLimit

%RPD

%RPD

**RPDLimit** Qual

Gasoline Range Organics (GRO)

1000

SPK value SPK Ref Val %REC

81.4

150

Sample ID LCS-32944

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

LCSS

Batch ID: 32944

RunNo: 44436

Prep Date: 7/21/2017

1000

Units: mg/Kg

Analyte

Analysis Date: 7/24/2017 Result PQL

25

930

SeqNo: 1405042 %REC

**HighLimit** 

125

150

Gasoline Range Organics (GRO)

SPK value SPK Ref Val 5.0 25.00

0 99.2 92.9

76.4 54

LowLimit

**RPDLimit** Qual

Surr: BFB

Sample ID RB

SampType: MBLK

SPK value SPK Ref Val %REC LowLimit

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

**PBS** 

Batch ID: A44437

RunNo: 44437

Prep Date:

Analysis Date: 7/24/2017

**PQL** 

5.0

SeqNo: 1405073

Units: mg/Kg HighLimit

Qual

Analyte Gasoline Range Organics (GRO)

Sample ID 2.5UG GRO LCS

ND

100

54

%RPD **RPDLimit** 

Surr: BFB

1000

Result

1000

TestCode: EPA Method 8015D: Gasoline Range

150

Client ID: LCSS Batch ID: A44437

RunNo: 44437

125

150

HighLimit

Prep Date: Analyte

Analysis Date: 7/24/2017

SampType: LCS

SeqNo: 1405074

Units: mg/Kg

Gasoline Range Organics (GRO) Surr: BFB

Result PQL 24

1100

Result

Result

20

850

25.00 1000

SPK value SPK Ref Val %REC 96.2

LowLimit 76.4 %RPD

**RPDLimit** Qual

Sample ID 1707B81-007AMS

SampType: MS

0

TestCode: EPA Method 8015D: Gasoline Range

Prep Date:

Client ID: FP-2

Batch ID: A44437 Analysis Date: 7/24/2017

5.0

RunNo: 44437

97.3

RunNo: 44437

SeqNo: 1405076

%RPD

Analyte

SPK value SPK Ref Val **PQL** 4.0 20.07

802.6

SeqNo: 1405075 %REC

Units: mg/Kg

128

150

Gasoline Range Organics (GRO) Surr: BFB

FP-2

Batch ID: A44437

PQL

Analysis Date: 7/24/2017

106

SPK value SPK Ref Val %REC LowLimit

LowLimit HighLimit 77.8 54

%RPD **RPDLimit** Qual

Sample ID 1707B81-007AMSD

Client ID:

Prep Date:

SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

Units: mg/Kg

HighLimit

Page 11 of 14

**RPDLimit** Qual

## Analyte

Н

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

Holding times for preparation or analysis exceeded

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits J
- 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#:

1707B81

26-Jul-17

Client:

APEX TITAN

**Project:** 

Trunk 10A

Client ID: FP-2 SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

Sample ID 1707B81-007AMSD

Batch ID: A44437

RunNo: 44437

95.2

106

Prep Date:

Analysis Date: 7/24/2017

**PQL** 

SeqNo: 1405076

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Surr: BFB

Result 850

4.0 20.07 802.6

SPK value SPK Ref Val %REC LowLimit

77.8

54

HighLimit

128

150

**RPDLimit** Qual 20 0

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: **PBS**  Batch ID: **G44477** 

RunNo: 44477

Prep Date:

Analysis Date: 7/25/2017

SeqNo: 1406642

Units: %Rec

Analyte

Result

19

SPK value SPK Ref Val

%REC LowLimit 96.3

HighLimit

**RPDLimit** 

Qual

Surr: BFB

960

1000

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

LCSS

Sample ID 2.5UG GRO LCSB

SampType: LCS Batch ID: **G44477** Analysis Date: 7/25/2017

PQL

RunNo: 44477

SeqNo: 1406643

Units: %Rec

Qual

Analyte

Prep Date:

SPK value SPK Ref Val

%REC

LowLimit 54 %RPD

%RPD

%RPD

2.16

0

**RPDLimit** 

Page 12 of 14

1000

1000

104

HighLimit

Surr: BFB

150

#### 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

P

Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

SampType: LCS

WO#:

1707B81

26-Jul-17

Client:

APEX TITAN

**Project:** 

Sample ID LCS-32944

Trunk 10A

Sample ID MB-32944	SampT	SampType: MBLK TestCode: EPA Meth				PA Method	8021B: Volat	tiles		
Client ID: PBS	Batch	1D: 32	944	F	RunNo: 4					
Prep Date: 7/21/2017	Analysis D	ate: 7/	24/2017	S	SeqNo: 1405062 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		95.4	66.6	132			

TestCode: EPA Method 8021B: Volatiles

Client ID: LCSS	Batch	n ID: 329	944	R	RunNo: 44436					
Prep Date: 7/21/2017	Analysis D	ate: 7/	24/2017	S	eqNo: 1	405063	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.89	0.025	1.000	0	89.4	80	120			
Toluene	0.90	0.050	1.000	0	89.5	80	120			
Ethylbenzene	0.91	0.050	1.000	0	91.4	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.3	80	120			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.5	66.6	132			

Sample ID RB	SampT	SampType: MBLK TestCode: EPA Method 8021B: Vola					iles				
Client ID: PBS	Batch	ID: <b>C4</b>	4437	R	RunNo: 44437						
Prep Date:	Analysis D	ate: 7/	24/2017					g		Qual	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.025									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.1		1.000		113	66.6	132				

Sample ID 100NG BTEX LC	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch	ID: <b>C4</b>	4437	R	RunNo: 4	4437				
Prep Date:	Analysis D	ate: 7/	24/2017	S	SeqNo: 1	405088	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.91	0.025	1.000	0	91.0	80	120			
Toluene	0.91	0.050	1.000	0	90.9	80	120			
Ethylbenzene	0.93	0.050	1.000	0	93.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.9	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		117	66.6	132			

- 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 13 of 14

- 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.

1.1

WO#:

1707B81

26-Jul-17

Client:

APEX TITAN

**Project:** 

Surr: 4-Bromofluorobenzene

Trunk 10A

Sample ID 1707B81-008AMS	SampT	SampType: MS TestCode: EPA Method 8021B: Volatiles							9	
Client ID: FP-3	Batch	n ID: C4	4437	F	RunNo: 4	4477				
Prep Date:	Analysis D	ate: 7/	25/2017	S	SeqNo: 1406646 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.87	0.024	0.9506	0	91.7	80.9	132			
Toluene	0.87	0.048	0.9506	0	92.0	79.8	136			
Ethylbenzene	0.90	0.048	0.9506	0	94.8	79.4	140			
Xylenes, Total	2.7	0.095	2.852	0	95.6	78.5	142			
Surr: 4-Bromofluorobenzene	1.1		0.9506		113	66.6	132			
Sample ID RB	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	n ID: <b>B4</b>	4477	R	RunNo: 4	4477				
Prep Date:	Analysis D	ate: 7/	25/2017	S	SeqNo: 1	406650	Units: %Red			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sample ID	100NG BTEX LCS	SampTyp	SampType: LCS				PA Method	8021B: Volat	iles		
Client ID:	LCSS	Batch II	D: <b>B4</b> 4	4477	R	RunNo: 4	4477				
Prep Date:		Analysis Date	e: <b>7/2</b>	25/2017	S	SeqNo: 1	406651	Units: %Red	:		
Analyte		Result I	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

109

66.6

132

Surr: 4-Bromofluorobenzene 1.1 1.000 112 66.6 132

1.000

- \* 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 14 of 14

- 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

Received By: Andy Freeman 7/22/2017 11:10:00 AM  Completed By: Ashley Gallegos 7/23/2017 1:22:25 PM  Reviewed By: SPC 07/24/17   Chain of Custody  1. Custody seals intact on sample bottles? Yes No No Not Present 2  2. Is Chain of Custody complete? Yes No No Not Present 1  3. How was the sample delivered? Courier  Log In  4. Was an attempt made to cool the samples? Yes No No NA	
Reviewed By: SPL 07/24/17  Chain of Custody  1. Custody seals intact on sample bottles? Yes No Not Present 2. Is Chain of Custody complete? Yes No Not Present 3. How was the sample delivered?  Log In  4. Was an attempt made to cool the samples? Yes No No Not Present 5. Were all samples received at a temperature of >0° C to 6.0°C Yes No No Not Not Not Not Not Not Not Not N	
Chain of Custody   1. Custody seals intact on sample bottles? Yes  No  Not Present  Not Pr	
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 V No No NA   NA   5. Were all samples received at a temperature of >0° C to 6.0°C  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	
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 V No No NA   NA   5. Were all samples received at a temperature of >0° C to 6.0°C  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 V  No No VOA Vials Ave zero headspace?  10. VOA vials have zero headspace?  11. Were any sample containers received broken?	
2. How was the sample delivered?  Log In  4. Was an attempt made to cool the samples?  Yes V No No NA  5. Were all samples received at a temperature of >0° C to 6.0°C  Yes V 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 No No No No No VOA Vials V  10. VOA vials have zero headspace?  11. Were any sample containers received broken?	
Log In  4. Was an attempt made to cool the samples?  Yes V No No NA  5. Were all samples received at a temperature of >0° C to 6.0°C  Yes V 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	
4. Was an attempt made to cool the samples?  Yes V No No NA   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?  10. VOA vials have zero headspace?  11. Were any sample containers received broken?	
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	
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	
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 VOA Vials □  10. VOA vials have zero headspace?  11. Were any sample containers received broken?  Yes □ No □ No VOA Vials □  # of preserved	
8. Are samples (except VOA and ONG) properly preserved?  9. Was preservative added to bottles?  Yes No No No No No No No No VOA Vials 1. Were any sample containers received broken?  Yes No No No No No VOA Vials 1. Were any sample containers received broken?	
9. Was preservative added to bottles?  Yes □ No ☑ NA □  10. VOA vials have zero headspace?  Yes □ No □ No VOA Vials ☑  11. Were any sample containers received broken?  Yes □ No ☑ ** of preserved*	
10.VOA vials have zero headspace?  Yes □  No □  No VOA Vials ☑  11. Were any sample containers received broken?  Yes □  No ☑  ** of preserved*	
11. Were any sample containers received broken?  Yes  No  # of preserved	
# of preserved	
hottles shooked	
12. Does paperwork match bottle labels?  Yes V No (<2 or >12 ur  (<3 or >12 ur  (<4 or >12 ur  (	nless noted)
(Note discrepancies on chain of custody) (<2 or >12 ur 13. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐ Adjusted?	
14 is it clear what analyses were requested?	
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 this order? Yes ☐ No ☐ NA ☑	
Person Notified: Date	
By Whorn: Via: eMail Phone Fax In Person	
Regarding: Client Instructions:	
17. Additional remarks:	
18. Cooler Information  Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By  1 4.7 Good Yes	

																		C	HAIN (	OF CI	JSTODY RECORI	)
A	PEX			0		Laboratory Address:	490	1 1	a lo	Kins	N	IE	_		ALYS QUE	STED STED				/	Lab use only Due Date: Temp. of coolers	
A Proje	Office Location 606 S. 1:0 Grand  Su: + A  Aztec Nm 87410  Phone: 505-3  Project Manager K. SummerS  Ampler's Name  Ched DAponti						-34	15 - 113	35	975				5	660 116				/ [	when received (C°): 4, 7		
		DAPO				Co	-	-	-	>					4/2		//	/ /	/			
Proj. No. Project Name  735040118 314  Trank 10 A							No/Ty	rpe of C	Containe	ers			u/	4///	//	/						
Matrix		Time	CoEp	Grab		ks of Sample(s)	Start	End	VCA	AVG 1 LL	250 E	Glass	P/0	2	J. Hal				/	Lab San	nple ID (Lao Use Only)	
S	81/17	10:30	X		5-1		0	7				1		r	X				17	078	381-001	
2	3/17	1035	x		5-2		0	7'				1		*	x						-002	
S	31/17	1040	*		5-3		6	7				1		X	X						-003	
5	1/3/11	1045	X		5-4		0	7				(		K	¥						-004	
2	1/17	1050	N		5-5		7'	7'				1		¥	×						-005	
2	1/2/19	1055	K		F7-1		0	05				1		K	X						-000	
5	3/17	1100	X		F7-	2	0	6.5				1		r	K						-007	
2	1/17	1105	70		FP-		0	0.5				1		X	X.						-008	
5	13111	1110	K		E5-	4	0	0.5				1		¥	X						-009	
-	around time			-			\$100%			in		Date:		Т	me:	NOTES:						
Relin	telinguished by (Signature)  Date: Time: 731-7   1253  relinguished by (Signature)  Date: 731-7   1757  Time: 731-7   757  Time			ime: Recei	Received by: (Signature)				7/24 Date Date:	22/2	7 /253 Time: 73 ///			to	TON	n 2	ng	EPROD				
					(Signa L - Liquio 250 ml -	1 A	- Air Ba	ag		Char	coal t	ime: ube r other	SL-sludge C	) - Oil								

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 August 8, 2011

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

JOHNSON

		F	Releas	e Notifica	atio	n and C	orrective	Acti	on				
						PERATO			] Initial F	Report 🛛 Final Report			
		Enterprise I					homas Long/F		Seale				
		Ave, Farmin	gton, NN	l 87401			No. 505-599-		4				
Facility Na	me: <b>MB-1</b> 8	8 Pipeline				Facility Ty	oe: Natural G	hering Pi	ipeline				
Surface O	wner: <b>Priv</b> a	ate		Mineral O	wner:	er: BLM API No. NA							
				LOCA	TION	ON OF RELEASE							
Unit Letter <b>F</b>	Section 20	Township 31N	Range 8W	Feet from the 1612	Nort	h/South	County San Juan						
	Latitude 36.886080 Longitude -107.701957  NATURE OF RELEASE												
Type of Rel	ease: Natur	al Gas and N	latural Ga	s Liquids			f Release: 26.2 ; 5-10 BBLS ate	23	Volume F	Recovered: None			
		ernal corrosio	n			The second secon	Hour of Occurr  2 @ 1:10 a.m.	ence:		Hour of Discovery: 7 @ 1:10 a.m.			
Was Immed	= 1	☐ Ye	s 🗌 No	Not Requ	uired	If YES, To Whom? Courtesy Notification: Vanessa Fields – NMOCD  Date and Hour May 1, 2017 @ 12:35 p.m.							
By Whom? Was a Wate					2		Hour May 1, 2 olume Impactin						
			Yes	⊠ No									
		npacted, Des			4 204	7 [			al man mala	and the MD 40 planting			
The pipeline Enterprise of	was isolate letermined t	ed, depressu	rized, lock s reportab	ed out and tag le per NMOCD	ged or	ut. Repairs a	and remediation	were ir	itiated on	ase on the MB-18 pipeline. April 28, 2017 and Ibsurface impacts. Repairs			
measured a impacted so	pproximate il was exca	ly 60 feet lon	g by 10 fe ansported	et wide by rang	ging fro	om 7-12 fee	deep. Approxi	mately 1	98 cubic y	ation. The final excavation vards of hydrocarbon hird party corrective action			
I hereby cer rules and re which may e relieve the o ground wate	tify that the gulations al endanger pu perator of li er, surface y	information of l operators a ublic health of iability should vater, human	given above re require r the envirual d their ope n health or	d to report and/ ronment. The a rations have fa the environme	or file accept iled to nt. In	certain rele ance of a C adequately addition, N	ase notifications -141 report by t investigate and	s and pe he NMC d remed nce of a	erform corr CD marke iate contar	nd that pursuant to NMOCD ective actions for releases at as "Final Report" does not mination that pose a threat to ort does not relieve the			
	//	6'-	//				OIL CON	ISER\	/ATION	DIVISION			
Signature:	JW 1	· true											
Printed Nam	ne: Jon E. F	ields				Approved b	y Environmenta	I Specia	ılist:				
Title: Directo	or, Environn	nental				Approval Date: Expiratio				Date:			
E-mail Addr	ess:jefields(	@eprod.com			Conditions of Approval:				Attached				
Date: 7/	18/2017		Phon	e: (713)381-66	84			×					

\* Attach Additional Sheets If Necessary

NVF1713151792

5



#### **CORRECTIVE ACTION REPORT**

Property:

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

July 7, 2017 Apex Project No. 725040112284

Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

## **TABLE OF CONTENTS**

1.0	INTRO 1.1 1.2	DUCTION
2.0	SITE F	ANKING1
3.0	CORR 3.1 3.2 3.3	Soil Excavation Activities 2 Soil Sampling Program 3 Laboratory Analytical Methods 3
4.0	DATA 4.1	EVALUATION
5.0	FINDI	IGS AND RECOMMENDATIONS4
6.0	STANI	DARD OF CARE, LIMITATIONS, AND RELIANCE5
LIST	OF AP	PENDICES
Appe	endix A	: Figure 1 – Topographic Map Figure 2 – Site Vicinity Map Figure 3 – Site Map
App	endix E	: Executed C-138 Solid Waste Acceptance Form
App	endix C	: Photographic Documentation
App	endix D	: Table
App	endix E	: Laboratory Data Sheets & Chain of Custody Documentation
Appe	endix F	: New Mexico EMNRD OCD Correspondence



#### **CORRECTIVE ACTION REPORT**

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

Apex Project No. 725040112284

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

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

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

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

#### 1.2 Project Objective

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

#### 2.0 SITE RANKING

In accordance with the New Mexico 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.



Rank	ing Criteria		Ranking Score
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	0
	>100 feet	0	1 200
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 Confess Water	<200 feet	20	
Distance to Surface Water	200 to 1,000 feet	10	20
Body	>1,000 feet	0	
Total R	anking Score		20

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

- No water wells were identified on the OSE website within one mile of the Site. Based on the elevation of the Site with respect to the canyon floor, the depth to groundwater at Site is anticipated to be greater than 100 feet below grade surface (bgs). This information supports a ranking score of "0" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking score of "0".
- The release point is located approximately 198 feet from an ephemeral wash that is identified as a "blue line" on the United States Geological Survey topographic map, resulting in a distance to surface water ranking score of "20".

#### 3.0 CORRECTIVE ACTIONS

#### 3.1 Soil Excavation Activities

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

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

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

Enterprise Field Services, LLC Corrective Action Report MB-18 (April 2017) Pipeline Release July 7, 2017



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

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

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

#### 3.2 Soil Sampling Program

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

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

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

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.



#### 4.1 Confirmation Soil Samples

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

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

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

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

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

- The primary objective of the corrective action was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated poorly sorted silty sand underlain by sandstone.
- The final excavation measured approximately 60 feet long by 10 feet wide, with total depths ranging of approximately seven (7) feet bgs (north end) to 12 feet bgs (south end).
- Prior to backfilling, 14 confirmation samples soil samples were collected from the final excavation for laboratory analyses. BTEX and combined TPH GRO/DRO/MRO



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

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

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

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

#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

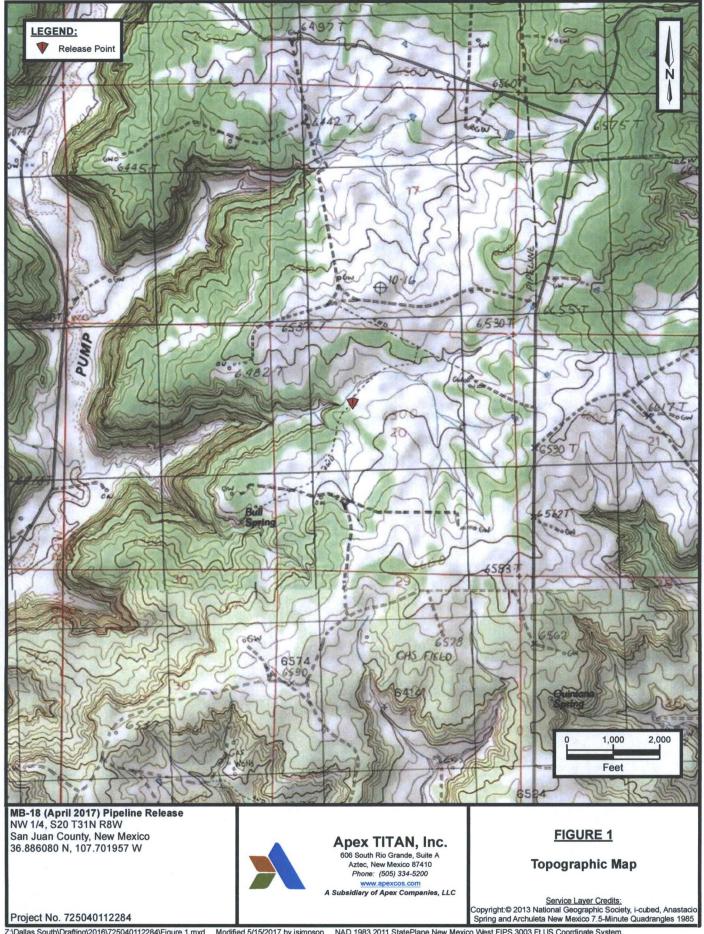
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

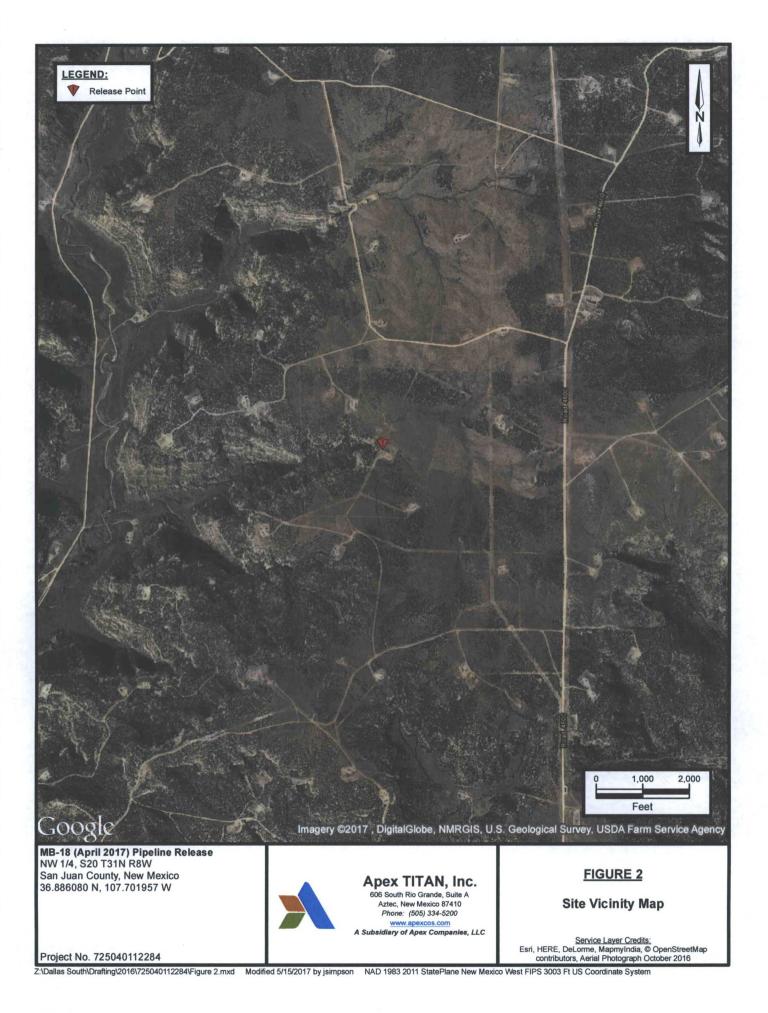
This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution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

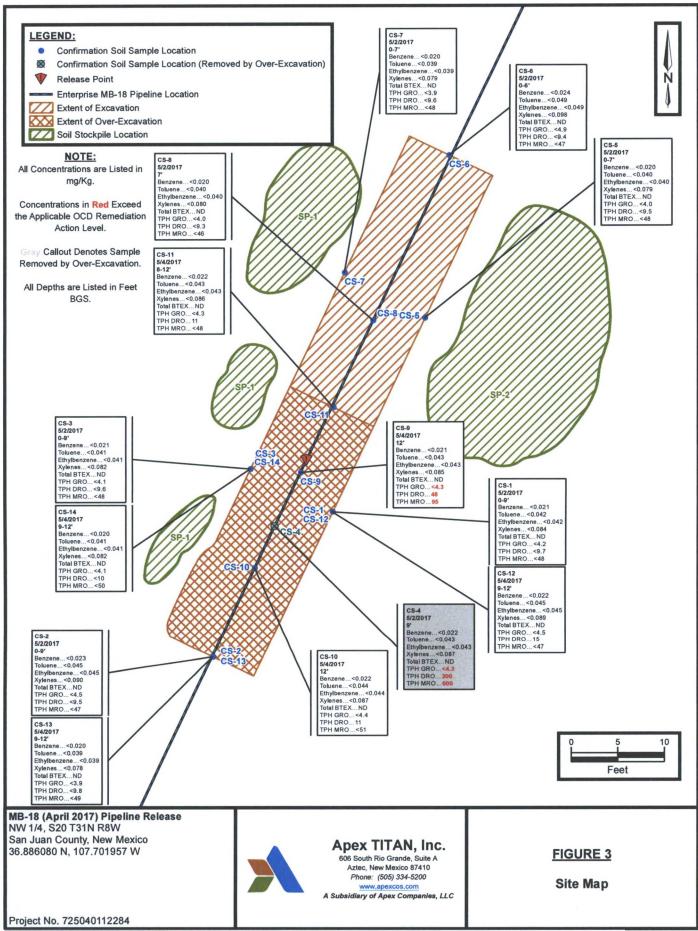


APPENDIX A

Figures









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

Form C-138 Revised 08/01/11

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

# Santa Fe, NM 87505 REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: MB-18 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): UL F Section 20 T31N R8W; 36.886080,-107.701957
4. Source and Description of Waste:  Source: Hydrocarbon impacted soils from a natural gas pipeline release.  Description: Soil impacted with Natural Gas Liquids (Condensate and Water)  Estimated Volume 50 yd³ bbls Known Volume (to be entered by the operator at the end of the haul)
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long  Generator Signature  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agence 's laber 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 mix exempt waste.  **Operator Use Only: Waste Acceptance Frequency Monthly   Weekly   Per Load**  **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 was characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CF subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description)
I, Thomas Long 5-2-17, representative for Enterprise Products Operating authorizes IEI, Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification.
I, Y 1000 , representative for IEI, Inc. do hereby certify representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content an have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NM results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: West States Energy Contractors
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. * Permit #: NM 01-0010B  Address of Facility: #49 CR 2150 Aztec, New Mexico
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: HUOLING TITLE: CLOCK DATE: 505-632-1782
Surface Waste Management Facility Authorized Agent



APPENDIX C

Photographic Documentation



## Photograph 1

View of the initial excavation, facing south.



## Photograph 2

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



## Photograph 3

View of the final excavation, facing north.





APPENDIX D

Table



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

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departme	New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			NE	NE	NE	50		100	
				Excavation Soi	Samples Removed I	y Over-Excavation	n		Set Mark	
CS-4	5.02.17	9	<0.022	<0.043	<0.043	<0.087	ND	<4.3	300	600
				Soil Samp	les Collected from St	ockpiled Soils				
SP-1	5.02.17	Stockpile	<0.024	<0.048	<0.048	< 0.095	ND	<4.8	<9.2	<46
SP-2	5.02.17	Stockpile	< 0.017	<0.034	<0.034	< 0.069	ND	<3.4	<9.7	<48
					Excavation Soil Sam	ples			7 (0.4)	
CS-1	5.02.17	0 to 9	<0.021	<0.042	<0.042	<0.084	ND	<4.2	<9.7	<48
CS-2	5.02.17	0 to 9	< 0.023	<0.045	<0.045	<0.090	ND	<4.5	<9.5	<47
CS-3	5.02.17	0 to 9	<0.021	<0.041	<0.041	<0.082	ND	<4.1	<9.6	<48
CS-5	5.02.17	0 to 7	<0.020	<0.040	<0.040	< 0.079	ND	<4.0	<9.5	<48
CS-6	5.02.17	0 to 6	<0.024	<0.049	<0.049	<0.098	ND	<4.9	<9.4	<47
CS-7	5.02.17	0 to 7	<0.020	<0.039	<0.039	< 0.079	ND	<3.9	<9.6	<48
CS-8	5.02.17	7	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.3	<46
CS-9	5.04.17	12	<0.021	<0.043	<0.043	<0.085	ND	<4.3	48	95
CS-10	5.04.17	12	<0.022	<0.044	<0.044	<0.087	ND	<4.4	11	<51
CS-11	5.04.17	8 to 12	<0.022	<0.043	<0.043	<0.086	ND	<4.3	11	<48
CS-12	5.04.17	9 to12	<0.022	<0.045	<0.045	<0.089	ND	<4.5	15	<47
CS-13	5.04.17	9 to 12	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.8	<49
CS-14	5.04.17	9 to 12	<0.020	<0.041	<0.041	<0.082	ND	<4.1	<10	<50

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not Established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

May 04, 2017

**Kyle Summers** 

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: MB 18

OrderNo.: 1705140

#### Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1705140

Date Reported: 5/4/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: SP-1

Project: MB 18 Collection Date: 5/2/2017 1:15:00 PM

Lab ID: 1705140-001

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

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

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

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

Lab Order 1705140

Date Reported: 5/4/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: SP-2

Project: MB 18 Collection Date: 5/2/2017 1:25:00 PM

Lab ID: 1705140-002 Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

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

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

- 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 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#:

1705140

04-May-17

Client:

APEX TITAN

Project:

MB 18

Sample ID LCS-31540	Sample ID LCS-31540 SampType: LCS				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch	ID: 31	540	R	RunNo: <b>42506</b>							
Prep Date: 5/3/2017	SeqNo: 1336816 Units: mg/Kg											
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	47	10	50.00	0	94.4	63.8	116					
Surr: DNOP	4.4		5.000		87.9	70	130					

Sample ID MB-31540 SampType: MBLK				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	S Batch ID: 31540				RunNo: 42506						
Prep Date: 5/3/2017	Analysis Dat	e: <b>5/3</b>	3/2017	S	eqNo: 13	336817	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	9.6		10.00		96.3	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
- 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 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#: 1705140

04-May-17

**Client:** 

APEX TITAN

Project:

MB 18

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PRS

Batch ID: G42520

**PQL** 

5.0

RunNo: 42520

%REC

Units: mg/Kg

Prep Date: Analyte

Analysis Date: 5/3/2017

SeqNo: 1337269

LowLimit

54

HighLimit

Qual

Gasoline Range Organics (GRO) Surr: BFB

ND 910

Result

1000

SPK value SPK Ref Val

90.9

150

**RPDLimit** 

Sample ID 2.5UG GRO LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: G42520

SampType: LCS

RunNo: 42520

Prep Date: Analyte

Analysis Date: 5/3/2017

SeqNo: 1337274

Units: mg/Kg

Gasoline Range Organics (GRO)

Result 22

980

Result

23

960

SPK value SPK Ref Val PQL 5.0 25.00

%REC 87.2

LowLimit 76.4

HighLimit %RPD

%RPD

**RPDLimit** Qual

1000

97.6

54

125 150

Surr: BFB

Sample ID 1705140-001AMS

SampType: MS

953.3

TestCode: EPA Method 8015D: Gasoline Range

Prep Date:

Client ID: SP-1

Sample ID 1705140-001AMSD

Gasoline Range Organics (GRO)

Batch ID: **G42520** Analysis Date: 5/3/2017 RunNo: 42520 SeqNo: 1337276

Units: mg/Kg

0

Analyte

**PQL** 

4.8

SPK value SPK Ref Val 23.83

%REC LowLimit 95.1 61.3 HighLimit 150

150

**RPDLimit** 

Qual

Qual

Gasoline Range Organics (GRO) Surr: BFB

SampType: MSD

0

0

TestCode: EPA Method 8015D: Gasoline Range

54

Client ID: SP-1

Batch ID: G42520

RunNo: 42520

%REC

100

Prep Date: Analyte

Analysis Date: 5/3/2017 Result PQL

SeqNo: 1337277

Units: mg/Kg HighLimit

%RPD

%RPD

**RPDLimit** 20

Surr: BFB

23 4.8 23.83 960 953.3

SPK value SPK Ref Val

94.9 101 61.3 54

LowLimit

150 150

0.211 0

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

Analyte detected in the associated Method Blank В

E Value above quantitation range

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#:

1705140 04-May-17

**Client:** 

APEX TITAN

**Project:** 

MB 18

Sample ID RB	SampType: MBLK			Tes	Code: El					
Client ID: PBS	Batch ID: <b>B42520</b>			R	RunNo: 4					
Prep Date:	Analysis Date: 5/3/2017			S	SeqNo: 1	337283	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	ole ID 100NG BTEX LCS SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch	Batch ID: <b>B42520</b>			tunNo: 4					
Prep Date:	rep Date: Analysis Date: 5/3/2017			S	SeqNo: 1					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.3	80	120			
Toluene	0.87	0.050	1.000	0	87.0	80	120			
Ethylbenzene	0.90	0.050	1.000	0	89.9	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	66.6	132			

Sample ID 1705140-002AMS	SampTy	/pe: MS	3	Tes	tCode: El	PA Method	hod 8021B: Volatiles				
Client ID: SP-2	Batch	ID: <b>B4</b>	2520	F	RunNo: 4	2520					
Prep Date:	Analysis Da	ate: 5/	3/2017	S	SeqNo: 1	337285	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.65	0.017	0.6878	0	94.1	61.5	138				
Toluene	0.66	0.034	0.6878	0	95.4	71.4	127				
Ethylbenzene	0.66	0.034	0.6878	0	96.4	70.9	132				
Xylenes, Total	2.0	0.069	2.063	0	97.9	76.2	123				
Surr: 4-Bromofluorobenzene	0.74		0.6878		107	66.6	132				

Sample ID 1705140-002AM	SD SampType: MSD TestCode: EPA Method 8021B: Volatiles									
Client ID: SP-2	Batch	ID: <b>B4</b>	2520	RunNo: 42520						
Prep Date:	Analysis D	ate: 5/	3/2017	SeqNo: 1337286 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.62	0.017	0.6878	0	89.6	61.5	138	4.90	20	
Toluene	0.64	0.034	0.6878	0	93.0	71.4	127	2.62	20	
Ethylbenzene	0.66	0.034	0.6878	0	96.0	70.9	132	0.372	20	
Xylenes, Total	2.0	0.069	2.063	0	98.0	76.2	123	0.121	20	
Surr: 4-Bromofluorobenzene	0.75		0.6878		109	66.6	132	0	0	

- 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
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank B
- Value above quantitation range
- J Analyte detected below quantitation limits
- Page 5 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 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	er: 1705	140			RcptNo:	1	
Received By: Completed By: Reviewed By:	Ashley Galle	gos 5	6/3/2017 7:30:00 AM 6/3/2017 8:14:38 AM 05/03/17			A				
Chain of Cu	stody									
1 Custody se	eals intact on sam	ple bottles?		Yes		No [	]	Not Present		
2. Is Chain of	Yes	~	No [		Not Present					
How was the sample delivered?					ier					
<u>Log In</u>										
4. Was an at	Yes	$\checkmark$	No [		NA 🗔					
5. Were all s	Yes	V	No [	]	NA 🗆	F				
6. Sample(s)	Yes	V	No [							
7. Sufficient s	Yes	<b>V</b>	No [							
8. Are samples (except VOA and ONG) properly preserved?					1	No [				
9. Was preservative added to bottles?						No 💆		NA 🗌		
10.VOA vials	have zero headsp	ace?		Yes		No [	3	No VOA Vials		
11. Were any sample containers received broken?						No 5	<b>Y</b>			
12. Does pape	erwork match bottl	e labels?		Yes	<b>4</b>	No [	]	# of preserved bottles checked for pH:		
(Note disc			_			or >12 unless noted)				
13. Are matric	es correctly identif	fied on Chain of C	custody?	Yes		No [		Adjusted?		
14. Is it clear v	14. Is it clear what analyses were requested?					No [.				
15. Were all holding times able to be met? (If no, notify customer for authorization.)				Yes		No L.	_	Checked by:		
(II IIO, NOth	ly customer for au	uioization.)								
Special Han	dling (if appli	icable)								
	notified of all disc		is order?	Yes		No [		NA 🗹		
Pers	on Notified:	CONTRACTOR OF THE PARTY OF THE	Date	NAME AND PARTY.	COLUMN TO SERVICE	Ulli terruena Astonias	PLEM"			
By V	Vhom:	DESCRIPTION OF THE PROPERTY OF	Via:	[] eM	ail 🗍 lia	Phone F	ax [	In Person		
Rega	arding:	NAME OF TAXABLE PARTY OF TAXABLE PARTY.		NAME OF THE PARTY	SHIRL STATE OF THE	All of this bearing and a second		AND REPORT OF THE PROPERTY OF		
Clier	nt Instructions:	· · · · · · · · · · · · · · · · · · ·		AND THE RESERVE	MCMMCMAN IN			MANAGEMENT PROPERTY OF THE PRO		
17. Additional	remarks:									
18. Cooler In Cooler	No Temp °C	Condition Sea	Intact Seal No.	Seal D	ate	Signed By				

		•	CHAIN OF (	CUSTODY RECORD
APEX Office LocationAztec, NM  Project ManagerK.Summurs Sampler's Name Rance Deechilly	Laboratory: Hull Address: ABC  Contact: A From Phone: PO/SO#: Sampler's Signature	ema o	ANALYSIS REQUESTED  ANALYSIS REQUESTED  ANALYSIS REQUESTED  ANALYSIS REQUESTED  ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers 1-7+0-5 when received (C°):  1 2 3 4 5  Page of
Proj. No. Project Name	-/	No/Type of Containers		
Matrix Date Time C G I Identifying	Marks of Sample(s)	AVG AVG Sibass S	Lab S	ample ID (Lab Use Only)
A C .	PI	1	XX 1705	140-001
	P-2		XX	-002
	*CC			
	1017			
Turn around time Normal 25% Rush	□ 50% Rush □ 100% Rush	, SAME DAY		
Relinquished by (Signature)  Date: 5217  Relinquished by (Signature)  Relinquished by (Signature)  Date: 5217  Relinquished by (Signature)  Date:		alure) Date:	Time: 730	
Rélinquished by (Signature) Date:	Time: Received by: (Sign	ature) Date:	Time: SAME DAY	-
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/G - Amber	S - Soil SD - Solid L - Liqu / Or Glass 1 Liter 250 ml		harcoal tube SL - sludge O - Oil 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

May 04, 2017

**Kyle Summers** 

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

**FAX** 

RE: MB-18

OrderNo.: 1705141

### Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1705141

Date Reported: 5/4/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-1

Project: MB-18

Collection Date: 5/2/2017 11:45:00 AM

Lab ID:

1705141-001

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

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

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

- \* 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 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705141

Date Reported: 5/4/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-2

Project: MB-18

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

Lab ID: 1705141-002

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

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

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

- 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 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705141

Date Reported: 5/4/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-3

Project: MB

MB-18

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

Lab ID:

1705141-003

Matrix: MEOH (SOIL)

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

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

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

- 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 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705141

Date Reported: 5/4/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-4

Project: MB-18

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

Lab ID: 1705141-004

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

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

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

- 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 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705141

Date Reported: 5/4/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: MB-18

Client Sample ID: CS-5

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

Lab ID: 1705141-005

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	8			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/3/2017 1:54:40 PM	31540
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/3/2017 1:54:40 PM	31540
Surr: DNOP	107	70-130	%Rec	1	5/3/2017 1:54:40 PM	31540
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	5/3/2017 11:59:43 AM	G42520
Surr: BFB	90.2	54-150	%Rec	1	5/3/2017 11:59:43 AM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.020	mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Toluene	ND	0.040	mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Ethylbenzene	ND	0.040	mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Xylenes, Total	ND	0.079	mg/Kg	1	5/3/2017 11:59:43 AM	B42520
Surr: 4-Bromofluorobenzene	97.7	66.6-132	%Rec	1	5/3/2017 11:59:43 AM	B42520

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

- \* 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 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705141

Date Reported: 5/4/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-6

Project: MB-18 Collection Date: 5/2/2017 12:35:00 PM

Lab ID: 1705141-006

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	6			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	5/3/2017 2:16:42 PM	31540
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	5/3/2017 2:16:42 PM	31540
Surr: DNOP	108	70-130	%Rec	1	5/3/2017 2:16:42 PM	31540
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/3/2017 12:23:19 PM	G42520
Surr: BFB	91.7	54-150	%Rec	1	5/3/2017 12:23:19 PM	G42520
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Toluene	ND	0.049	mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Ethylbenzene	ND	0.049	mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Xylenes, Total	ND	0.098	mg/Kg	1	5/3/2017 12:23:19 PM	B42520
Surr: 4-Bromofluorobenzene	100	66.6-132	%Rec	1	5/3/2017 12:23:19 PM	B42520

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

- 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 6 of 11 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1705141

Date Reported: 5/4/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: MB-18

Client Sample ID: CS-7

Collection Date: 5/2/2017 12:45:00 PM

Lab ID: 1705141-007

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

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

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

- 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 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705141

Date Reported: 5/4/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-8

Project: MB-18

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

Lab ID: 1705141-008

Matrix: MEOH (SOIL) Received Date: 5/3/2017 7:30:00 AM

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

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

- 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 8 of 11
- 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#:

1705141

04-May-17

Client:

APEX TITAN

Project:

**MB-18** 

SampType: LCS

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

70

LowLimit

70

Client ID: LCSS

Batch ID: 31540

RunNo: 42506

Prep Date: 5/3/2017

Analysis Date: 5/3/2017 PQL

SeqNo: 1336816

Units: mg/Kg HighLimit

Analyte Diesel Range Organics (DRO)

Sample ID MB-31540

47 10 50.00 4.4 5.000

SPK value SPK Ref Val %REC LowLimit 94.4 63.8

116

130

**RPDLimit** Qual

Surr: DNOP

SampType: MBLK

Result

RunNo: 42506

87.9

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

%RPD

%RPD

Client ID: Prep Date: 5/3/2017

Surr: DNOP

PBS

Batch ID: 31540 Analysis Date: 5/3/2017

SeqNo: 1336817

Units: mg/Kg

HighLimit

**RPDLimit** Qual

Analyte Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Result ND 10 ND

50 9.6

SPK value SPK Ref Val %REC

10.00

96.3

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

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 9 of 11

Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1705141

04-May-17

Client:

APEX TITAN

Project:

MB-18

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

Prep Date:

Batch ID: G42520

RunNo: 42520

**PBS** 

Analyte

Analysis Date: 5/3/2017

Result

Result

22

980

SeqNo: 1337269

Units: mg/Kg

Gasoline Range Organics (GRO)

**PQL** 5.0 SPK value SPK Ref Val %REC LowLimit

**RPDLimit** Qual

ND 910

1000

90.9

150

HighLimit

Surr: BFB

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

%RPD

Client ID:

LCSS

Batch ID: G42520

**PQL** 

5.0

RunNo: 42520

Prep Date:

Analysis Date: 5/3/2017

SeqNo: 1337274

Units: mg/Kg

**RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

25.00 1000

SPK value SPK Ref Val

0

87.2 97.6

%REC

76.4 54

LowLimit

54

150

HighLimit %RPD 125

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Holding times for preparation or analysis exceeded H

ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits

% 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 11

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

1.0

WO#:

1705141

04-May-17

Client:

Surr: 4-Bromofluorobenzene

**APEX TITAN** 

Project:

MB-18

Sample ID RB	SampT	SampType: MBLK				code: EPA Method 8021B: Volatiles					
Client ID: PBS	Batch	Batch ID: <b>B42520</b> RunNo: <b>42520</b>									
Prep Date:	Analysis D	ate: 5/	3/2017	8	SeqNo: 1	337283	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									
Xvlenes, Total	ND	0.10									

102

66.6

1.000

Sample ID 100NG BTEX LCS	SampT	ype: LC	S	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch	n ID: <b>B4</b>	2520	R	RunNo: 4	2520				
Prep Date:	Analysis D	Date: 5/	3/2017	S	SeqNo: 1	337284	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.025	1.000	0	83.3	80	120			
Toluene	0.87	0.050	1.000	0	87.0	80	120			
Ethylbenzene	0.90	0.050	1.000	0	89.9	80	120			
Xylenes, Total	2.7	0.10	3.000	0	91.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	66.6	132			

- \* 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 11 of 11

- 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 Albuquergue, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

**APEX AZTEC** Work Order Number: 1705141 RcptNo: 1 Client Name: Received By: **Ashley Gallegos** 5/3/2017 7:30:00 AM 5/3/2017 8:17:35 AM Completed By: **Ashley Gallegos** 05/03/17 ENM Reviewed By: Chain of Custody Yes [ No [ Not Present 1. Custody seals intact on sample bottles? No [ Yes V Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No [ NA 4. Was an attempt made to cool the samples? Yes V NA [ No 5. Were all samples received at a temperature of >0° C to 6.0°C No [] 6. Sample(s) in proper container(s)? Yes V No 🗌 Yes 🗸 7. Sufficient sample volume for indicated test(s)? No 🗍 8. Are samples (except VOA and ONG) properly preserved? Yes V No V 9. Was preservative added to bottles? Yes | NA No [ No VOA Vials Yes 10. VOA vials have zero headspace? Yes 🗌 No V 11. Were any sample containers received broken? # of preserved bottles checked for pH: Yes V No 🗔 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗍 13. Are matrices correctly identified on Chain of Custody? Yes 🗸 No 🗌 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 V 16. Was client notified of all discrepancies with this order? Person Notified: Date ! By Whom: eMail Phone Fax In Person Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition | Seal Intact | Seal No Seal Date Good

																					С	HAI	N OF	- C	USTODY RECORD
															AN	ALY	sis /				I				Lab use only
							Laboratory:	_	110						RE		STED		/ /	/			/		Due Date:
Δ	DI	ΞX					Address: _			NA.A							/-	$\sqrt{}$						/	
0"		-/\	n Az	100	۸,	IM	Address		ושמר	1411				_			2					/	/ /		Temp. of coolers 1.7+05 (when received (C°): 2.2
OTIK	e Lo	catio	n	,100	-/1		Contact:	A	Eas	má	^			_			13		/	/	/ /	/ /	/ /		1 2 3 4 5
										AULAI	-		_	_			120		/ /			/	/	l	.1 /
_			v.				Phone:							_		,	2	/ /		/	/				Pageof
		Mame	ger <u>K</u>	DW.	nın	ens_	PO/SO #: _									4		/ /		/	/		/		
R	ane	eD	rechil	ly		A	Sampler's Sign									Sael River	Sais Test (co peoples)		//	//	/ /	$^{\prime}$ $/$			
Proj.	No.			Proje	ect Na	MB-18	·			No/Ty	/pe of C	Contai	ners			200	ST /	//							
Matrix	D	ate	Time	Comp	Grab		urks of Sample(s)	Start	End	VOA	A/G	250 ml	Glass	P/0			7//			/			Lab	o Sar	mple ID (Lab Use Only)
3	5/2	117	1145	X	, D	RS			_				1		X	X						l	70	5	141-001
-		i	11.55	1		CS	5-2						1		1	1									-002
			1205			CS	5-3								1										-003
			1215				5-4																		-004
			1225	1		-	5-5																		-005
			1235				5-6									1									-000
1			1245	1			-7						П												-007
V	,	V	1255	V			-8						V		1	J							_		-008
_							Men WE	5																	
								(		_															
		time	Signature)			Date		100%		ture)	AM	E	Date	-	Т	ime:	NOTES								
Z	NA	The	Signature)		5	12/12/11	500 Nh						721	17	16	00	4		DI	١,			١		(EbseD)
	uish		Signature)			Date:	Time: Received	ed by:	(Signa	ture)	2	Slo	Date		T	ime:			DII	1-1	0	600	16	ng	(ELSED)
			Signature)				Time: Receiv	ed by:	(Signa	ture)		-10	Date	9:		ime:									
Relin	uishe	ed by	(Signature)		1	Date:	Time: Receiv	red by:	(Signa	ture)		$\dashv$	Date	e:	Т	ime:	-		< A	۱ <i>۸</i> ۲	- N	Δ	1		
Matrix WW - Wastewater W - Water S - Soil SD - Soild L - Liqu					- Licusia	Α Α	- Air Ba	30	-	- Cha	renal f	uhe	SL - sludg	OL TO SERVICE STREET	SA	7 100					11.00				
Conta			v - vvastewa A - 40 ml via			A/G - Amber / C			250 ml -		wide mo	outh		O - PI				•	0-0	•					



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

May 08, 2017

Kyle Summers
APEX TITAN
606 S. Rio Grande Unit A
Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: MB-18

OrderNo.: 1705312

### Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1705312

Date Reported: 5/8/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-9

Project: MB-18

Collection Date: 5/4/2017 1:00:00 PM

Lab ID: 1705312-001

Matrix: MEOH (SOIL) Received Date: 5/5/2017 6:45:00 AM

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

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

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

Lab Order 1705312

Date Reported: 5/8/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-10

Collection Date: 5/4/2017 1:10:00 PM

Lab ID: 1705312-002

Project: MB-18

Matrix: MEOH (SOIL) Received Date: 5/5/2017 6:45:00 AM

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

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

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

Lab Order 1705312

Date Reported: 5/8/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-11

Project: MB-18 Collection Date: 5/4/2017 1:20:00 PM

Lab ID: 1705312-003

Received Date: 5/5/2017 6:45:00 AM Matrix: MEOH (SOIL)

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

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

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

Lab Order 1705312

Date Reported: 5/8/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: MB-18

Lab ID:

1705312-004

Client Sample ID: CS-12

Collection Date: 5/4/2017 1:45:00 PM

Matrix: MEOH (SOIL) Received Date: 5/5/2017 6:45:00 AM

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

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

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

Lab Order 1705312

Date Reported: 5/8/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-13

Project: MB-18

Collection Date: 5/4/2017 1:55:00 PM

Lab ID: 1705312-005

Matrix: MEOH (SOIL) Received Date: 5/5/2017 6:45:00 AM

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

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

- 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 5 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705312

Date Reported: 5/8/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-14

Project: MB-18

Collection Date: 5/4/2017 2:05:00 PM

Lab ID:

1705312-006

Matrix: MEOH (SOIL) Received Date: 5/5/2017 6:45:00 AM

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

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

- 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 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#:

1705312

08-May-17

Client:

APEX TITAN

Project:	MB-18										-
Sample ID	LCS-31586	SampTy	/pe: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	ID: 31	586	F	RunNo: 4	2571				
Prep Date:	5/5/2017	Analysis Da	ate: 5/	5/2017		SeqNo: 1	339179	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	43	10	50.00	0	86.7	63.8	116			
Surr: DNOP		4.3		5.000		85.2	70	130			
Sample ID	MB-31586	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	ID: 31	586	F	RunNo: 4	2571				
Prep Date:	5/5/2017	Analysis Da	ate: 5/	5/2017	8	SeqNo: 1	339180	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range	Organics (DRO)	ND	10								
Motor Oil Rang	e Organics (MRO)	ND	50								
Surr: DNOP		8.4		10.00		83.7	70	130			
Sample ID	1705312-001AMS	SampTy	/pe: <b>M</b> \$	3	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	CS-9	Batch	ID: 31	586	F	RunNo: 4	2571				
Prep Date:	5/5/2017	Analysis Da	ate: 5/	5/2017	8	SeqNo: 1	339496	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL.	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	81	9.6	48.03	48.04	69.2	51.6	130			
Surr: DNOP		4.5		4.803		94.3	70	130			
Sample ID	1705312-001AMSI	SampTy	/pe: <b>MS</b>	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	CS-9	Batch	ID: 31	586	F	RunNo: 4	2571				
Prep Date:	5/5/2017	Analysis Da	ate: 5/	5/2017	S	SeqNo: 1	339497	Units: mg/K	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	71	9.5	47.35	48.04	47.8	51.6	130	13.9	20	S
Surr: DNOP		4.3		4.735		91.4	70	130	0	0	

#### Qualifiers:

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

- Analyte detected below quantitation limits
- Page 7 of 9

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

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1705312

08-May-17

Client:

APEX TITAN

Project:

MB-18

Project: MID-18										
Sample ID Ics-31576	Samp	Гуре: LC	S	Tes	tCode: El	PA Method	8260B: Volat	tiles Short	List	
Client ID: LCSS	Batc	h ID: 31	576	R	RunNo: 4	2580				
Prep Date: 5/4/2017	Analysis [	Date: 5/	5/2017	S	SeqNo: 1	340063	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	103	70	130			
Toluene	0.99	0.050	1.000	0	98.7	70	130			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.46		0.5000		91.9	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		104	70	130			
Surr: Toluene-d8	0.49		0.5000		97.4	70	130			
Sample ID MB-31576	Samp	ype: ME	BLK	Test	Code: El	PA Method	8260B: Volat	tiles Short	List	
Sample ID MB-31576 Client ID: PBS		Type: <b>ME</b> h ID: <b>31</b>			tCode: El		8260B: Volat	tiles Short	List	
		h ID: 31	576	R		2580	8260B: Volate Units: mg/K		List	
Client ID: PBS	Batc	h ID: 31	576 5/2017	R	tunNo: 4	2580			<b>List</b> RPDLimit	Qual
Client ID: PBS Prep Date: 5/4/2017	Batc Analysis [	h ID: 31:	576 5/2017	R	eqNo: 1	2580 340064	Units: mg/K	(g		Qual
Client ID: PBS Prep Date: 5/4/2017 Analyte	Batc Analysis D Result	h ID: <b>31</b> ! Date: <b>5</b> /	576 5/2017	R	eqNo: 1	2580 340064	Units: mg/K	(g		Qual
Client ID: PBS Prep Date: 5/4/2017 Analyte Benzene	Analysis Description Result ND	h ID: <b>31</b> 9 Date: <b>5</b> / PQL 0.025	576 5/2017	R	eqNo: 1	2580 340064	Units: mg/K	(g		Qual
Client ID: PBS Prep Date: 5/4/2017 Analyte Benzene Toluene	Batc Analysis I Result ND ND	PQL 0.025 0.050	576 5/2017	R	eqNo: 1	2580 340064	Units: mg/K	(g		Qual
Client ID: PBS Prep Date: 5/4/2017 Analyte Benzene Toluene Ethylbenzene	Analysis I  Result  ND  ND  ND	PQL 0.025 0.050	576 5/2017	R	eqNo: 1	2580 340064	Units: mg/K	(g		Qual
Client ID: PBS Prep Date: 5/4/2017 Analyte Benzene Toluene Ethylbenzene Xylenes, Total	Result  ND ND ND ND ND ND	PQL 0.025 0.050	576 5/2017 SPK value	R	eunNo: 4 SeqNo: 1 %REC	2580 340064 LowLimit	Units: <b>mg/K</b> HighLimit	(g		Qual
Client ID: PBS Prep Date: 5/4/2017 Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 1,2-Dichloroethane-d4	Analysis I Result ND ND ND ND ND ND ND ND ND 0.49	PQL 0.025 0.050	576 5/2017 SPK value 0.5000	R	eunNo: 4 SeqNo: 1 %REC	2580 340064 LowLimit	Units: mg/K HighLimit	(g		Qual
Client ID: PBS Prep Date: 5/4/2017  Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 1,2-Dichloroethane-d4 Surr: 4-Bromofluorobenzene	Result  ND ND ND ND ND ND 0.49 0.48	PQL 0.025 0.050	576 5/2017 SPK value 0.5000 0.5000	R	97.8 96.0	2580 340064 LowLimit 70 70	Units: mg/K HighLimit	(g		Qual

- 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 8 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#:

1705312

08-May-17

Qual

Client:

APEX TITAN

Project:

MB-18

Sample ID 17	05312-001ams
--------------	--------------

SampType: MS

TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: CS-9 Batch ID: G42580

RunNo: 42580

Prep Date:

Analysis Date: 5/5/2017

SeqNo: 1340065

Units: mg/Kg

128

130

Analyte Gasoline Range Organics (GRO)

CS-9

Result **PQL** SPK value SPK Ref Val 22 4.3 21.28

%REC LowLimit

104

HighLimit %RPD **RPDLimit** 

Surr: BFB

440 SampType: MSD

103 70 TestCode: EPA Method 8015D Mod: Gasoline Range

63.2

70

70

70

Sample ID 1705312-001amsd Batch ID: G42580 RunNo: 42580

425.6

Client ID:

Prep Date:

Analysis Date: 5/5/2017

SeqNo: 1340066

Units: mg/Kg

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 22 4.3 21.28 0 101 63.2 128 2.26 20 Surr: BFB 425.6 0 440 105 70 130 0

Sample ID 2.5ug gro lcs

SampType: LCS

TestCode: EPA Method 8015D Mod: Gasoline Range

RunNo: 42580

Prep Date:

Client ID: LCSS

Batch ID: G42580 Analysis Date: 5/5/2017

SeqNo: 1340067

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Surr: BFB

PQL

5.0

0

Result 28 520

490

SPK value SPK Ref Val 25.00

500.0

%REC LowLimit 110

103

HighLimit 130

130

%RPD **RPDLimit** 

Qual

Qual

Sample ID rb

SampType: MBLK

TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: PBS Batch ID: G42580

RunNo: 42580

130

Prep Date:

Surr: BFB

Analysis Date: 5/5/2017

SeqNo: 1340068

98.7

Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Analyte LowLimit Gasoline Range Organics (GRO) ND 5.0

500.0

#### **Oualifiers:**

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Not Detected at the Reporting Limit ND

R RPD outside accepted recovery limits

B Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits Page 9 of 9

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

Sample Log-In Check List

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com RcptNo: 1 APEX AZTEC Work Order Number: 1705312 Client Name: 5/5/2017 6:45:00 AM Received By: **Ashley Gallegos** 5/5/2017 7:11:08 AM Completed By: **Ashley Gallegos** 05/05/17 Reviewed By: **Chain of Custody** No Not Present ✓ 1. Custody seals intact on sample bottles? Yes 2. Is Chain of Custody complete? Yes V No Not Present 3. How was the sample delivered? Courier Log In 4. Was an attempt made to cool the samples? No NA 5. Were all samples received at a temperature of >0° C to 6.0°C No NA ' Sample(s) in proper container(s)? No 7. Sufficient sample volume for indicated test(s)? No 8. Are samples (except VOA and ONG) properly preserved? No 9. Was preservative added to bottles? No Yes No VOA Vials ✓ 10.VOA vials have zero headspace? Yes No : 11. Were any sample containers received broken? Yes No V # of preserved bottles checked for pH: 12. Does paperwork match bottle labels? No (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? No 14. Is it clear what analyses were requested? No Checked by: 15. Were all holding times able to be met? No (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes No NA V Person Notified: Date By Whom: Via: eMail Phone In Person Fax Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information

Cooler No Temp °C | Condition | Seal Intact | Seal No | Seal Date

Yes

Good

and the second														CHAIN OF CUSTODY RECORD
K					Laboratory:	Ha	11						ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers 1-3-0-1 (
APE)	X				Address:	A	BQ						12	Temp. of coolers 1-3-0-1 (
Office Locat	tionA	210	20											when received (C°): 1, Z
					Contact:	A	Fra	ema	n					1 2 3 4 5
					Phone:				,				S. Carlon	/ / / / Page 1 of /
Project Man	ager	Si	imn	NUS	PO/SO#: _								740	
Sampler's Nam	_			-	Sampler's Signa	aļure,	1						BILL	/ / / / / /
Ranee	Deed	illy		-	Cui D	he	(						99/	
Proj. No.		Proje	ect Na	MB-18				No/Ty	pe of C	Contair	ners		Schal Bits Susc Trent	
Matrix Date	Time	CoEp	Grab		ks of Sample(s)	Start	End Depth	VOA	P = A	250	Glass	D/A	17//	Lab Sample ID (Lab Use Only)
5 5 4 1	7 1300			CS.	-9						1		XX	1705312 -001
	1310	1		CS.	-10			90			1			-002
	1320			CS	-11									-003
	1345			Cs.	-12									-004
	1355				-13									-005
V V	1405				-14						V		VV	-004
-		_												
					MAS									
		-												
Turn around tin	ne 🗀 No	rmai	<b>D</b> 2	5% Rush	50% Rush	100%	Rush		SA	ME	- (	A		
Belinquished p	WS.		5	14/17 /6		Ula	te	wa	eb		Date	7	Time: NOTES	
Belinquished b					ime: Receiv	ed by:	(Signa	ture)	00		Date	O 4	Time: 0045	Bill to Tom Long (EPROD) Non AE# N30485
Relinquished b			-	Date: T	ime: Receiv	ed by	Signa	ture	9	200	Date		Time:	Non AE # N30485
Relinquished b	y (Signature	)		Date: T	īme: Receiv	ed by:	(Signa	ture)			Date	H:	Time:	SAME DAY
	WW - Wastew VOA - 40 ml vi			W - Water S A/G - Amber / Or	- Soil SD - Soil Glass 1 Liter		- Liquio	A - Glass w	Air Ba	ag outh	C	- Cha	ropal tube SL - sludg	ige O - OII



Appendix F

New Mexico EMNRD OCD Correspondence

From:

Smith, Cory, EMNRD

To:

Long, Thomas; Fields, Vanessa, EMNRD

Cc:

Stone, Brian

Subject:

RE: MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957

Date:

Monday, May 08, 2017 7:47:29 AM

Tom,

Vanessa is out of the Office,

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

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

Cory Smith

**Environmental Specialist** 

Oil Conservation Division

Energy, Minerals, & Natural Resources

1000 Rio Brazos, Aztec, NM 87410

(505)334-6178 ext 115

corv.smith@state.nm.us

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

**Sent:** Monday, May 8, 2017 7:13 AM

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

<Cory.Smith@state.nm.us>

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

Subject: FW: MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957

Vanessa,

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

Sincerely,

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

From: Long, Thomas

Sent: Thursday, May 04, 2017 7:21 AM

To: Fields, Vanessa, EMNRD (Vanessa, Fields@state.nm.us); 'Smith, Cory, EMNRD

(Cory.Smith@state.nm.us)'

Cc: Stone, Brian

**Subject:** FW: MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957

Vanessa.

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

Sincerely,

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

From: Long, Thomas

Sent: Monday, May 01, 2017 12:35 PM

To: Fields, Vanessa, EMNRD (<u>Vanessa.Fields@state.nm.us</u>)

Cc: 'Smith, Cory, EMNRD (Cory.Smith@state.nm.us)'; Stone, Brian Subject: MB-18 - UL F Section 20 T31N R8W; 36.886080,-107.701957

Vanessa,

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

Sincerely,

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

### 505-215-4727 (Cell ( tjlong@eprod.com



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 <u>District III</u> 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 Pdo Goldappropriate District Office in accordance with 19.15.29 NMAC.

OCT 0 3 2017

Release	<b>Notification</b>	and (	Corrective	Action
11010000	INCUITORIO	WIIW V		, , , , , , , , , , , , , , , , , , , ,

		F	Releas	e Notific	ation	and C	orrective	Acti	on					
				3		] Initial I	Report [	Final	Report					
Name of C	ompany E	nterprise F	ield Ser	vices, LLC		OPERATOR ☐ Initial Report ☐ Final Report ☐ Contact Thomas Long								
		ve, Farmir					No. <b>505-599-</b>	2286				1		
Facility Na					F	acility Typ	oe Natural Ga	s Prod	essing F	Plant	i ve			
Surface Ov	vner <b>Priva</b>	te		Mineral C	wner <b>E</b>	BLM			Serial N	umber: NA	111	-141		
Dis + 1 (11.1.)				LOCA	TION	OF REI	EASE				p	2017		
Unit Letter	Section	Township	Range	Feet from	North		Feet from	East	West	County		.AC.		
Ds <b>M</b>	16	26N	12W	the <b>710</b>	Line		the 1968	Line		San Juan	1 1 14			
8 N O .		La	atitude_3	6.482 <u>905</u> L	ongitud	de108.1	<u>19193</u> NAD83				m . 4 40M BVS	· Becheroaid		
				NAT	URE (	OF RELI	EASE							
Type of Rele	ease Natura	l Gas				Volume o	f Release 2,500	)-	Volume I	Recovered N	one 'nai	teport		
Source of R	elease Faci	lity Blowdow	n/Human	Error		Date and	Hour of Occurre @ 9:50 a.m.	ence		Hour of Dise 7 @ 9:50 a.n				
Was Immed	iate Notice	Given?					Whom? : Noti	fication						
13			⊠ Yes	□ No □ N	ot							141		
Required											8	2017		
115												. Tice_		
By Whom?	Thomas Lor	na	-			Date and	Hour September	er 21, 20	017 @ 8:0	0 a.m.		40.		
Was a Wate		ached?					olume Impacting				2 16.			
			Yes	No							m2.1 - 11.02.00			
If a Waterco	urse was In	npacted, Des	scribe Full	y.*							·	- 14/10/3*SPERIOR		
closed and I locked valve 10:37 AM. D resulted in a	ocked out. The Kinder Mo Ouring this ending gas release	TW Turbine to organ technic vent overpre e to atmosph	ripped at sians returned as sure professure professure.	9:50 AM and u ned to site, rer	pon tro	ubleshootin ocks and E	re that supplies g the cause En nterprise aligne demethanizer; F	terprise d valve	technician s correctly	ns identified t and re-starte	he closed d turbine	at hich		
13												-141		
												Hice		
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 require r the envir d their ope health or	d to report and ronment. The erations have fo the environme	l/or file of accepta ailed to ent. In a	certain releance of a Cadequately addition, NA	st of my knowled ase notifications 141 report by the investigate and MOCD acceptant aws and/or regu	and per ne NMC dremed nce of a lations.	erform corr CD marke iate contai C-141 rep	ective action ed as "Final F mination that ort does not	s for relea Report" do pose a th relieve the	OCD ases es not areat to		
ar el		6"/	1.				OIL CON	SER\	/ATION	DIVISION	1	- Aport		
Signature:	JW	1. tus	9											
Printed Nam	e: Jon E. Fi	elds			A	Approved by Environmental Specialist								
Title: Directo	or, Environm	nental	9		A	pproval Da	te: 10 3 a	510	Expiration	Date:		141		
E-mail Addre	ess: jefields	@eprod.com	1		c	Conditions of	of Approval:				_	THE .		
Date: 4	P/29/2	2017	Pho	ne: (713) 381-		_	_			Attached	Na . des	n s cot		
Attach Addi	tional Shee	ets If Neces	sary			POLA	17264	201	01	1	. 6 Q.H	(M)		
10						1100	11000	011	000		The line	- Prices to un		

<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

\* Attach Additional Sheets If Necessary

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

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

Form C-141 Revised August 8, 2011

				Odii	ta i	C, INIVIO	500						
Release Notification and Corrective Action													
					OF	PERATOR	₹		] Initial	Report	$\boxtimes$	Final Re	eport
Name of Company: Enterprise Field Services LLC						Contact: Thomas Long/Runell Seale							
Address: 614 Reilly Ave, Farmington, NM 87401						Telephone No. 505-599-2286							
Facility Name: Gallegos Canyon Unit #203 DK						Facility Type: Natural Gas Gathering Pipeline							
Surface Ov	vner: BLM	wner	r: <b>BLM</b> API No. <b>SN NM 042399</b>										
LOCATION OF RELEASE													
Unit Letter B	Section 24	Township 28N	Range 12W	Feet from the	Nort	South	Feet from the	East/A	Vest	County San Jua	an		
	2-4	2014	1244	2475	LITIC		953	Line	O.II				
									UIL	CONS. D	IV DI	S1. 3	
Latitude <u>36.64443</u> Longitude <u>-108.05873</u> JUL <u>1</u> 7 2017													
NATURE OF RELEASE													
Type of Release: Natural Gas and Natural Gas Liquids						Volume of Release: 4.44 MCF Gas; 5-10 BBLS Condensate  Volume Recovered: None					е		
Source of R	elease: Inte	ernal corrosio	on			Date and Hour of Occurrence: 4/18/2017 @ 7:00 a.m.  Date and Hour of Discovery: 4/18/2017 @ 7:00 a.m.							
Was Immed	iate Notice					If YES, To Whom? Courtesy Notification: Vanessa Fields – NMOCD							
			s 🗌 No	Not Requ	uired								
By Whom?						Date and Hour May 2, 2017 @ 8:28 a.m.							
Was a Watercourse Reached?  ☐ Yes ☒ No						If YES, Volume Impacting the Watercourse							
If a Watercourse was Impacted, Describe Fully.*													
				y. tion: On April 18	3, 201	7, Enterprise	e responded to	a natura	al gas rele	ase on the	e Galle	gos Cany	/on
				depressurized, I									
2017 and Enterprise determined this release is reportable per NMOCD regulation on May 2, 2017, due to the volume of subsurface impacts.										cts.			
Describe Ar	ea Affected	and Cleanu	n Action T	aken * Remedia	ation	was complete	ed on May 3, 20	017 The	contami	nant mass	wasr	emoved h	N/
Describe Area Affected and Cleanup Action Taken.* Remediation was completed on May 3, 2017. The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 60 feet long by 27 feet wide ranging from 7-20 feet deep.									_				
				n impacted soil on report is inclu-				o a New	Mexico C	Oil Conser	vation	approved	
				e is true and co				dge and	understa	nd that pu	rsuant	to NMOC	D
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.													
l = l						OIL CONSERVATION DIVISION							
Signature: In Sulfa													
Printed Name: Jon E. Fields						Approved by Environmental Specialist:							
Title: Director, Environmental						Approval Date: Expiration Date:							
E-mail Address:jefields@eprod.com						Conditions of Approval:							
					-					Attache	ed ∐		
Date: 7	12-20	19	Phon	e: (713)381-668								d	

NVEV71324833



**CORRECTIVE ACTION REPORT** 

OIL CONS. DIV DIST 3

Property:

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

OIL CONS. DIV DIST. 3
JUL 17 2017

June 27, 2017 Apex Project No. 725040112285

Prepared for:

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

Prepared by:

Chad D'Aponti Project Scientist

Kyle Summers, CPG Branch Manager / Senior Geologist

### **TABLE OF CONTENTS**

1.0	INTRO	DUCTIO										
	1.1		on & Background									
	1.2	Project	Object	tive	1							
2.0	SITE	RANKING	i		1							
	DEOD	PEOPONOE ACTIONS										
3.0			S									
	3.1 3.2		il Excavation Activities									
				g Program								
	3.3	Laborat	ory Ar	nalytical Methods	3							
4.0	DATA EVALUATION											
4.0	4.1		ALUATIONonfirmation Soil Samples									
	4.1	Commi	ation	Soli Saliipies	3							
5.0	FINDINGS AND RECOMMENDATIONS4											
6.0	6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE											
LIST	OF AP	PENDIC	ES									
Appendix A:		-		Topographic Map								
		Figui		Site Vicinity Map								
		Figui	re 3	Site Map								
Annandiy D.		. Even	Evacuted C 129 Solid Wests Assentance Forms									
Appendix B:		. Exec	Executed C-138 Solid Waste Acceptance Forms									
Appendix C:		: Phot	Photographic Documentation									
- de la commenta de la												
Appendix D:		: Table	Table									
Appendix E:		· Laho	Laboratory Data Sheets &									
Appelluix E.			Chain of Custody Documentation									



#### **CORRECTIVE ACTION REPORT**

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

Apex Project No. 725040112285

#### 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Gallegos Canyon U #203 (GCU #203) Well Tie release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northeast (NE) ¼ of Section 24, Township 28 North, Range 12 West, in San Juan County, New Mexico (36.65456N, 108.05839W), referred to hereinafter as the "Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is predominantly surrounded by native vegetation rangeland, periodically interrupted by oil and gas gathering facilities. The Enterprise Gallegos Canyon U #203 natural gas well tie transects the area from approximately northeast to southwest.

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

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

### 1.2 Project Objective

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

#### 2.0 SITE RANKING

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



Ra	nking Criteria		Ranking Score
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	20
	>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	200 to 1,000 feet	10	20
Water Body	>1,000 feet	0	
Total	Ranking Score		40

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

- No water wells were identified within a mile of the Site on the OSE website. However, based on the Site's proximity to an unnamed ephemeral wash, the depth to groundwater at the Site may be less than 50 feet below grade surface (bgs), resulting in a ranking of "20" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking score of "0".
- The release point is located approximately 40 feet west of an unnamed ephemeral wash that is identified as a "blue line" on the United States Geological Survey topographic map. This information supports a distance to surface water ranking score of "20".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

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

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

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

Enterprise Field Services, LLC Corrective Action Report Gallegos Canyon U #203 Well Tie Release (April 2017) June 27, 2017



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

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

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

#### 3.2 Soil Sampling Program

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

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

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

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 4.1 Confirmation Soil Samples

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



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

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

The GCU #203 well tie release Site is located within the Enterprise pipeline ROW in the NE ¼ of Section 24, Township 28 North, Range 12 West, in San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities. The Enterprise Gallegos Canyon U #203 natural gas well tie transects the area from approximately northeast to southwest.

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

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



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

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

#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

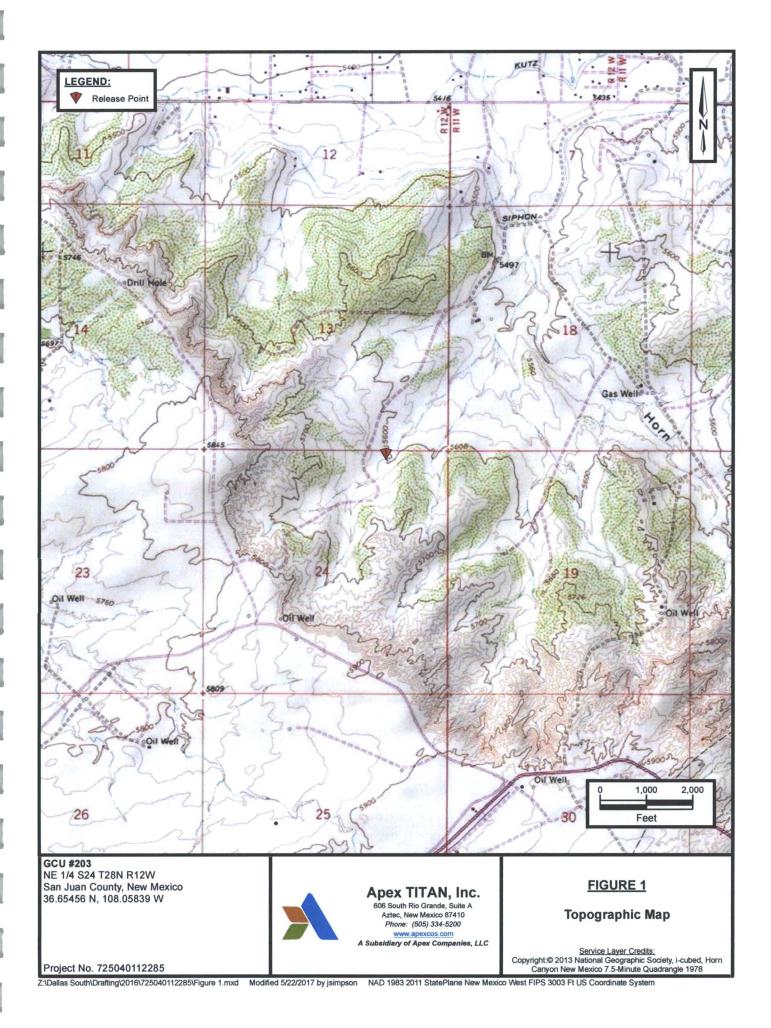
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

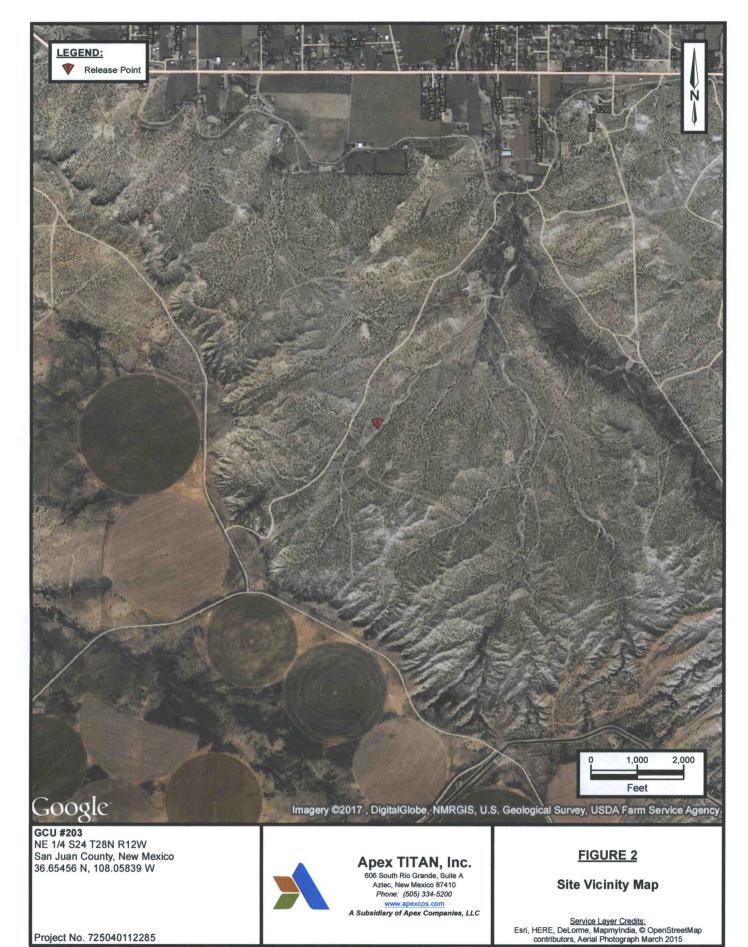
This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution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

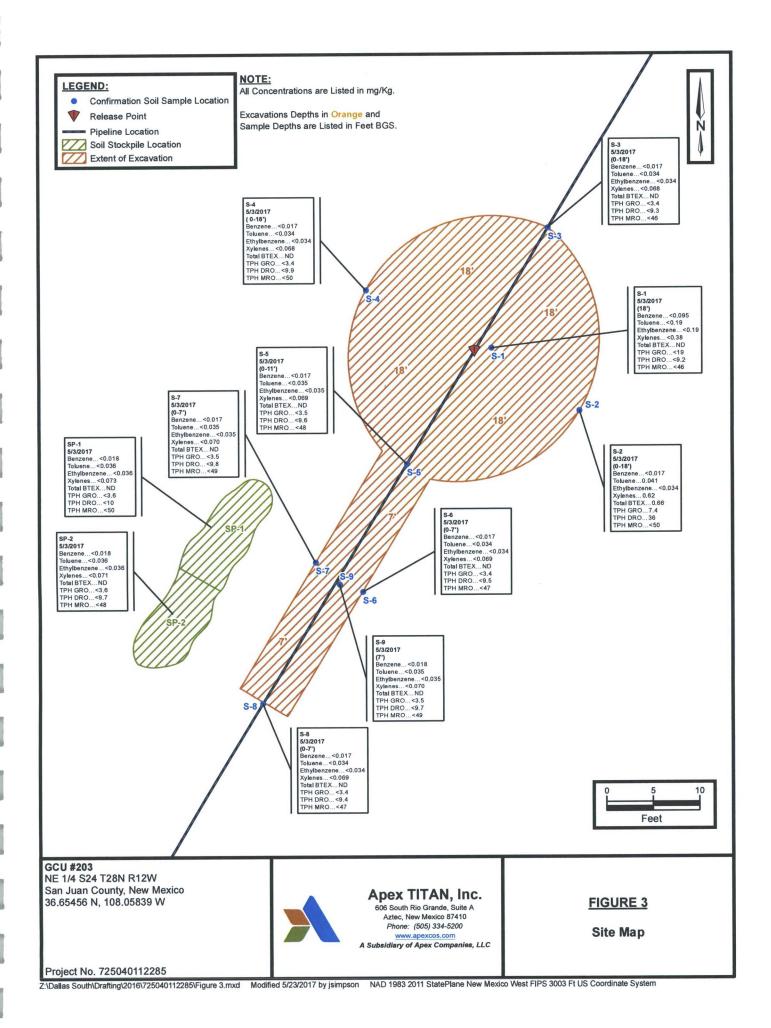


APPENDIX A

Figures









# **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 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 97057-0841 Oil Conservation Division 1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-138 Revised 08/01/11

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

## REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE 1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: GCU #203 Well Tie
3. Location of Material (Street Address, City, State or ULSTR): Unit B Sec 24 T 28N R 12W; 336.65443, -108.05873  April 2017
4. Source and Description of Waste: Source: Amine Spill Cleanup activities.  Description: Hydrocarbon impacted soil associated with a natural gas pipeline leak.  Estimated Volume 20 vd³ / bbls Known Volume (to be entered by the operator at the end of the haul) 484 vd³ bbls
5. 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-exempt waste.  **Operator Use Only: Waste Acceptance Frequency**   Monthly**   Weekly**   Per Load**  **Description**   Per Load**   Per Load**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, Thomas Long  4-28-17, representative for Enterprise Products Operating authorize Envirotech, Inc. to complete  Generator Signature  the required testing/sign the Generator Waste Testing Certification.  I,
5. Transporter: Foutz and Bursum or subcontractors, Ternes, Lohato, Del Prado Frado Farus
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM01-0011  Address of Facility: Hill Top, NM  Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Waste Acceptance Status:
APPROVED DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Grag Crabtree TITLE: Environmental Manager DATE: 4/28/17

Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615



APPENDIX C

Photographic Documentation





## Photograph 1

Surface expression of the release.



## Photograph 2

Pipeline after repairs.



## Photograph 3

Pipeline excavation, facing northeast.







#### GCU #203 (2017) Well Tie Release

## Photograph 4

View of the excavation, facing southeast



## Photograph 5

Excavation at the point of release, facing northeast.



## Photograph 6

View of the stockpiles.





APPENDIX D

Table



# TABLE 1 GCU #203 Pipeline Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departme	ergy, Mineral & nt, Oil Conserva mediation Action		10	NE	NE	NE	50		100	
				Stock	pile Confirmation Soi	Samples				
SP-1	5.03.17	Stockpile	<0.018	<0.036	<0.036	< 0.073	ND	<3.6	<10	<50
SP-2	5.03.17	Stockpile	<0.018	<0.036	<0.036	<0.071	ND	<3.6	<9.7	<48
				Excava	tion Confirmation So	il Samples				
S-1	5.03.17	18	<0.095	<0.19	<0.19	<0.38	ND	<19	<9.2	<46
S-2	5.03.17	0 to 18	<0.017	0.041	<0.034	0.62	0.66	7.4	36	<50
S-3	5.03.17	0 to 18	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.3	<46
S-4	5.03.17	0 to 18	<0.017	<0.034	<0.034	<0.068	ND	<3.4	<9.9	<50
S-5	5.03.17	0 to 11	<0.017	< 0.035	<0.035	<0.069	ND	<3.5	<9.6	<48
S-6	5.03.17	0 to 7	<0.017	<0.034	<0.034	<0.069	ND	<3.4	<9.5	<47
S-7	5.03.17	0 to 7	<0.017	< 0.035	<0.035	<0.070	ND	<3.5	<9.8	<49
S-8	5.03.17	0 to 7	<0.017	<0.034	<0.034	<0.069	ND	<3.4	<9.4	<47
S-9	5.03.17	7	<0.018	< 0.035	<0.035	<0.070	ND	<3.5	<9.7	<49

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



Hall Environmental Analysis Laboratory 4901 Hawkins NE

Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

May 05, 2017

**Kyle Summers** 

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

**FAX** 

**RE: GCU 203** 

OrderNo.: 1705217

#### Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-1

Project: GCU 203

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

Lab ID: 1705217-001

Matrix: MEOH (SOIL) Received Date: 5/4/2017 7:00:00 AM

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

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

- 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 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 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-2

Project: GCU 203

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

Lab ID: 1705217-002

Received Date: 5/4/2017 7:00:00 AM Matrix: MEOH (SOIL)

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

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

- 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
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 12 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-3

Project: GCU 203

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

**Lab ID:** 1705217-003

Matrix: MEOH (SOIL) Received Date: 5/4/2017 7:00:00 AM

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

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

- 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 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 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

GCU 203

Client Sample ID: S-4

Collection Date: 5/3/2017 10:15:00 AM

Project: G

1705217-004

Matrix: MEOH (SOIL) Re

Received Date: 5/4/2017 7:00:00 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	9.9	mg/Kg	1	5/4/2017 1:05:29 PM	31563
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/4/2017 1:05:29 PM	31563
Surr: DNOP	108	70-130	%Rec	1	5/4/2017 1:05:29 PM	31563
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	5/4/2017 10:32:08 AM	G42544
Surr: BFB	101	54-150	%Rec	1	5/4/2017 10:32:08 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.017	mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Toluene	ND	0.034	mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Ethylbenzene	ND	0.034	mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Xylenes, Total	ND	0.068	mg/Kg	1	5/4/2017 10:32:08 AM	B42544
Surr: 4-Bromofluorobenzene	119	66.6-132	%Rec	1	5/4/2017 10:32:08 AM	B42544

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

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

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-5

Project: GCU 203

**Collection Date:** 5/3/2017 10:20:00 AM

**Lab ID:** 1705217-005 **Matrix:** MEOH (SOIL)

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/4/2017 1:27:36 PM	31563
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/4/2017 1:27:36 PM	31563
Surr: DNOP	108	70-130	%Rec	1	5/4/2017 1:27:36 PM	31563
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	5/4/2017 10:56:06 AM	G42544
Surr: BFB	97.4	54-150	%Rec	1	5/4/2017 10:56:06 AM	G42544
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.017	mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Toluene	ND	0.035	mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Ethylbenzene	ND	0.035	mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Xylenes, Total	ND	0.069	mg/Kg	1	5/4/2017 10:56:06 AM	B42544
Surr: 4-Bromofluorobenzene	114	66.6-132	%Rec	1	5/4/2017 10:56:06 AM	B42544

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

- 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 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 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-6

Project: GCU 203

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

Lab ID: 1705217-006

Matrix: MEOH (SOIL)

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

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

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

- 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 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 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-7

Project: GCU 203

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

Lab ID: 1705217-007

Matrix: MEOH (SOIL) Received Date: 5/4/2017 7:00:00 AM

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

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

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

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-8

Project: GCU 203

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

Lab ID: 1705217-008

Matrix: MEOH (SOIL)

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

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

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

- 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
- % 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 8 of 12 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1705217

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-9

Project: GCU 203

Collection Date: 5/3/2017 10:40:00 AM

Lab ID: 1705217-009

Matrix: MEOH (SOIL) Received Date: 5/4/2017 7:00:00 AM

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

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

- 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 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.

WO#:

1705217 05-May-17

Client:

APEX TITAN

Project:

GCU 203

Sample ID	MR-31564

SampType: MBLK

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

Client ID: PRS Batch ID: 31564

PQL

RunNo: 42525

%RPD

%RPD

Prep Date: 5/4/2017

Result

SeqNo: 1337677

Units: %Rec

Analyte

Analysis Date: 5/4/2017

LowLimit

70

HighLimit

**RPDLimit** Qual

Surr: DNOP

8.1

SPK value SPK Ref Val 10.00

81 1 TestCode: EPA Method 8015M/D: Diesel Range Organics

130

Sample ID LCS-31564

SampType: LCS

%REC

Client ID: LCSS Batch ID: 31564

RunNo: 42525

Prep Date: 5/4/2017 Analysis Date: 5/4/2017

SegNo: 1337679

Units: %Rec

Analyte

%REC

HighLimit

Qual

Surr: DNOP

4.6

48

SPK value SPK Ref Val 5.000

LowLimit 92.2

70

**RPDLimit** 

Sample ID LCS-31563

SampType: LCS

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

Client ID: LCSS

Batch ID: 31563

RunNo: 42534

Prep Date:

5/4/2017

Analysis Date: 5/4/2017

SeqNo: 1337721

Units: mg/Kg

Qual

Analyte Diesel Range Organics (DRO)

SPK value SPK Ref Val

%REC LowLimit %RPD

**RPDLimit** 

Surr: DNOP

Result PQL

10

50.00

95.9 63.8 HighLimit 116

130

4.8

5.000

95.2

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

Client ID: PBS

Sample ID MB-31563

SampType: MBLK Batch ID: 31563

RunNo: 42534

Analyte

Prep Date: 5/4/2017

Analysis Date: 5/4/2017 **PQL** 

SeqNo: 1337722

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

Qual

Qual

10

10.00

105

70

%RPD HighLimit

**RPDLimit** 

Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)

Surr: DNOP

Result

ND ND

10

50

130

Sample ID MB-31549

SampType: MBLK

70

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

Client ID:

Prep Date: 5/3/2017 Analyte

PBS

Batch ID: 31549 Analysis Date: 5/4/2017

PQL

PQL

10.00

5.000

SPK value SPK Ref Val

RunNo: 42525

SPK value SPK Ref Val %REC

SeqNo: 1338403

LowLimit

Units: %Rec

**RPDLimit** 

Surr: DNOP

Sample ID LCS-31549

SampType: LCS

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

834

SeqNo: 1338404

70

%RPD

%RPD

Client ID: LCSS

Prep Date: 5/3/2017

Batch ID: 31549 Analysis Date: 5/4/2017

Result

Result

4.5

8.3

RunNo: 42525

%REC

90.5

70

LowLimit

Units: %Rec

HighLimit

130

HighLimit

130

**RPDLimit** 

Page 10 of 12

Analyte Surr: DNOP

Qualifiers:

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

H Holding times for preparation or analysis exceeded 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

Not Detected at the Reporting Limit ND R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1705217

05-May-17

**Client:** 

**APEX TITAN** 

Project:

GCU 203

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

LowLimit

76.4

54

Client ID: **PBS** 

Batch ID: **G42544** 

RunNo: 42544

Prep Date: Analyte

Analysis Date: 5/4/2017

PQL

SeqNo: 1338370

Units: mg/Kg

Qual

Gasoline Range Organics (GRO)

ND 5.0

SampType: LCS

1000

SPK value SPK Ref Val %REC

104

HighLimit 150 **RPDLimit** 

Surr: BFB

1000

Result

TestCode: EPA Method 8015D: Gasoline Range

%RPD

Sample ID 2.5UG GRO LCS

Client ID: LCSS

Batch ID: G42544

RunNo: 42544

Prep Date:

Analysis Date: 5/4/2017

SeqNo: 1338371

Units: mg/Kg

%RPD

Analyte Gasoline Range Organics (GRO) Result PQL %REC

**RPDLimit** Qual

SPK value SPK Ref Val 25.00 1000

94.3 111 HighLimit 125

Surr: BFB

5.0

54 150

Sample ID 1705217-001AMS Client ID: S-1

SampType: MS

24

1100

Batch ID: G42544

TestCode: EPA Method 8015D: Gasoline Range RunNo: 42544

150

150

Prep Date:

Analysis Date: 5/4/2017

SeqNo: 1338372

0

0

Units: mg/Kg

Page 11 of 12

Analyte Gasoline Range Organics (GRO) Result PQL

90

Result

SPK value SPK Ref Val 94.55

3782

%REC 95.4 112

LowLimit **HighLimit** 61.3 54

%RPD

**RPDLimit** Qual

Qual

Surr: BFB

4200

SampType: MSD

19

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

Client ID: Prep Date:

Sample ID 1705217-001AMSD

Batch ID: G42544

RunNo: 42544

113

Analyte

Analysis Date: 5/4/2017 PQL

SeqNo: 1338373

Units: mg/Kg HighLimit

%RPD **RPDLimit** 

Gasoline Range Organics (GRO) Surr: BFB

88 19 4300

94.55 3782

SPK value SPK Ref Val %REC 0 92.8

61.3 54 150 150

2.72 20 0 0

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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1705217

05-May-17

Client:

APEX TITAN

**Project:** 

GCU 203

Sample ID RB	Samp1	ype: ME	BLK	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batcl	n ID: <b>B4</b>	2544	R	RunNo: 4						
Prep Date:	Analysis D	Date: 5/	4/2017	S	SeqNo: 1	338380	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.025									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.2		1.000		123	66.6	132				

Sample ID 100NG BTEX LC	Samp	ype: LC	S	Tes	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batc	h ID: <b>B4</b>	2544	F	RunNo: 42544								
Prep Date:	Analysis [	Date: 5/	4/2017	8	SeqNo: 1	338381	Units: mg/h	(g					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	0.94	0.025	1.000	0	93.6	80	120						
Toluene	0.95	0.050	1.000	0	95.3	80	120						
Ethylbenzene	0.96	0.050	1.000	0	96.4	80	120						
Xylenes, Total	3.0	0.10	3.000	0	98.3	80	120						
Surr: 4-Bromofluorobenzene	1.2		1.000		119	66.6	132						

Sample ID 1705217-002AMS	SampTy	pe: MS	3	TestCode: EPA Method 8021B: Volatiles								
Client ID: S-2	Batch	ID: <b>B4</b>	2544	F	RunNo: 42544							
Prep Date:	Analysis Da	ate: 5/	4/2017	S	SeqNo: 1	338382	Units: mg/K	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	0.64	0.017	0.6720	0.008198	94.4	61.5	138					
Toluene	0.66	0.034	0.6720	0.04086	92.9	71.4	127					
Ethylbenzene	0.67	0.034	0.6720	0.02890	95.3	70.9	132					
Xylenes, Total	2.1	0.067	2.016	0.6172	71.3	76.2	123			S		
Surr: 4-Bromofluorobenzene	0.80		0.6720		120	66.6	132					

Sample ID 1705217-002AMS	D SampT	ype: MS	SD	Tes	TestCode: EPA Method 8021B: Volatiles							
Client ID: S-2	Batch	ID: <b>B4</b>	2544	F	RunNo: 42544							
Prep Date:	Analysis D	ate: 5/	4/2017	8	SeqNo: 1	338383	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	0.64	0.017	0.6720	0.008198	93.9	61.5	138	0.461	20			
Toluene	0.66	0.034	0.6720	0.04086	92.6	71.4	127	0.243	20			
Ethylbenzene	0.67	0.034	0.6720	0.02890	96.1	70.9	132	0.810	20			
Xylenes, Total	2.1	0.067	2.016	0.6172	71.5	76.2	123	0.108	20	S		
Surr: 4-Bromofluorobenzene	0.80		0.6720		119	66.6	132	0	0			

- \* 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 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

		Website. It it it.	anenvii o	rancri	ur.com		
Client Name:	APEX AZTEC	Work Order Number	r: <b>1705</b> 2	217		RcptN	o: 1
Received By: Completed By: Reviewed By:	Ashley Gallegos Ashley Gallegos ENIM	5/4/2017 7:00:00 AM 5/4/2017 7:38:39 AM 05/04/17			A		
Chain of Cus	tody						
	ls intact on sample bo	ottles?	Yes	;	No	Not Present ✔	
	custody complete?		Yes		No	Not Present	
	sample delivered?		Cour				
Log In							
4. Was an atte	mpt made to cool the	samples?	Yes	~	No	NA	1
5. Were all san	nples received at a ter	mperature of >0° C to 6.0°C	Yes	<b>v</b>	No	NA ·	
6. Sample(s) in	n proper container(s)?		Yes	<b>V</b>	No		
7. Sufficient sar	mple volume for indica	ated test(s)?	Yes	✓.	No		
8. Are samples	(except VOA and ON	G) properly preserved?	Yes	<b>V</b>	No		
9. Was preserv	ative added to bottles	?	Yes	:	No 🗸	NA	
10.VOA vials ha	ve zero headspace?		Yes	1	No	No VOA Vials	
11. Were any sa	imple containers rece	ived broken?	Yes	:	No 🗸	# of preserved bottles checked	
	ork match bottle labe		Yes	<b>~</b>	No	for pH:	2 or >12 unless noted)
	correctly identified or		Yes	<b>V</b>	No .	Adjusted?	
14. Is it clear who	at analyses were requ	ested?	Yes	<b>V</b>	No	:	
	ling times able to be r customer for authoriza		Yes	<b>V</b>	No	Checked by	:
Special Hand	ling (if applicable	<u>e)</u>					
16. Was client no	otified of all discrepan	cies with this order?	Yes		No ·	NA 🗸	
Person	Notified:	Date	SECTION : DEPOSIT	Paragon	ele. Jaren den en e		
By Who	om:	Via:	eMa		Phone Fax	In Person	
Regard	ling:	S de Martin M. (1). Prince de Minderstall (2) (2) Prince de l'Arque de la communication de la communic	porterior des singlishes	Section 611464	THE STATE OF THE S		
Client I	nstructions:	and the same in the contract of the same same same same same same same sam	THE STREET LAND		and the second s	AND STATE OF THE S	
17. Additional re	marks:						
18. Cooler Infor		ition   Seal Intact   Seal No   Yes	Seal Da	ate	Signed By	-	

																					CHAIN OF CUSTODY RECORD
>						Laboratory:		Vall	1	011					LYSIS		3/				Lab use only Due Date:
APE	=X	4				Address:	Laboratory: <u>Hall Env</u> Address: <u>A3-2 Nm</u>										San				Temp. of coolers 1-1+0.4
Office Lo	-/ \	Az	tel	•	NM	/ tudi 000	-	1 8					_			100	4		/	/ /	when received (C°): [ · LC
Office Ed	cauon					Contact:	Contact: A. Freenen									M	//	/ /	/ /		1 2 3 4 5
						Phone:									3			/		/	Page of
Project N	lanage	er K	S	Jin!	Mars										\$/	9		/	. /		/ / /
Sampler's I						Sampler's Signa	ature	1					_	1	/`	V		/ '	/ /	/ /	/ / /
(	had	DI	Jon	nti.		and	1	1/	7						O TE		/ /	/ /	/ /		
Proj. No.			Proje	ct Na	ime	No/Type of Containers							2	40	/ /	. /		/	/		
7350401	1228	85	C	G	GCU	#203	-	-				1		6	TY				/	/ /	/ /
	ate	Time	CoEp	G r a b	Identifying Mar	ks of Sample(s)	Start	End	VOA	AG T	250 III	Glass	P/0		3						Lab Sample ID (Lab Use Only)
5 5-3	-17/	1000			5-1							1		1	1						1705217 - 001
	/	1005			3-2							1			1						- 002
	1	010			5-3							1									-003
	1	015			5-4							1									- 004
	1	020			5-5							1									- 055
	1	1025			5-6							1									-006
		1030			5-7							i									-007
	10	035			5-8							i			/						- 008
	1	040			5-9							!									-009
W.								_									7	1	57		
Turn around		Non	mal	_			100%		Sa	ne	De	~									
Relinquishe	120	t			Date:	Time: Receiv	دمعا	+ W	لحك	5		Date: 5   3	In	/3	ne:	NOTE	:S:	1			lean (Gloral)
Relinquishe	d by (S	ignature)				Time: Receive	ed by:	(Signa	ture)			Date:	1	700	ne:	B	://	10	100	7 20	ong const
Relinquishe	ed by (S	signature)				Time: Receiv	ed by:	(Sign	iture)	0	20	Date:			ne:	AFI	e #	N	30	37	long (Elrod)
Relinquishe	ed by (S	ignature)		1	Date:	Time: Receiv	ed by:	(Signa	ture)			Date:	1	Tin	ne:						
Matrix	ww.	- Wastewat	ter		W - Water S	S - Soil SD - So	lid I	Llqui	d A	- Air B	ag	C-	Cha	rcoal tul	е :	SL - slu	dge		O - Oil		



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

May 05, 2017

**Kyle Summers** 

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

**FAX** 

**RE: GCU 203** 

OrderNo.: 1705219

#### Dear Kyle Summers:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1705219

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

GCU 203

Client Sample ID: SP-1

Project: Lab ID: 1705219-001

Matrix: MEOH (SOIL) Received Date: 5/4/2017 7:00:00 AM

Collection Date: 5/3/2017 10:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	3			Analys	t: JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/4/2017 10:44:35 AM	31564
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/4/2017 10:44:35 AM	31564
Surr: DNOP	86.8	70-130	%Rec	1	5/4/2017 10:44:35 AM	31564
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	5/4/2017 10:16:29 AM	G42543
Surr: BFB	108	54-150	%Rec	1	5/4/2017 10:16:29 AM	G42543
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.018	mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Toluene	ND	0.036	mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Ethylbenzene	ND	0.036	mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Xylenes, Total	ND	0.073	mg/Kg	1	5/4/2017 10:16:29 AM	B42543
Surr: 4-Bromofluorobenzene	109	66.6-132	%Rec	1	5/4/2017 10:16:29 AM	B42543

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

- 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
- RPD outside accepted recovery limits R
- % 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 1 of 5 J
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1705219

Date Reported: 5/5/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Lab ID:

Project: GCU 203

1705219-002

Client Sample ID: SP-2

Collection Date: 5/3/2017 10:50:00 AM

Matrix: MEOH (SOIL) Received Date: 5/4/2017 7:00:00 AM

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

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

- 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
- % 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 2 of 5 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#: 1705219

05-May-17

Client:

APEX TITAN

Project:

GCU 203

Sample ID	MB-31564
-----------	----------

SampType: MBLK

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

Client ID: **PBS**  Batch ID: 31564

RunNo: 42525

Prep Date: 5/4/2017 Analysis Date: 5/4/2017

SeqNo: 1337677

Units: mg/Kg

HighLimit

Analyte

PQL Result ND 10

SPK value SPK Ref Val %REC LowLimit

%RPD **RPDLimit** Qual

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

ND 50 8.1

81.1

70

Sample ID LCS-31564

SampType: LCS

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

Client ID: LCSS Batch ID: 31564

RunNo: 42525

130

130

Prep Date: 5/4/2017 Analysis Date: 5/4/2017

SegNo: 1337679

Units: mg/Kg

Analyte Diesel Range Organics (DRO) Surr: DNOP

45 4.6

Result

Result

8.3

50.00 5.000

SPK value SPK Ref Val

SPK value SPK Ref Val

10.00

%REC 90.6 92.2

63.8 70

LowLimit

LowLimit

%RPD **RPDLimit** HighLimit 116

Qual

Sample ID MB-31549

SampType: MBLK

TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 42525

70

130

Client ID: Prep Date:

Analyte

**PBS** 5/3/2017

Batch ID: 31549 Analysis Date: 5/4/2017

PQL

PQL

10

SeqNo: 1338403

%REC

83.4

Units: %Rec HighLimit

%RPD

**RPDLimit** Qual

Surr: DNOP Sample ID LCS-31549

5/3/2017

SampType: LCS

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

Client ID: LCSS Batch ID: 31549

RunNo: 42525

Analysis Date: 5/4/2017

SeqNo: 1338404

Units: %Rec HighLimit

%RPD Qual

Page 3 of 5

Analyte

Result

SPK value SPK Ref Val %REC

10.00

90.5

70

**RPDLimit** 

Surr: DNOP

Prep Date:

4.5

5.000

130

# Qualifiers:

R

- 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

- % 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#:

1705219 05-May-17

Client:

**APEX TITAN** 

Project:

GCU 203

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: G42543

RunNo: 42543

Prep Date:

Analysis Date: 5/4/2017

SeqNo: 1338389

Units: mg/Kg

Analyte

Result **PQL** 5.0

HighLimit

Gasoline Range Organics (GRO)

ND

%REC LowLimit

**RPDLimit** Qual

Surr: BFB

920

1000

SPK value SPK Ref Val

SPK value SPK Ref Val

92.0

54

TestCode: EPA Method 8015D: Gasoline Range

150

%RPD

Sample ID 2.5UG GRO LCS

SampType: LCS

Batch ID: **G42543** 

**PQL** 

RunNo: 42543

Prep Date:

Client ID: LCSS

Analysis Date: 5/4/2017

SeqNo: 1338390 %REC

Units: mg/Kg HighLimit

Analyte Gasoline Range Organics (GRO) Result

25.00 1000 99.3 101

76.4 54

%RPD 125

**RPDLimit** Qual

Page 4 of 5

Surr: BFB

25 5.0 1000

0

LowLimit

150

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

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#: 1705219

05-May-17

Client:

APEX TITAN

Project:

GCU 203

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

66.6

Client ID: PBS Batch ID: **B42543** 

**PQL** 

0.025

0.050

0.050

0.10

RunNo: 42543

Prep Date:

Analysis Date: 5/4/2017

Result

ND

ND

ND

ND

SeqNo: 1338395

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

%RPD

%RPD

%RPD

**RPDLimit** 

**RPDLimit** 

Qual

Qual

Qual

HighLimit

**RPDLimit** Qual

Analyte Benzene Toluene Ethylbenzene

Xylenes, Total Surr: 4-Bromofluorobenzene

Sample ID 100NG BTEX LCS

1.0 SampType: LCS

103 TestCode: EPA Method 8021B: Volatiles

132

Client ID: LCSS

Batch ID: **B42543** 

RunNo: 42543

Prep Date:

Analysis Date: 5/4/2017

SeqNo: 1338396

Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Benzene	0.89	0.025	1.000	0	89.3	80	120
Toluene	0.92	0.050	1.000	0	92.0	80	120
Ethylbenzene	0.93	0.050	1.000	0	93.5	80	120
Xylenes, Total	2.8	0.10	3.000	0	95.0	80	120
Surr: 4-Bromofluorobenzene	1.1		1.000		108	66.6	132

1.000

Sample ID 1705219-001AMS

SampType: MS

Result

TestCode: EPA Method 8021B: Volatiles

LowLimit

Client ID: SP-1

Batch ID: **B42543** Analysis Date: 5/4/2017

PQL

RunNo: 42543 SeqNo: 1338397

%REC

Units: mg/Kg

**HighLimit** 

1		
	Analyte	
b	Benzene	
	Toluene	
	Ethylbenzene	
	Xylenes, Total	

Prep Date:

0.68 0.018 0.7283 93.9 61.5 138 0.71 0.7283 96.3 127 0.036 0.009504 71.4 0.72 0.036 0.7283 0.01038 96.9 70.9 132 0.073 98.0 76.2 123 2.2 2.185 0.02822 0.79 0.7283 109 66.6 132

SPK value SPK Ref Val

Sample ID 1705219-001AMSD Client ID: SP-1

SampType: MSD Batch ID: **B42543**  TestCode: EPA Method 8021B: Volatiles

Surr: 4-Bromofluorobenzene

RunNo: 42543

Analyte
Benzene
Toluene
Ethylbenzene

Prep Date:	Analysis Date: 5/4/2017			S	SeqNo: 1	338398	Units: mg/K			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	
Benzene	0.67	0.018	0.7283	0	91.3	61.5	138	2.79	20	
Toluene	0.68	0.036	0.7283	0.009504	92.0	71.4	127	4.43	20	
Ethylbenzene	0.69	0.036	0.7283	0.01038	93.8	70.9	132	3.19	20	
Xylenes, Total	2.1	0.073	2.185	0.02822	95.9	76.2	123	2.15	20	
Surr: 4-Bromofluorobenzene	0.80		0.7283		109	66.6	132	0	0	

- 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
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits J
- Page 5 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 4901 Hawkins NE Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenviro.mental.com

## Sample Log-In Check List

APEX AZTEC Work Order Number: 1705219 RcotNo: 1 Client Name: Received By: **Ashley Gallegos** 5/4/2017 7:00:00 AM 5/4/2017 7:46:55 AM Completed By: **Ashley Gallegos** 05/04/17 Reviewed By: ENM Chain of Custody Not Present ✔ No 1. Custody seals intact on sample bottles? Yes Not Present 2. Is Chain of Custody complete? No 3. How was the sample delivered? Courier Log In 4. Was an attempt made to cool the samples? No 5. Were all samples received at a temperature of >0° C to 6.0°C NA No 6. Sample(s) in proper container(s)? No 7. Sufficient sample volume for indicated test(s)? 8. Are samples (except VOA and ONG) properly preserved? No No W 9. Was preservative added to bottles? Yes No VOA Vials ✔ No 10. VOA vials have zero headspace? Yes 11. Were any sample containers received broken? Yes No # of preserved bottles checked for pH: 12. Does paperwork match bottle labels? No Yes (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? No 14. Is it clear what analyses were requested? No Checked by: 15. Were all holding times able to be met? No (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes No Person Notified: Date By Whom: Via: Phone In Person eMail Fax Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date

																		CHA	AIN OF	CUS	TODY R	ECORD	
Offic	Proj. No. Project Name				nes	Laboratory: Hall Env Address: ABQ NM  Contact: A Freenan Phone: PO/SO#: Sampler's Signature						ANALYS	/ >	5				Lab Due Temp	Date:  Da	1./40.50 1°): /-0 4   5	OF.		
Proj. î					ıme	#20		_		ype of C	Contain	ers		X	9//	//	//	//	f				
Matrix	Date	Time	CoEo	Grab	V	rks of Sample(s)		End	VOA	AVG 1LG	250 m	Glass	D/O	134	///	//	///	//	Lab :	Sample	D (Lab Use	Only)	
5	5-3-17	1045	-		Sp-							1		111					1700	219	- 0	100	
5	5-3-17	1050			58							1		1								02	
		-														V.	Es.						
Relino	uished by (	(Signature)		S	Date: 1.8	Time: Receiv	rec by:	(Signa (Signa	Scanture)	te illi	5	Date	7	Time: 13.15 Time: 7.0700 Time:	NOTES:	6	Br	· la	ng	4	Dank	/	
Relino Matrix Contain	uished by (	(Signature) V - Wastewa A - 40 ml via	ter			Time: Receiv	red by:	/	iture)	- Air Ba	ag		- Cha	Time:	SL - sludge		N 30	37/			Dr.		

District 1

de 25 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

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

Form C-141

				Sai	ita i	c, INIVI 075	703					
		F	Releas	e Notifica	atio	n and C	orrective	Acti	on			
					OF	PERATO	2		Initial F	Report	$\boxtimes$	Final Report
Name of Co	ompany: I	Enterprise F	ield Serv	rices LLC		Contact: T	homas Long					
Address: 61	14 Reilly A	ve, Farmin	gton, NM	87401		Telephone	No. 505-599	-2286/5	05-599-2	124		
Facility Nan	ne: Gordo	on #3				Facility Type	oe: Natural G	as Gat	hering Pi	peline		
Surface Ow	ner: BLM			Mineral O	wner	BLM			Serial N	lo. NM	00093	808
				LOCA	TIOI	VOE REI	EASE					
Unit Letter P	Section 23	Township 27N	Range 10W	Feet from the 767	Nort Line	K/South	Feet from the 953	East/ Line	West	County San Jua	an	
		*	Latitude	36.555580 NATU		ongitude <u>f</u>		NAD 8	33			
Type of Rele	ase: Natur	al Gas and N	latural Ga	s Liquids		Volume o Gas; 10-1 Condens		MCF	Volume F	Recovere	d: <b>Non</b>	e
Source of Re	elease: Inte	rnal corrosio	n			Date and	Hour of Occur @ 3:00 p.m.	rence:	Date and 3/28/2017			ery:
Was Immedia	ate Notice		_			If YES, To	Whom? Cour	tesy Not				- NMOCD
- 1100 0 1			s 📙 No	Not Requ	uired	•	Thomas-BLM					
By Whom? Was a Water							Hour April 6, 2 olume Impactin					
Tras a Trais.			☐ Yes	⊠ No				9				
If a Watercou					00.0	0.17 = 1					1 11	0 1 1
during. Enter	rprise techr are current	nician verified ly in progres	the leak as and Ente	and the pipelin	e was	isolated, de	ise responded pressurized, lo se is reportable	cked ou	t and tagge	ed out. Re	epairs a	and
mechanical e	excavation. Il was exca	The final ex	cavation vansported	was irregular in to New Mexico	shap	e and varied	ed on May 15, I in depth. Appr Division appro	oximate	ly 2,844 cu	bic yards	of hyd	drocarbon
rules and reg which may e relieve the or ground water	gulations al ndanger pu perator of li r, surface y	l operators a ublic health o iability should vaĵer, humar	re required or the envired their ope on health or	d to report and ronment. The a rations have fa the environme	or file accep ailed to ent. In	certain rele- tance of a Co adequately addition, N	st of my knowle ase notification -141 report by to investigate an MOCD accepta aws and/or regi	s and pethe NMC d remed nce of a	erform corre CD marke liate contar C-141 repe	ective act d as "Fin nination t	tions fo al Rep that po	or releases ort" does not se a threat to
Signature:	AN	1. tu	4	6		Approved by	OIL CON	. 1	1	DIVISI	ON	
Printed Name	e: Jon E. F	ields			$\rightarrow$	, ,pp.0100 b	, =	a. opool		سا	5	
Title: Directo	r, Environn	nental				Approval Da	ate: 133	710	Expiration	Date:		
E-mail Addre	ess:jefields(	@eprod.com				Conditions	of Approval:					

\* Attach Additional Sheets If Necessary

Phone: (713) 381-6684

NVF1711435283

54

Attached



#### **CORRECTIVE ACTION REPORT**

Property:

Gordon #3 Well Tie SE 1/4, S23 T27N R10W San Juan County, New Mexico

August 15, 2017 Apex Project No. 725040112278

Prepared for:

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

Prepared by:

Chad D'Aponti Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

## **TABLE OF CONTENTS**

1.0	INTRO	DUCTION1
	1.1	Site Description & Background1
	1.2	Project Objective1
2.0	SITE F	RANKING1
3.0	CORR	ECTIVE ACTIONS
5.0	3.1	Soil Excavation Activities 2
	3.2	Soil Sampling Program3
	3.3	Laboratory Analytical Methods3
4.0	DATA	EVALUATION3
	4.1	Confirmation Soil Samples3
5.0	FINDI	NGS AND RECOMMENDATIONS4
6.0	STANI	DARD OF CARE, LIMITATIONS, AND RELIANCE5
LIST	OF AP	PENDICES
Арре	endix A	: Figure 1 – Topographic Map Figure 2 – Site Vicinity Map Figure 3 – Site Map
Appe	endix B	Executed C-138 Solid Waste Acceptance Forms
Appe	endix C	: Photographic Documentation
Арре	endix D	: Table
Appe	endix E	: Laboratory Data Sheets & Chain of Custody Documentation



#### CORRECTIVE ACTION REPORT

Gordon #3 Well Tie SE 1/4, S23 T27N R10W San Juan County, New Mexico

Apex Project No. 725040112278

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Gordon #3 Well Tie release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southeast (SE) ¼ of Section 23, Township 27 North, Range 10 West, in rural San Juan County, New Mexico (36.55558N, 107.85931W), referred to hereinafter as the "Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which transects the area from approximately northwest to southeast.

On March 28, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On April 6, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and placed back into service.

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

#### 1.2 Project Objective

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

#### 2.0 SITE RANKING

In accordance with the New Mexico 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.



Rank	ring Criteria		Ranking Score
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	20
	>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 Curfose Weter	<200 feet	20	
Distance to Surface Water Body	200 to 1,000 feet	10	10
Body	>1,000 feet	0	
Total R	anking Score		30

Based on Apex's evaluation of the scoring criteria, the Site would earn a maximum Total Ranking Score of "30". This ranking is based on the following:

- No water wells were identified on the OSE website within one mile of the Site. Due to the
  proximity to the upper Armenta Canyon arroyo, groundwater may be encountered at
  depths of less than 50 feet below grade surface (bgs). This information supports a
  ranking score of "20" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking score of "0".
- The release point is located approximately 450 feet from the main channel of the upper Armenta Canyon arroyo which is identified as a "blue line" on the United States Geological Survey topographic map, resulting in a distance to surface water ranking score of "10".

#### 3.0 CORRECTIVE ACTIONS

#### 3.1 Soil Excavation Activities

On March 28, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On April 6, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and placed back into service. During the pipeline repair and corrective action activities, Foutz & Bursum Construction Co Inc., provided heavy equipment and labor support, and Apex provided environmental support.

Enterprise performed remediation excavation activities between April 6, 2017 and May 15, 1017. A total of ten (10) final confirmation soil samples (S-1b through S-10) were collected from the sidewalls and floor of the final excavation for laboratory analysis.

The overall final excavation measured approximately 70 feet (east-west) by 60 feet (north-south), with a total maximum depth of approximately 36 feet bgs in the central portion of the excavation.

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



A total of approximately 2,844 cubic yards of hydrocarbon affected soils were transported to the Envirotech landfarm (Envirotech) near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

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

#### 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of ten (10) final confirmation soil samples (S-1b through S-10) from the excavation. These samples were subsequently submitted for laboratory analysis. **Figure 3** depicts the approximate location of the excavated area and depicts the final confirmation sample locations in relation to the final excavation dimensions (**Appendix A**).

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

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the New Mexico EMNRD OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation samples (S-1b through S-10) to the New Mexico EMNRD OCD *RALs* for sites having a total ranking score of "30". Interim excavation sample S-1 was removed by excavation and is not included in the following discussion.



- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate total BTEX concentrations ranging from below the PQLs to 0.20 mg/kg (S-10), which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate combined TPH GRO/DRO/MRO concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "30".

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

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Gordon #3 Well Tie release site is located within the Enterprise ROW in the SE ¼ of Section 23, Township 27 North, Range 10 West, in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which transects the area from approximately northwest to southeast.

On March 28, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On April 6, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential impacts from petroleum hydrocarbons. The pipeline was subsequently repaired and placed back into service.

- The primary objective of the corrective action was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand.
- The overall final excavation measured approximately 70 feet (east-west) by 60 feet (north-south), with a total maximum depth of approximately 36 feet bgs in the central portion of the excavation.
- Prior to backfilling, ten (10) final confirmation soil samples were collected from the excavation and submitted for laboratory analysis. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs for a Site ranking of "30".
- A total of approximately 2,844 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

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



#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

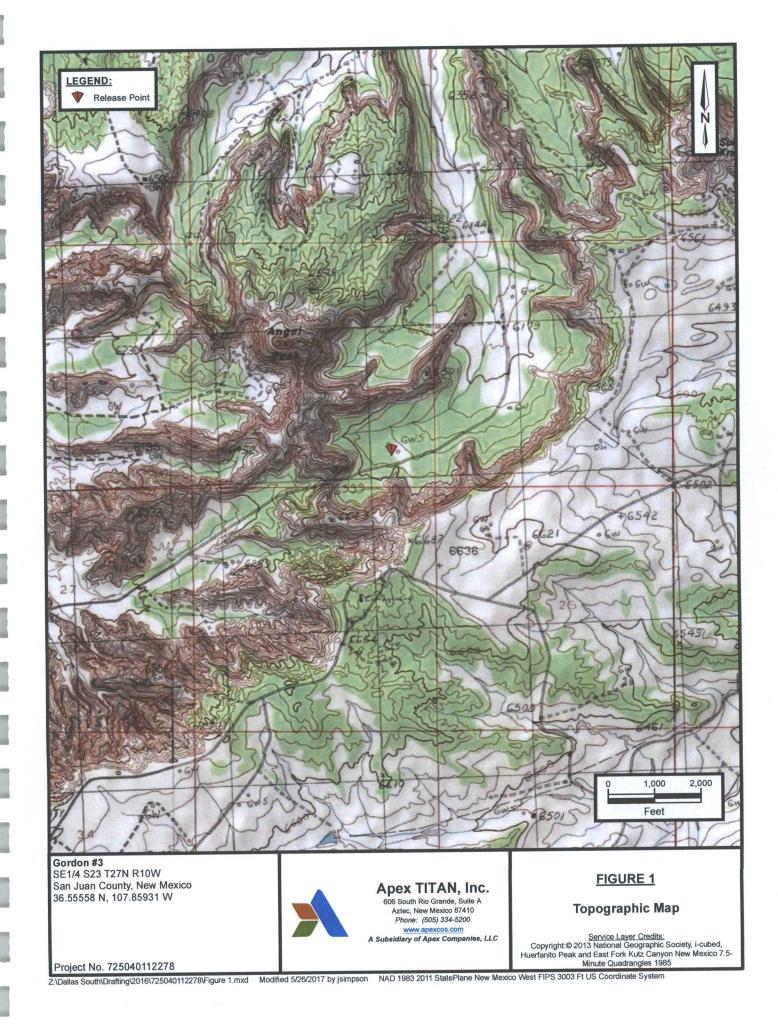
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

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



APPENDIX A

Figures





SE1/4 S23 T27N R10W San Juan County, New Mexico 36.55558 N, 107.85931 W



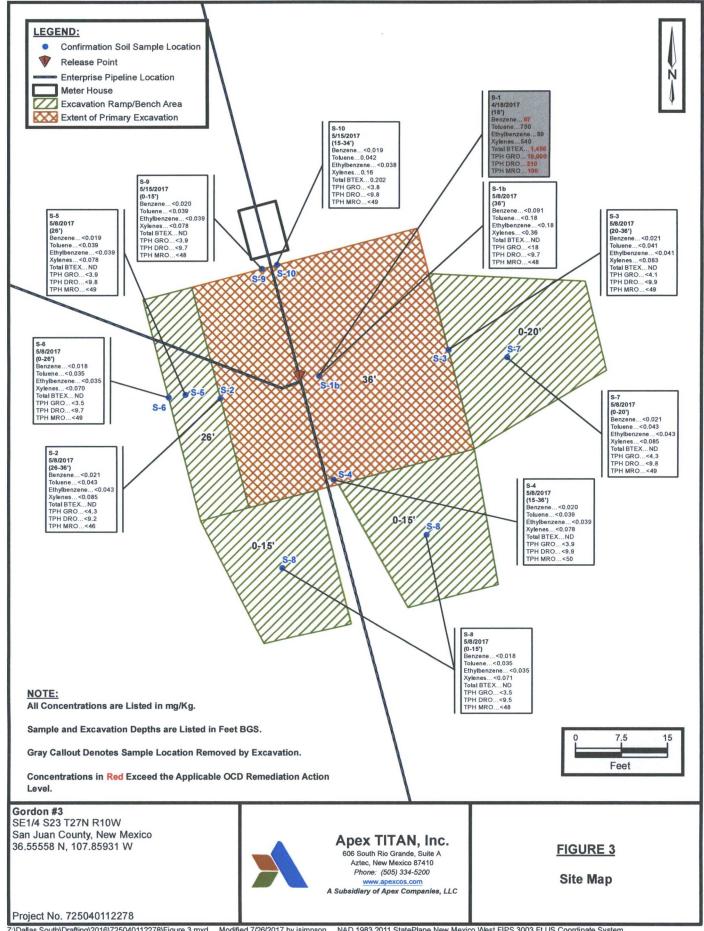
Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200 www.apexcos.com
A Subsidiary of Apex Companies, LLC

#### FIGURE 2

**Site Vicinity Map** 

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

Project No. 725040112278





**APPENDIX B** 

Executed C-138 Solid Waste Acceptance Forms

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

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

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 97257-084D 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

	Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2.	Originating Site: Gordon #3 Pipeline
	Location of Material (Street Address, City, State or ULSTR): Unit Letter P, Section 23, T27N, R10W; 36.5555580, -107.859306  April 2017
4. 5.	Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.  Estimated Volume50yd <sup>3</sup> bbls Known Volume (to be entered by the operator at the end of the haul)2070yd <sup>3</sup> / bbls
5.	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, T	representative or authorized agent for Enterprise Field Services, LLC do hereby  COMPANY NAME  fig that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988
	latory 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, Z	4-6-17 , representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to
	plete the required testing/sign the Generator Waste Testing Certification.
of th	, representative for <u>Envirotech, Inc.</u> do hereby certify that esentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results be representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 5.36 NMAC.
6.	Transporter: Foutz & Bursum, AM Trucking, Esparza, Prado Farms, M+I, Envirotech. Ternco
Name	Permitted Surface Waste Management Facility e and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 ess of Facility: Hilltop, NM
Meth	od of Treatment and/or Disposal:    Evaporation   Injection   Treating Plant   Landfarm   Landfill   Other
Wast	e Acceptance Status:
PRIN	T NAME: Gray Crantree TITLE: Environmental Manager DATE: 4/7/17
	ATURE: TELEPHONE NO.: 505-632-0615  Surface Waste Management Facility Authorized Agent

<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

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

Form C-138 Energy Minerals and Natural Resources 97057-0840 Revised August 1, 2011

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. Originating Site: Gordon #3 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter P, Section 23, T27N, R10W; 36.5555580, -107.859306  May 2017
4. Source and Description of Weste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.  5. Estimated Volume 50 (yd³) bbls Known Volume (to be entered by the operator at the end of the haul) 774 (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,, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to Generator Signature
complete the required testing/sign the Generator Waste Testing Certification.
I,
6. Transporter: Foutz & Bursum, Ternco, M+ I, Frada Farms
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011  Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Dandfill Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Greg Crabtree TITLE: Environmental Manager DATE: 5/5/1-7
SIGNATURE: TELEPHONE NO.: 505-632-0615



APPENDIX C

Photographic Documentation



## Photograph 1

View of the in-process excavation activities, facing north.



## Photograph 2

View of the excavation, facing north.



#### Photograph 3

View of the excavation, facing east.







Gordon #3 (2017) Well Tie Release

## Photograph 4

View of the in-process excavation activities.



## Photograph 5

View of the excavation with southern portion backfilled to allow additional excavation of the north wall (facing west).



## Photograph 6

View of the in-process excavation of north wall after southern portion backfilled for pipeline support.





APPENDIX D

Table



# TABLE 1 Gordon #3 Well Tie Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departmen	New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			NE	NE	NE	50		100	
<b>经</b> 基本的自己的				Interim Excar	ration Sample Remov	ed by Excavation				Vehicle Service
S-1	4.18.19	18	97	730	89	540	1,456	19,000	210	100
				Ov	er-Excavation Soil Sa	imples				
S-1b	5.08.17	36	<0.091	<0.18	<0.18	< 0.36	ND	<18	<9.7	<48
S-2	5.08.17	26 to 36	<0.021	<0.043	<0.043	<0.085	ND	<4.3	<9.2	<46
S-3	5.08.17	20 to 36	<0.021	<0.041	<0.041	<0.083	ND	<4.1	<9.9	<49
S-4	5.08.17	15 to 36	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.9	<50
S-5	5.08.17	26	<0.019	< 0.039	<0.039	<0.078	ND	<3.9	<9.8	<49
S-6	5.08.17	0 to 26	<0.018	< 0.035	<0.035	<0.070	ND	<3.5	<9.7	<49
S-7	5.08.17	0 to 20	<0.021	< 0.043	<0.043	<0.085	ND	<4.3	<9.8	<49
S-8	5.08.17	0 to 15	<0.018	<0.035	<0.035	< 0.071	ND	<3.5	<9.5	<48
S-9	5.15.17	0 to 15	<0.020	<0.039	<0.039	<0.078	ND	<3.9	<9.7	<48
S-10	5.15.17	15 to 34	<0.019	0.042	<0.038	0.16	0.20	<3.8	<9.8	<49

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not Established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

April 20, 2017

**Kyle Summers** 

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Gordon 3

OrderNo.: 1704813

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/19/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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

Bulyel

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1704813

Date Reported: 4/20/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-1

Project: Gordon 3

Collection Date: 4/18/2017 2:00:00 PM

Lab ID:

1704813-001

Matrix: MEOH (SOIL)

Received Date: 4/19/2017 6:46:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analyst	ТОМ
Diesel Range Organics (DRO)	210	9.4	mg/Kg	1	4/19/2017 10:42:02 AM	31309
Motor Oil Range Organics (MRO)	100	47	mg/Kg	1	4/19/2017 10:42:02 AM	31309
Surr: DNOP	105	70-130	%Rec	1	4/19/2017 10:42:02 AM	31309
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	19000	1800	mg/Kg	500	4/19/2017 10:29:59 AM	31299
Surr: BFB	109	54-150	%Rec	500	4/19/2017 10:29:59 AM	31299
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	97	0.90	mg/Kg	50	4/19/2017 9:43:13 AM	31299
Toluene	730	18	mg/Kg	500	4/19/2017 10:29:59 AM	31299
Ethylbenzene	89	1.8	mg/Kg	50	4/19/2017 9:43:13 AM	31299
Xylenes, Total	540	36	mg/Kg	500	4/19/2017 10:29:59 AM	31299
Surr: 4-Bromofluorobenzene	120	66.6-132	%Rec	500	4/19/2017 10:29:59 AM	31299

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

- \* 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 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#: 1704813

Qual

**RPDLimit** 

20-Apr-17

Client:

APEX TITAN

Project:

Gordon 3

Sample ID	LCS-31309
-----------	-----------

SampType: LCS

TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 42208

Client ID: LCSS Batch ID: 31309

Prep Date: 4/19/2017 Analysis Date: 4/19/2017 SeqNo: 1326052 Units: mg/Kg

%REC HighLimit Analyte Result **PQL** SPK value SPK Ref Val LowLimit %RPD Diesel Range Organics (DRO) 10 95.0 63.8 48 50.00 116 70 Surr: DNOP 4.5 5.000 89.6 130

Sample ID MB-31309 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: **PBS** Batch ID: 31309 RunNo: 42208 Analysis Date: 4/19/2017 Prep Date: 4/19/2017 SeqNo: 1326053 Units: mg/Kg %REC Result PQL SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 10 10.00 104 70 130

Sample ID 1704813-001AMS TestCode: EPA Method 8015M/D: Diesel Range Organics SampType: MS

Client ID: Batch ID: 31309 RunNo: 42208

4.6

Prep Date: 4/19/2017 Analysis Date: 4/19/2017 SeqNo: 1326438 Units: mg/Kg

4.600

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) 220 9.8 48.97 206.6 19.0 51.6 130 S 130 Surr: DNOP 4.7 4.897 96.9 70

Sample ID 1704813-001AMSD SampType: MSD TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: Batch ID: 31309 RunNo: 42208 Prep Date: Analysis Date: 4/19/2017 SeqNo: 1326439 4/19/2017 Units: mg/Kg %REC Result PQL SPK value SPK Ref Val LowLimit HighLimit %RPD **RPDLimit** Analyte Qual Diesel Range Organics (DRO) 220 9.2 46.00 206.6 19.3 51.6 130 0.193 20 S

100

70

130

0

0

#### **Qualifiers:**

Surr: DNOP

- 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
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- 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 2 of 4

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1704813

20-Apr-17

**Client:** 

**APEX TITAN** 

Project:

Gordon 3

Sample ID MB-31299

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

**PBS** 

Batch ID: 31299

RunNo: 42221

Units: mg/Kg

Prep Date:

4/18/2017

Analysis Date: 4/19/2017 **PQL** 

5.0

SeqNo: 1326923

Gasoline Range Organics (GRO)

Result ND

SPK value SPK Ref Val %REC LowLimit

**HighLimit** 

**RPDLimit** %RPD

Qual

930

1000

93.2

150

Surr: BFB

Sample ID LCS-31299 LCSS

SampType: LCS Batch ID: 31299

**PQL** 

RunNo: 42221

Client ID: Prep Date: 4/18/2017

Analysis Date: 4/19/2017

SeqNo: 1326924

%REC

0

Units: mg/Kg

HighLimit

**RPDLimit** Qual

Analyte Gasoline Range Organics (GRO) Result 25

SPK value SPK Ref Val 5.0 25.00

100

LowLimit

76.4 54

125

%RPD

Page 3 of 4

Surr: BFB

1000

1000

102

150

#### Qualifiers:

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

% Recovery outside of range due to dilution or matrix

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits

- В
- Analyte detected below quantitation limits
- P 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

E Value above quantitation range

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1704813

20-Apr-17

Client:

APEX TITAN

**Project:** 

Gordon 3

Sample ID MB-31299	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	ID: 31	299	R	RunNo: 4	2221				
Prep Date: 4/18/2017	Analysis D	ate: 4/	19/2017	SeqNo: 1326955			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025		*						
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	66.6	132			

Sample ID LCS-31299	LCS-31299 SampType: LCS				TestCode: EPA Method 8021B: Volatiles					
Client ID: LCSS	Batch	n ID: 31	31299 RunNo: 42221							
Prep Date: 4/18/2017	Analysis D	ate: 4/	19/2017	S	SeqNo: 1326956			1326956 Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	107	80	120			
Toluene	1.0	0.050	1.000	0	100	80	120			
Ethylbenzene	1.0	0.050	1.000	0	100	80	120			
Xylenes, Total	2.8	0.10	3.000	0	92.8	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		115	66.6	132			

- \* 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 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 Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name	: APEX AZTE	EC	Work Order	Number:	17048	13		Rop	otNo: 1
Beerland B			4400047.0.4				Analus Abd	മാ	
Received By	-		4/19/2017 6:40				Jimby Heli Jimby Heli	, c	
Completed B			4/19/2017 7:13	3:12 AM			Timolog 4 Hosp	₽D	
Reviewed By	to de	54/19/17							
Chain of C	ustody								
	seals intact on s	ample bottles?			Yes		No	Not Present	· V
2. Is Chain	of Custody comp	plete?			Yes	<b>V</b> :	No	Not Present	
	the sample deliv				Cour	er			
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	<b>~</b>	No	NA	
6. Sample(	s) in proper conta	ainer(s)?			Yes	<b>v</b>	No .	:	
7. Sufficien	t sample volume	for indicated test(s	3)?		Yes	<b>V</b>	No :		
8. Are same	oles (except VOA	and ONG) proper	ly preserved?		Yes	<b>V</b>	No		
9. Was pres	servative added t	to bottles?			Yes		No 🗸	NA NA	
10.VOA viai	s have zero head	ispace?			Yes		No	No VOA Vials	<b>v</b>
11. Were an	y sample contair	ners received broke	en?		Yes		No 🗸	# of preserved	
								bottles checke	
	perwork match be crepancies on ch				Yes	<b>V</b>	No	for pH:	(<2 or >12 unless noted)
•	The second secon	ntified on Chain of	Custody?		Yes	V.	No	Adjuste	
	what analyses v				Yes	<b>v</b>	No		
	holding times ab tify customer for				Yes	<b>v</b>	No	Checked	by:
		•							
Special Ha	ndling (if ap)	olicable)							
16. Was clie	nt notified of all d	liscrepancies with t	his order?		Yes		No	NA	<b>~</b>
Per	son Notified:	GETTALETHERAGESCHEITELLETEN-KEILE-LEN.	Automities at GRA	Date:	net historians	######################################	arang digwiagian at month pintana	27.00	
Ву	Whom:	Control of the Contro		Via:	eMa		Phone Fa		
	garding:		Control in the Prolate Latin Control				ins - Indianam valutist Alle to the sector-do-th common year	geny defendad foliat individualist attended distribution of the contract of th	CAST .
	ent Instructions:								
17. Addition	al remarks:								
18. Cooler I		10					l a	T.	
Coole	r No Temp °C	Good Yes	eal Intact   Sea	INO S	Seal Da	ite	Signed By	-	
I.			-				9 9	1	

				CHAIN OF CUSTODY RECORD
X	V.11	6	ANALYSIS REQUESTED	Lab use only Due Date:
ADEV	Laboratory: 101	thu	1.124020122 / 46/	/ / / /
APEX	Laboratory: Hall Address: AB	a Nn	/00////	Temp. of coolers
Office Location Actec In				when received (C°):
	Contact: K S	ummers		1 2 3 4 5
	Phone:		3/09////	Page of
Project Manager A Summers	PO/SO#:			/ / /
Sampler's Name	Sampier's Signature		1 1/8/ / / / /	/ /
Chad DiAporti	Heat	-0	64-42) 64-61) 64-61)	
Froj. No. Project Name Gos Jo.	#3	No/Type of Containers	The last	/ /
Matrix Date Time Or Identifying Ma.	rks of Sample(s)	VOA 1 LL 250 ml Glass Jar P/O		Lab Sample ID (Lab Use Only)
5 4/18/17 1400 5-1		1	KR	1704813-001
				<del> </del>
			25	
			6 3	
Turn around time ☐ Normal ☐ 25% Rush ☐	350% Rush 2 100% Rush			
1200 4-18-17 16	Time: Received by: (Signa		Time: NOTES:	- 1 - 1
Relinquished by (Signature) Date:	Time: Received by (Signa	ture) (4 of F	Time: Sill 10 /	on long
	Time: Received by: (Signa		Time: AFE H N302	ton long
Relinquished by (Signature) Date:	Time: Received by: (Signa	ture) Date:	Time:	1 1/1
Matrix WW - Wastewater W - Water S Container VOA - 40 mi vial A/G - Amber / O			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

May 10, 2017

**Kyle Summers** 

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

**FAX** 

RE: Gordon #3

OrderNo.: 1705436

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 5/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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 1705436

Date Reported: 5/10/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-3

Gordon #3 Project:

Collection Date: 5/8/2017 1:00:00 PM

Lab ID: 1705436-001

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGI	E ORGANICS	S			Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/9/2017 9:50:33 AM	31634
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/9/2017 9:50:33 AM	31634
Surr: DNOP	119	70-130	%Rec	1	5/9/2017 9:50:33 AM	31634
EPA METHOD 8015D: GASOLINE RANG	E				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	5/9/2017 9:24:01 AM	31610
Surr: BFB	108	54-150	%Rec	1	5/9/2017 9:24:01 AM	31610
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.021	mg/Kg	1	5/9/2017 9:24:01 AM	31610
Toluene	ND	0.041	mg/Kg	1	5/9/2017 9:24:01 AM	31610
Ethylbenzene	ND	0.041	mg/Kg	1	5/9/2017 9:24:01 AM	31610
Xylenes, Total	ND	0.083	mg/Kg	1	5/9/2017 9:24:01 AM	31610
Surr: 4-Bromofluorobenzene	122	66.6-132	%Rec	1	5/9/2017 9:24:01 AM	31610

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

- 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
- RPD outside accepted recovery limits
- % 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 14 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1705436

Date Reported: 5/10/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Gordon #3

Lab ID: 1705436-002 Client Sample ID: S-2

Collection Date: 5/8/2017 1:05:00 PM

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	6			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	5/9/2017 10:12:37 AM	31634
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	5/9/2017 10:12:37 AM	31634
Surr: DNOP	102	70-130	%Rec	1	5/9/2017 10:12:37 AM	31634
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	5/9/2017 9:47:56 AM	31610
Surr: BFB	109	54-150	%Rec	1	5/9/2017 9:47:56 AM	31610
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.021	mg/Kg	1	5/9/2017 9:47:56 AM	31610
Toluene	ND	0.043	mg/Kg	1	5/9/2017 9:47:56 AM	31610
Ethylbenzene	ND	0.043	mg/Kg	1	5/9/2017 9:47:56 AM	31610
Xylenes, Total	ND	0.085	mg/Kg	1	5/9/2017 9:47:56 AM	31610
Surr: 4-Bromofluorobenzene	121	66.6-132	%Rec	1	5/9/2017 9:47:56 AM	31610

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
- RPD outside accepted recovery limits
- % 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 14 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1705436

Date Reported: 5/10/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-1b

Project: Gordon #3 Collection Date: 5/8/2017 1:10:00 PM

Lab ID: 1705436-003 Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	3			Analys	t: TOM	
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/9/2017 10:34:49 AM	31634
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/9/2017 10:34:49 AM	31634
Surr: DNOP	103	70-130	%Rec	1	5/9/2017 10:34:49 AM	31634
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	18	mg/Kg	5	5/9/2017 10:11:52 AM	31610
Surr: BFB	106	54-150	%Rec	5	5/9/2017 10:11:52 AM	31610
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.091	mg/Kg	5	5/9/2017 10:11:52 AM	31610
Toluene	ND	0.18	mg/Kg	5	5/9/2017 10:11:52 AM	31610
Ethylbenzene	ND	0.18	mg/Kg	5	5/9/2017 10:11:52 AM	31610
Xylenes, Total	ND	0.36	mg/Kg	5	5/9/2017 10:11:52 AM	31610
Surr: 4-Bromofluorobenzene	117	66.6-132	%Rec	5	5/9/2017 10:11:52 AM	31610

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

- 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
- % 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 14
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1705436

Date Reported: 5/10/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-4

Project: Gordon #3

Collection Date: 5/8/2017 1:15:00 PM

Lab ID: 1705436-004

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/9/2017 10:56:54 AM	31634
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/9/2017 10:56:54 AM	31634
Surr: DNOP	99.8	70-130	%Rec	1	5/9/2017 10:56:54 AM	31634
EPA METHOD 8015D: GASOLINE RAM	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	5/9/2017 9:41:47 AM	G42643
Surr: BFB	98.4	54-150	%Rec	1	5/9/2017 9:41:47 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	: NSB
Benzene	ND	0.020	mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Toluene	ND	0.039	mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Ethylbenzene	ND	0.039	mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Xylenes, Total	ND	0.078	mg/Kg	1	5/9/2017 9:41:47 AM	B42643
Surr: 4-Bromofluorobenzene	107	66.6-132	%Rec	1	5/9/2017 9:41:47 AM	B42643

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

- \* 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 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705436

Date Reported: 5/10/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-5

Project:

Gordon #3

Collection Date: 5/8/2017 1:20:00 PM

Lab ID:

1705436-005

Received Date: 5/9/2017 7:30:00 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)	ND	9.8	mg/Kg	1	5/9/2017 11:19:11 AM	31634
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/9/2017 11:19:11 AM	31634
Surr: DNOP	100	70-130	%Rec	1	5/9/2017 11:19:11 AM	31634
EPA METHOD 8015D: GASOLINE RANG	SE .				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	5/9/2017 10:05:18 AM	G42643
Surr: BFB	99.2	54-150	%Rec	1	5/9/2017 10:05:18 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.019	mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Toluene	ND	0.039	mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Ethylbenzene	ND	0.039	mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Xylenes, Total	ND	0.078	mg/Kg	1	5/9/2017 10:05:18 AM	B42643
Surr: 4-Bromofluorobenzene	105	66.6-132	%Rec	1	5/9/2017 10:05:18 AM	B42643

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
- R RPD outside accepted recovery limits
- % 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 14 J
- Sample pH Not In Range P
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1705436

Date Reported: 5/10/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-6

**Project:** Gordon #3

Collection Date: 5/8/2017 1:25:00 PM

Lab ID: 1705436-006

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/9/2017 11:41:16 AM	31634
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/9/2017 11:41:16 AM	31634
Surr: DNOP	99.1	70-130	%Rec	1	5/9/2017 11:41:16 AM	31634
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	5/9/2017 10:28:47 AM	G42643
Surr: BFB	98.1	54-150	%Rec	1	5/9/2017 10:28:47 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.018	mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Toluene	ND	0.035	mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Ethylbenzene	ND	0.035	mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Xylenes, Total	ND	0.070	mg/Kg	1	5/9/2017 10:28:47 AM	B42643
Surr: 4-Bromofluorobenzene	103	66.6-132	%Rec	1	5/9/2017 10:28:47 AM	B42643

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

- 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 6 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705436

Date Reported: 5/10/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

TITAN Client Sample ID: S-7

Matrix: SOIL

**Project:** Gordon #3 **Lab ID:** 1705436-007

Collection Date: 5/8/2017 1:30:00 PM Received Date: 5/9/2017 7:30:00 AM

**PQL Qual Units Analyses** Result **DF** Date Analyzed Batch **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: TOM Diesel Range Organics (DRO) ND 9.8 5/9/2017 12:03:22 PM 31634 mg/Kg 1 Motor Oil Range Organics (MRO) ND 49 mg/Kg 1 5/9/2017 12:03:22 PM 31634 Surr: DNOP %Rec 102 70-130 1 5/9/2017 12:03:22 PM 31634 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 5/9/2017 10:52:28 AM G42643 4.3 mg/Kg Surr: BFB %Rec 98.7 54-150 1 5/9/2017 10:52:28 AM G42643 **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.021 mg/Kg 1 5/9/2017 10:52:28 AM B42643 Toluene ND 0.043 mg/Kg 5/9/2017 10:52:28 AM B42643 1 Ethylbenzene ND 0.043 5/9/2017 10:52:28 AM mg/Kg 1 ND 0.085 Xylenes, Total mg/Kg 5/9/2017 10:52:28 AM B42643 1 Surr: 4-Bromofluorobenzene 103 66.6-132 %Rec 5/9/2017 10:52:28 AM B42643

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

- \* 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 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1705436

Date Reported: 5/10/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-8

Project: Gordon #3 Collection Date: 5/8/2017 1:35:00 PM

1705436-008 Lab ID:

Matrix: SOIL

Received Date: 5/9/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	s			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/9/2017 12:25:19 PM	31634
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/9/2017 12:25:19 PM	31634
Surr: DNOP	98.5	70-130	%Rec	1	5/9/2017 12:25:19 PM	31634
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	5/9/2017 11:16:06 AM	G42643
Surr: BFB	99.3	54-150	%Rec	1	5/9/2017 11:16:06 AM	G42643
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Toluene	ND	0.035	mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Ethylbenzene	ND	0.035	mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Xylenes, Total	ND	0.071	mg/Kg	1	5/9/2017 11:16:06 AM	B42643
Surr: 4-Bromofluorobenzene	102	66.6-132	%Rec	1	5/9/2017 11:16:06 AM	B42643

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

- 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
- R RPD outside accepted recovery limits
- 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 8 of 14 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

APEX TITAN

Gordon #3

### Hall Environmental Analysis Laboratory, Inc.

WO#: 1705436

**RPDLimit** 

**RPDLimit** 

10-May-17

Qual

Qual

Sample ID LCS-31634 Client ID: LCSS Prep Date: 5/9/2017 Analyte

**Client:** 

Project:

SampType: LCS Batch ID: 31634

Analysis Date: 5/9/2017

RunNo: 42629

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

SeqNo: 1341178

Units: mg/Kg

%REC HighLimit Result **PQL** SPK value SPK Ref Val LowLimit Diesel Range Organics (DRO) 51 10 50.00 101 63.8 116 Surr: DNOP 5.1 5.000 101 70 130

Sample ID MB-31634 Client ID: **PBS** 

SampType: MBLK Batch ID: 31634

TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 42629

%RPD

%RPD

Prep Date: 5/9/2017 Analysis Date: 5/9/2017 SeqNo: 1341179 Units: mg/Kg

SPK value SPK Ref Val %REC LowLimit Analyte Result PQL Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50

Surr: DNOP 10.00

112 70 130

Sample ID 1705436-001AMS Client ID: S-3

SampType: MS Batch ID: 31634

RunNo: 42629

Units: mg/Kg

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

**HighLimit** 

Prep Date: Analysis Date: 5/9/2017 5/9/2017 Analyte Result PQL

SeqNo: 1341840 SPK value SPK Ref Val %REC LowLimit

HighLimit %RPD **RPDLimit** Qual

Diesel Range Organics (DRO) 55 10 50.56 108 51.6 130 Surr: DNOP 5.3 5.056 106 70 130

Sample ID 1705436-001AMSD Client ID: S-3

SampType: MSD Batch ID: 31634 TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 42629

Prep Date: 5/9/2017 Analysis Date: 5/9/2017 SeqNo: 1341841 Units: mg/Kg

%RPD Result PQL SPK value SPK Ref Val %REC HighLimit **RPDLimit** Qual Analyte LowLimit 9.6 47.85 Diesel Range Organics (DRO) 48 0 100 51.6 130 13.0 20 Surr: DNOP 4.9 4.785 102 130 0

Sample ID LCS-31616

5/8/2017

Prep Date:

SampType: LCS

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

LCSS Batch ID: 31616 Client ID: Analysis Date: 5/9/2017

RunNo: 42630

SeqNo: 1342303

Units: %Rec HighLimit %RPD **RPDLimit** Qual

Analyte Result SPK value SPK Ref Val %REC LowLimit Surr: DNOP 91.5

Sample ID MB-31616

SampType: MBLK Batch ID: 31616

RunNo: 42630

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

Client ID: Prep Date: 5/8/2017 Analysis Date: 5/9/2017 SeqNo: 1342304 Units: %Rec

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

### 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 ND

R RPD outside accepted recovery limits

% 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 Page 9 of 14

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#:

1705436

10-May-17

Client:

APEX TITAN

**Project:** 

Gordon #3

Sample ID MB-31616

SampType: MBLK

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

Client ID:

PBS

Batch ID: 31616

RunNo: 42630

Prep Date: 5/8/2017 Analysis Date: 5/9/2017

SeqNo: 1342304

Units: %Rec

Analyte

Result

SPK value SPK Ref Val %REC

LowLimit

HighLimit

%RPD **RPDLimit**  Qual

Surr: DNOP

8.9

10.00

88.6

130

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

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

J Analyte detected below quantitation limits Page 10 of 14

Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1705436

10-May-17

Project:

Client:

**APEX TITAN** 

Gordon #3

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

PBS Client ID:

Batch ID: G42643

RunNo: 42643

Analysis Date: 5/9/2017

Units: mg/Kg

Prep Date: Analyte

Result **PQL**  SeqNo: 1342221

Gasoline Range Organics (GRO)

ND 5.0 SPK value SPK Ref Val %REC LowLimit

HighLimit

**RPDLimit** Qual

980

1000

98.0

150

Surr: BFB

Sample ID 2.5UG GRO LCS

SampType: LCS

PQL

5.0

TestCode: EPA Method 8015D: Gasoline Range RunNo: 42643

Prep Date:

Client ID: LCSS Batch ID: G42643

Units: mg/Kg

125

Analyte

Client ID: S-4

Analysis Date: 5/9/2017

SeqNo: 1342222 %REC

112

**HighLimit** 

%RPD **RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

28 1100

Result

SPK value 25.00 1000

107

54

150

%RPD

Sample ID 1705436-004AMS

SampType: MS

Result

19

19

850

TestCode: EPA Method 8015D: Gasoline Range

0

SPK Ref Val

RunNo: 42643

Units: mg/Kg

150

150

Prep Date:

Batch ID: G42643 Analysis Date: 5/9/2017 PQL

3.9

SegNo: 1342223 %REC

LowLimit HighLimit 61.3

54

LowLimit

76.4

%RPD

**RPDLimit** 

Qual

Analyte Gasoline Range Organics (GRO) Surr: BFB

840 SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

Sample ID 1705436-004AMSD Client ID:

Batch ID: G42643

RunNo: 42643

%REC

99.9

109

99.9

108

Prep Date:

61.3

LowLimit

150

150

Analyte

Gasoline Range Organics (GRO)

Analysis Date: 5/9/2017 SPK value SPK Ref Val Result PQL

3.9

0

SeqNo: 1342224

Units: mg/Kg HighLimit

%RPD **RPDLimit** 20 0

0

Surr: BFB

Sample ID MB-31610

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

SPK value SPK Ref Val

19.52

780.6

19.52

780.6

RunNo: 42644

Client ID: PBS Prep Date: 5/8/2017

Batch ID: 31610 Analysis Date: 5/9/2017

Analyte Gasoline Range Organics (GRO) Result ND

SeqNo: 1342240 SPK value SPK Ref Val %REC LowLimit Units: mg/Kg HighLimit

**RPDLimit** 

Qual

Qual

Surr: BFB

LCSS

5/8/2017

1100

Result

1000

110

RunNo: 42644

SeqNo: 1342241

54

150

0

Sample ID LCS-31610

Prep Date:

Client ID:

SampType: LCS Batch ID: 31610

Analysis Date: 5/9/2017

**PQL** 

**PQL** 

5.0

TestCode: EPA Method 8015D: Gasoline Range

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

HighLimit

%RPD

%RPD

**RPDLimit** 

Page 11 of 14

Qual

ND

R

Analyte

- **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

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1705436

10-May-17

Client:

APEX TITAN

Project:

Gordon #3

Sample ID LCS-31610

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

LCSS

Batch ID: 31610

RunNo: 42644

Units: mg/Kg

Prep Date: 5/8/2017 Analysis Date: 5/9/2017 SeqNo: 1342241 SPK value SPK Ref Val %REC Analyte Result HighLimit %RPD **RPDLimit PQL** LowLimit Qual Gasoline Range Organics (GRO) 26 76.4 125 5.0 25.00 0 103 Surr: BFB 1200 1000 119 54 150

#### 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
- RPD outside accepted recovery limits R
- % 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 12 of 14

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1705436

10-May-17

Client:

APEX TITAN

Project:

Gordon #3

Sample ID RB	SampT	ype: ME	BLK	Tes						
Client ID: PBS	Batcl	h ID: <b>B4</b>	2643	R	RunNo: 4					
Prep Date:	Analysis D	Date: 5/	9/2017	S	SeqNo: 1	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		106	66.6	132			

Sample ID 100NG BTEX LC	SampT	ype: LC	S	Tes									
Client ID: LCSS	Batch	ID: <b>B4</b>	2643	F	RunNo: 42643								
Prep Date:	Analysis D	ate: 5/	9/2017	8	SeqNo: 1								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual			
Benzene	0.88	0.025	1.000	0	88.0	80	120						
Toluene	0.89	0.050	1.000	0	89.1	80	120						
Ethylbenzene	0.90	0.050	1.000	0	90.2	80	120						
Xylenes, Total	2.7	2.7 0.10 3.000		0	89.7	80	120						
Surr: 4-Bromofluorobenzene	1.1		1.000		110	66.6	132						

Sample ID 1705436-005AMS	Sampi	ype: MS	5	ies	restCode: EPA Method 8021B: Volatiles							
Client ID: S-5	Batch	ID: <b>B4</b>	2643	F	RunNo: 42							
Prep Date:	Analysis D	alysis Date: 5/9/2017			SeqNo: 1	(g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	0.69	0.019	0.7752	0	89.0	61.5	138					
Toluene	0.72	0.039	0.7752	0.01052	91.0	71.4	127					
Ethylbenzene	0.73	0.039	0.7752	0.01005	93.3	70.9	132					
Xylenes, Total	2.3	2.3 0.078 2.326		0.05437	95.2	76.2	123					
Surr: 4-Bromofluorobenzene	0.86		0.7752		110	66.6	132					

Client ID: S-5	Batch ID: <b>B42643</b>			R	RunNo: 4	2643				
Prep Date:	Analysis Date: 5/9/2017			S	SeqNo: 1	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.69	0.019	0.7752	0	88.8	61.5	138	0.233	20	
Toluene	0.72	0.039	0.7752	0.01052	91.1	71.4	127	0.127	20	
Ethylbenzene	0.74	0.039	0.7752	0.01005	93.6	70.9	132	0.355	20	
Xylenes, Total	2.3	0.078	2.326	0.05437	95.2	76.2	123	0.0150	20	
Surr: 4-Bromofluorobenzene	0.86		0.7752		111	66.6	132	0	0	

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Sample ID 1705436-005AMSD

SampType: MSD

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 13 of 14

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

TestCode: EPA Method 8021B: Volatiles

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1705436

10-May-17

Client:

APEX TITAN

**Project:** 

Gordon #3

Sample ID MB-31610

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID:

**PBS** 

Batch ID: 31610

**PQL** 

0.025

0.050

0.050

0.10

RunNo: 42644

Result

ND

ND

ND

ND

1.2

SPK value SPK Ref Val %REC LowLimit

HighLimit

Prep Date:

5/8/2017

5/8/2017

Analysis Date: 5/9/2017

SeqNo: 1342271

Units: mg/Kg

%RPD **RPDLimit** 

**RPDLimit** 

Qual

Analyte Benzene Toluene Ethylbenzene Xylenes, Total

Surr: 4-Bromofluorobenzene

1.000

124

SeqNo: 1342272

66.6

132

%RPD

Sample ID LCS-31610 Client ID: **LCSS** 

Prep Date:

Batch ID: 31610

Analysis Date: 5/9/2017

SampType: LCS

RunNo: 42644

TestCode: EPA Method 8021B: Volatiles

Units: mg/Kg

SPK value SPK Ref Val Analyte Result **PQL** %REC LowLimit **HighLimit** Benzene 0.98 0.025 1.000 97.9 80 120 Toluene 0.98 0.050 1.000 0 98.3 80 120 0 99.3 Ethylbenzene 0.99 0.050 1.000 80 120 3.0 3.000 101 80 120 Xylenes, Total 0.10 Surr: 4-Bromofluorobenzene 1.000 124 132 1.2 66.6

- 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
- R RPD outside accepted recovery limits
- % 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 14 of 14

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



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albumerane, NM 87109

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hastenvironmensal.com

# Albuquerque, NM 87199 Sample Log-In Check List

Client Name:	APEX AZTEC	Work Order Number	r: 1705	436		RcptN	o: 1
					a 4-		
Received By:	Anne Thorne	5/9/2017 7:30:00 AM			an II-	_	
Completed By:	Anne Thome	5/9/2017,7:44:28 AM			an Ilm	_	
Reviewed By:	25	5/9/17					
Chain of Cus	tody						
1. Custody sea	als intact on sample bot	ties?	Yes		No 🗌	Not Present	
2. Is Chain of t	Custody complete?		Yes	~	No 🗌	Not Present	
3. How was the	e sample delivered?		Cou	rier			
Log In							
				<b>V</b>	No 🗆	NA [	1
4. Was an atte	empt made to cool the s	amples?	Yes		NO L	NA L	J
5. Were all sar	moles received at a tem	perature of >0° C to 6.0°C	Yes		No 🗆	NA 🗌	
0. 11010 0.100						100	
6. Sample(s) i	in proper container(s)?		Yes	V	No .		
7 Sufficient on	ample volume for indicat	ad tast(s)?	Yes		No 🗆		
• •	s (except VOA and ONG		Yes		No 🗆		
	vative added to bottles?		Yes	_	No 🗹	NA 🗆	
a. eras preser	valive added to bottles?		163			NA C	
10.VOA vials ha	ave zero headspace?		Yes		No 🗆	No VOA Vials	
11. Were any s	ample containers receiv	ed broken?	Yes		No 🗹	# of preserved	
				Comp	[77]	bottles checked	
	work match bottle labels pancies on chain of cus		Yes	×	No 🗔	for pH:	or >12 unless noted)
	s correctly identified on		Yes	V	No _	Adjusted?	
	nat analyses were reque		Yes	V	No 🗌		
15. Were all hol	ding times able to be m	et?	Yes	<b>9</b>	No 🗌	Checked by:	
(If no, notify	customer for authorizat	ion.)					
Canadal Mana	Hima (if annliagh)a						
	tting (if applicable					NA 🗸	
16. Was client n	otified of all discrepanc	es with this order?	Yes		No 🗆	NA SE	
	n Notified:	Date				_	
By Wh		Via:	eM:	ail [	Phone Fax	In Person	
Regen	ding: Instructions:		_				
17. Additional re	emarks:						
18. Cooler Info			_				
Cooler No			Seal Da	ate	Signed By		
1	1.2 Good	Yes			1		

														CHAIN OF CUSTODY RECORD
APE) Office Local Project Mar Sampler's Nan Proj. No.	ion Az	S		ma(S	Laboratory: Address: _ Contact: _ Phone: _ PO/SO #: _ Sampler's Sign	A	Fr	eer			ers		ANALYSIS REQUESTED	Lab use only Due Date:  (1 2  Temp. of coolers when received (C"):  1 2 2 4 5  Page 01 4
		C	G	Gordo	n #3		-		1		. 1		82////	
Matrix Date	Time	CoEp	Grab	Identifying Mar	rks of Sample(s)	Start	End	VOA	SA.	250	Glass	02		Lab Sample ID (Lab Use Only)
5 5/8/	1300			S-3							1			1705436 -cal
1 1	1305			5-3	2						(	-		702
	1310			5-1	6						)			743
	1315			5-4							1			724
	1320			5-5	T						1			745
	1335			5-6	9						1			·vel
	1330			S	7						1			-227
	1335			5-2	8						1			Tas.
	_								_	-				
													1 1	
Turn around tin Relinquished b			_			100% ved by!			me		Date		Time: NOTES:	
Marto	7			18-17 15	as / h	tWo	de	_			Date			m 100 (00 1)
Relinquished b	y (Signature)				Time: Receive	red by:	(Signa	ture)		/	Date	117	7730 Bill TO 1	Uniong (Shoot
Relinquished b	y (Signature)					ved by:	(Signa	iture)			Date	-	Time:	Tomlong (Eshod)  Sanday
Relinquished b	y (Signature)	)	+	Date:	Time: Receiv	red by:	(Signa	iture)	,		Date	-	Time: HFE 3000	Sure
	WW - Wastewa			W - Water 4 A/G - Amber / O	S - Soil SD - So r Glass 1 Liter		- Liquic	d A	- Air Ba	ag outh			receal tube St studge O - Oil astic or other	



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

May 17, 2017

**Kyle Summers** 

**APEX TITAN** 

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Gordon #3

OrderNo.: 1705777

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/16/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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

Sold

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1705777

Date Reported: 5/17/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-9

Project: Gordon #3 Collection Date: 5/15/2017 2:30:00 PM

Lab ID: 1705777-001

Matrix: SOIL

Received Date: 5/16/2017 7:20:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/16/2017 9:35:34 AM	31757
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/16/2017 9:35:34 AM	31757
Surr: DNOP	90.4	70-130	%Rec	1	5/16/2017 9:35:34 AM	31757
EPA METHOD 8015D: GASOLINE RAN	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	5/16/2017 9:12:29 AM	31750
Surr: BFB	103	54-150	%Rec	1	5/16/2017 9:12:29 AM	31750
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	: NSB
Benzene	ND	0.020	mg/Kg	1	5/16/2017 9:12:29 AM	31750
Toluene	ND	0.039	mg/Kg	1	5/16/2017 9:12:29 AM	31750
Ethylbenzene	ND	0.039	mg/Kg	1	5/16/2017 9:12:29 AM	31750
Xylenes, Total	ND	0.078	mg/Kg	1	5/16/2017 9:12:29 AM	31750
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	5/16/2017 9:12:29 AM	31750

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % 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 6 J

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

Lab Order 1705777

Date Reported: 5/17/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project:

Lab ID:

Gordon #3

1705777-002

Client Sample ID: S-10

Collection Date: 5/15/2017 2:40:00 PM

Received Date: 5/16/2017 7:20:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/16/2017 10:03:18 AM	31757
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/16/2017 10:03:18 AM	31757
Surr: DNOP	90.0	70-130	%Rec	1	5/16/2017 10:03:18 AM	31757
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	5/16/2017 9:36:33 AM	31750
Surr: BFB	101	54-150	%Rec	1	5/16/2017 9:36:33 AM	31750
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.019	mg/Kg	1	5/16/2017 9:36:33 AM	31750
Toluene	0.042	0.038	mg/Kg	1	5/16/2017 9:36:33 AM	31750
Ethylbenzene	ND	0.038	mg/Kg	1	5/16/2017 9:36:33 AM	31750
Xylenes, Total	0.16	0.075	mg/Kg	1	5/16/2017 9:36:33 AM	31750
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	5/16/2017 9:36:33 AM	31750

Matrix: SOIL

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
- 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 2 of 6 J
- P Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1705777

17-May-17

Client:

APEX TITAN

**Project:** 

Gordon #3

Sample ID LCS-31757	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: <b>31</b>	757	F	RunNo: 4	2805				
Prep Date: 5/16/2017	Analysis Da	ate: 5/	/16/2017	8	SeqNo: 1	346453	Units: mg/l	<b>⟨</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.5	73.2	114			
Surr: DNOP	4.7		5.000		93.8	70	130			
Sample ID MB-31757	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 31	757	F	RunNo: 4	2805				
Prep Date: 5/16/2017	Analysis Da	ate: 5/	16/2017	5	SeqNo: 1	346454	Units: mg/l	<b>(</b> 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	8.3		10.00		83.4	70	130			
Sample ID 1705777-001AMS	SampTy	pe: MS	3	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: S-9	Batch	ID: 31	757	F	RunNo: 4	2805				
Prep Date: 5/16/2017	Analysis Da	ate: 5/	16/2017	8	SeqNo: 1	346866	Units: mg/l	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.7	48.40	2.705	92.5	55.8	122			
Surr: DNOP	4.5		4.840		93.3	70	130			
Sample ID 1705777-001AMSI	SampTy	/pe: <b>M</b> \$	SD	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	
Sample ID 1705777-001AMSI Client ID: S-9		/pe: M\$			tCode: E		8015M/D: Di	esel Rango	e Organics	

Sample ID LCS-31741	SampType: LCS	Tes	tCode: EPA Method	8015M/D: Die	sel Rang	e Organics	
Client ID: LCSS	Batch ID: 31741	F	RunNo: <b>42804</b>				
Prep Date: 5/15/2017	Analysis Date: 5/16/2	2017	SeqNo: <b>1346873</b>	Units: %Rec			
Analyte	Result PQL SF	PK value SPK Ref Val	%REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9	5.000	77.5 70	130			

2.705

%REC

92.4

93.6

LowLimit

55.8

70

HighLimit

122

130

%RPD

1.71

**RPDLimit** 

20

0

Qual

SPK value SPK Ref Val

49.31

4.931

Sample ID MB-31741	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 31741	RunNo: 42804	
Prep Date: 5/15/2017	Analysis Date: 5/16/2017	SeqNo: 1346874	Units: %Rec
Analyte	Result PQL SPK value SP	K Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual

#### Qualifiers:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

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

Result

48

4.6

PQL

9.9

- 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 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#:

1705777

17-May-17

Client:

APEX TITAN

Project:

Gordon #3

Sample ID MB-31741

SampType: MBLK

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

Client ID:

PBS

RunNo: 42804

Batch ID: 31741

Prep Date: 5/15/2017

Analysis Date: 5/16/2017

SeqNo: 1346874

Units: %Rec

Analyte

Result

PQL SPK value SPK Ref Val

HighLimit

**RPDLimit** %RPD

%REC

Qual

Surr: DNOP

8.5

10.00

84.9

70

LowLimit

130

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 ND

RPD outside accepted recovery limits R

% 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 4 of 6

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#:

1705777

17-May-17

Client:

APEX TITAN

Project:

Gordon #3

Sample ID MB-31750

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: 31750

RunNo: 42820

Prep Date: 5/15/2017

Units: mg/Kg

Analyte

Analysis Date: 5/16/2017 PQL

5.0

SeqNo: 1347048

Gasoline Range Organics (GRO)

ND

SPK value SPK Ref Val %REC

SPK value SPK Ref Val

0

LowLimit

HighLimit

%RPD **RPDLimit** Qual

Surr: BFB

980

Result

1000

97.5

150

Sample ID LCS-31750

SampType: LCS Batch ID: 31750

**PQL** 

RunNo: 42820

TestCode: EPA Method 8015D: Gasoline Range

Prep Date: 5/15/2017

Client ID: LCSS

Analysis Date: 5/16/2017

SeqNo: 1347049

Units: mg/Kg

HighLimit

%RPD

**RPDLimit** Qual

Gasoline Range Organics (GRO)

Result 24

5.0 25.00 %REC 97.9

76.4 54

LowLimit

125 150

Surr: BFB

1100

1000

105

- 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
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- Reporting Detection Limit Sample container temperature is out of limit as specified
- - Page 5 of 6

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1705777

17-May-17

**Client:** 

APEX TITAN

Project:

Gordon #3

Sample ID MB-31750

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

66.6

TestCode: EPA Method 8021B: Volatiles

Client ID: PBS

Batch ID: 31750

**PQL** 

0.025

0.050

0.050

RunNo: 42820

%RPD

%RPD

**RPDLimit** 

Prep Date: 5/15/2017

Result

ND

ND

ND

Analysis Date: 5/16/2017

SeqNo: 1347081

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg HighLimit

**RPDLimit** Qual

Qual

Analyte Benzene Toluene Ethylbenzene

Xylenes, Total Surr: 4-Bromofluorobenzene

ND 0.10 1.1

1.000

112

132

Sample ID LCS-31750 Client ID: LCSS Prep Date: 5/15/2017 SampType: LCS Batch ID: 31750

Analysis Date: 5/16/2017

RunNo: 42820

SeqNo: 1347082

Units: mg/Kg

	,						9
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Benzene	0.94	0.025	1.000	0	93.7	80	120
Toluene	0.95	0.050	1.000	0	94.8	80	120
Ethylbenzene	0.95	0.050	1.000	0	95.2	80	120
Xylenes, Total	2.9	0.10	3.000	0	97.3	80	120
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132

#### Qualifiers:

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

RcptNo: 1 APEX AZTEC Work Order Number: 1705777 anne Il-5/16/2017 7:20:00 AM Received By: **Anne Thorne** 5/16/2017 7:32:13 AM Completed By: **Anne Thorne** 5/16/17 Reviewed By: Chain of Custody No 🗆 Yes Not Present ✓ 1 Custody seals intact on sample bottles? No 🗌 Not Present 2. Is Chain of Custody complete? Yes 🗸 3. How was the sample delivered? Courier Log In No 🗌 NA 🗌 Yes 🗸 4. Was an attempt made to cool the samples? NA 🗌 No 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No 🗌 6. Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 Yes V 8. Are samples (except VOA and ONG) properly preserved? No 🗹 NA 🗌 Yes 9. Was preservative added to bottles? Yes No 🗌 No VOA Vials 10. VOA vials have zero headspace? Yes 11. Were any sample containers received broken? No 🗹 # of preserved bottles checked No 🗌 for pH: Yes 🗸 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) No 🗌 Adjusted? 13. Are matrices correctly identified on Chain of Custody? Yes 🗸 Yes V No 🗌 14. Is it clear what analyses were requested? Yes V No 🗌 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: 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 Good

					Cl	HAIN OF CUSTODY RECORD
-4	11	1/		ANALYSIS M		Lab use only Due Date:
	Laboratory:	//		REQUESTED		/ / Due Date. 1-6
APEX Office Location Aztec	Address: ABG	7		(2)		/ / / -
Office Location Aztec	1.1.1.1.1.1				/////	Temp. of coolers when received (C°):
Onios Essatisti	Contact: A MAY	Flowman	4	The state of the s	'	1 2 3 4 5
	Phone:	-				Pageof
Project Manager K. Summers	PO/SO#:	7		1 25		
Sampler's Name	Sampler's Signature			100	//////	/ /
Nyle Summers	14/			1 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
1	42	No/Type of Contains	ers			
Proj. No. Project Name				1 / 20/2 /		/
Matrix Date Time C G r Identifying Ma	arks of Sample(s)	A/G 114.	Jar P/O	DE!	//////	/ Lab Sample ID (Lab Use Only)
5 \$15/17/430 × 5-9			1	VX		
5 5/15/14/90 N 5-10		+ + + +	1	XX		1705777-001
2 8/3///4/10 /N J-11			1			-02
W	,					
123						
			-			
	⊇ 50% Rush					
Relinguished by (Signature)	Time: Beceived by: (Sign	ed B	Date:	Time: NOTES:	3,11 Tam	Long 30227 Same Day
Relinquished by (Signature) Date:	Time: Received by: (Sign	nature)	Date:	Time: /Voh	Arestin	Day
Regulation Signature) Date:	Time: / Received by: (Sign	nature)	Date:	Time:		Jame "
1/W10 to Lack 10115/17 11	1534 / April	1	Skin	0/20	_	The second secon
Relinquished by (Signature)	Time: Received by: (Sign	nature)	Date:	Time:		
Matrix WW - Wastewater W - Water Container VQA - 40 ml vial A/G - Amber / C	S - Soll SD - Solid L - Liq	uid A - Air Bag - Glass wide mouth	C - Cha	rcoal tube SL - sludge	O - Oil	

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

\* Attach Additional Sheets If Necessary

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

Revised August 8, 2011
mit 1 Copy to appropriate District Office

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.

				Oui	itu i	O, I VIVI O7	000					
Release Notification and Corrective Action												
					0	PERATO	3		Initial F	Report	$\boxtimes$	Final Repor
Name of C	ompany: I	Enterprise I	Field Serv	rices, LLC		Contact: T	homas Long					
Address: 614 Reilly Ave, Farmington, NM 87401						Telephone No. 505-599-2286						
Facility Na			gion, i iii			Facility Type: Natural Gas Gathering Pipeline						
I acility Ival	iiic. Latere	111-40				1 acinty 1 y	c. Natural O	us Outi	icinig i i	penne		
Surface Owner: <b>BLM</b> Mineral Owner					r: BLM	-		Serial I	Number	: NM	097563	
				LOCA	TIO	N OF REI	EASE	,				
Unit Letter A	Section 11	Township 31N	Range 13W	Feet from the <b>642</b>	No	rth South e	Feet from the 946	East		County San Jua ONS. D	an IV DIS	ST. 3
			Latitud	de_ <u>36.91977</u>			ngitude108	.16735		JUL 17		
					JRE	OF RELI						
Type of Rele				ate			Release 8.78 M BBLS Conden		Volume F			
Source of R	elease: Inte	rnal Corrosio	on				our of Occurrent 11:45 a.m.	ice:	Date and 2/11/2017			
Was Immed	iate Notice					If YES, To V	Vhom? Cory Sr	mith - Ni	MOCD; WI	hitey Tho	mas -E	BLM
Required		⊠ Ye	s 🗌 No	∐ Not								
By Whom? Thomas Long					-	Date and Time. 2/11/2017 @ 2:35 p.m.						
Was a Wate	rcourse Rea	ached?				If YES, Volume						
			Yes									
feet down th	If a Watercourse was Impacted, Describe Fully.* The release was located in a small ephemeral wash and fluids flowed approximately 450 feet down the wash where the flow was terminated and stable.											
Describe Cause of Problem and Remedial Action: On February 11, 2017, Enterprise technicians were notified of a release on the Lateral H-												
45 pipeline. The release was located in a small ephemeral wash and fluids flowed approximately 450 feet down the wash where the flow was terminated and stable. The pipeline was isolated, blown down, locked out and tagged out. The remediation was complete on April 17,												
2017.												
	a Affactad	and Cleanus	Action: F	us to the rains	on E	obmioni 12 o	nd 12 2017 th	o rologo	ad fluida w	oro mobi	lized fo	urthor down
	Describe Area Affected and Cleanup Action: Due to the rains on February 12 and 13, 2017, the released fluids were mobilized further down gradient. On February 13, 2017, Enterprise personnel installed earthen berms, absorbent socks/booms, absorbent pads and Sphag Sorb											
							radient. The re					
							y 1,412 cubic y					
excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included							sincluded					
with this "Fin					-					141 1		
							t of my knowle					
							ase notifications					
							141 report by t					
							investigate and					
							OCD acceptar		C-141 repo	ort does r	not relie	eve the
operator of r	esponsibility	y for complia	ince with a	ny other federa	al, sta	ate, or local la	ws and/or regu					
Signature:	To	n) Ku					OIL CON	ISERV	ATION	<u>DIVISI</u>	<u>ON</u>	1
Signature.	18.	n pu	1000							7	//	
Printed Nam	e: Jon E. Fi	elds				Approved by Environmental Specialist:					N	
Title: Directo	r, Environm	ental				Approval Da	te: 9/14/1	7 E	xpiration I	Date:		
E-mail Addre	ess:jefields@	eprod.com				Conditions of	of Approval:			Attach	м П	
-	I IN DI	1111			-		_			Attache	,u	
Date: /	-12-20	//	Phone	e: (713)381-66	84	15						

#NCS1704531637



### **CORRECTIVE ACTION REPORT**

OIL CONS. DIV DIST. 3
JUL 17 2017

Property:

Lateral H-45 NE 1/4, S11 T31N R13W San Juan County, New Mexico

June 27, 2017 Apex Project No. 725040112257

Prepared for:

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

Prepared by:

Chad D'Aponti Project Scientist

Kyle Summers, CPG Branch Manager / Senior Geologist

### **TABLE OF CONTENTS**

1.0	INTRO 1.1 1.2	DUCTION 1 Site Description & Background 1 Project Objective 2					
2.0	SITE F	RANKING					
3.0	3.0 RESPONSE ACTIONS						
4.0	DATA 4.1	EVALUATION					
5.0	FINDI	NGS AND RECOMMENDATIONS					
6.0	STANI	DARD OF CARE, LIMITATIONS, AND RELIANCE					
LIST	OF AP	PENDICES					
Арр	endix A	: Spill Containment Documentation					
Арр	endix B	Figure 1 – Topographic Map Figure 2 – Site Vicinity Map Figure 3 – Flow Path Sampling Map Figure 4 – Excavation Area Map with Soil Analytical Results					
Appendix C: Executed		Executed C-138 Solid Waste Acceptance Form					
Арр	endix D	: Photographic Documentation					
App	endix E	: Table					
Арр	endix F	: Laboratory Analytical Reports & Chain of Custody Documentation					



#### **CORRECTIVE ACTION REPORT**

Lateral H-45 Pipeline Release NE 1/4, S11 T31N R13W San Juan County, New Mexico

Apex Project No. 725040112257

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Lateral H-45 Pipeline Release Site originates at the Enterprise Field Services, LLC (Enterprise) pipeline in the northeast (NE) ¼ of Section 11, Township 31 North, Range 13 West, in rural San Juan County, New Mexico (36.919791N, 108.167367W), referred to hereinafter as the "Site". The Site is located on land managed by the Bureau of Land Management (BLM). The Site is surrounded by native-vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including one (1) Enterprise natural gas pipeline which traverses the area from approximately north to south.

A release of natural gas and associated pipeline liquids was discovered at the Site on February 11, 2017. The release breached the ground surface near the pipeline, and pipeline liquids traveled west approximately 700 feet in an unnamed ephemeral wash, and then south-southwest an additional 400 feet. Enterprise, Envirotech, Inc. (Envirotech), and New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) representatives were on Site on February 13, 2017 for the initial response actions, during which hand tools and sorbents were utilized to collect free liquids and saturated soils from the ground surface. Spill containment activities performed by Envirotech during the initial response actions are documented in a letter report titled *Spill Assessment Documentation for the release of Liquid Hydrocarbons from a Pipeline near La Plata, San Juan County, New Mexico*" – Envirotech, March 23, 2017 (provided in Appendix A).

On February 15, 2017, Apex TITAN, Inc. (Apex) visited the Site to map the flow path and perform soil field screening. Preliminary photoionization detector (PID) measurements of the soils indicated that hydrocarbon affected soils were present at the ground surface in the upper flow path near the point of release.

At the request of the OCD, Enterprise submitted a sampling plan to evaluate surficial impact at the Site. The Soil Sampling Work Plan – Surface Flow Path – Apex, February 27, 2017, was submitted to the OCD and subsequently approved for implementation. On March 8, 2017, Apex performed the flow path sampling activities, collecting a total of 13 surface samples for laboratory analyses to evaluate constituent of concern (COCs) concentrations in shallow soils.

On April 13, 2017, Enterprise initiated corrective action activities at the Site to facilitate the repair of the pipeline, and to remediate hydrocarbon impact.

A Topographic Map is provided as Figure 1 of Appendix B, which was reproduced from a portion of a United State Geological Survey (USGS) 7.5-minute series topographic map. A Site Vicinity Map, created from an aerial photograph, is provided as Figure 2 of Appendix B.



### 1.2 Project Objective

The primary objective of the environmental corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD Remediation Action Levels (RALs) using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.

#### 2.0 SITE RANKING

In accordance with the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex utilized the general site characteristics obtained during the completion of corrective action activities and information available from the 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	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	
Distance to Surface Water Body	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:

- The nearest water well (SJ 01026) identified on the OSE website is located approximately 0.67 miles northwest of the Site, but the website does not identify a depth to water. Based on the Site's proximity to the McDermott Arroyo, depth to groundwater is anticipated to be less than 50 feet bgs resulting in a ranking score of "20" for depth to groundwater.
- No water sources (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking score of "0".
- A portion of the release flowed into a portion of an apparent high-water flood channel of the McDermott Arroyo that is listed as a "blue line" on the USGS topographic map, resulting in a ranking score of "20" for distance to surface water.

### 3.0 RESPONSE ACTIONS

#### 3.1 Flow Path Soil Sampling and Pipeline Repair

On March 8, 2017, Apex collected five (5) composite soil samples (FP-1 through FP-5) along the primary release flow path and eight (8) composite soil samples (Q-1 through Q-8), from areas of



potential sheet flow near the McDermott Arroyo flood channel for laboratory analysis. The sample frequencies were based on the *Soil Sampling Work Plan – Surface Flow Path*, dated February 27, 2017, which describes that "each composite flow path sample will be comprised of five (5) aliquots collected at approximately 50-foot increments along the primary flow path" and that the "sheet flow area composite samples will each be comprised of five (5) aliquots collected from approximately 100-foot by 100-foot grids adjacent to the primary flow path." A representative from the EMNRD OCD was present during the flow path/sheet-flow soil sampling event. Subsequent laboratory analytical results indicate that soils associated with flow path sample FP-1 exhibited hydrocarbon impact above OCD guidelines.

On April 11, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired. During the pipeline repair and corrective action activities, West States Energy Contractors, provided heavy equipment and labor support, and Apex provided environmental support.

The pipeline and upper flow path excavation activities were completed on April 17, 2017. A total of five (5) confirmation soil samples (S-1 through S-5) were collected from the sidewalls and floor of the pipeline right of way (ROW) excavation and two (2) composite samples (FP-1a and FP-1b) were collected from the excavated upper flow path for laboratory analysis. A representative from the EMNRD OCD was present during the soil sampling event.

The final pipeline ROW excavation measured approximately 33 feet long by 24 feet wide, with a total depth of approximately 20 feet bgs.

The extent of the total flow path measured approximately 1,100 feet in length and was typically three (3) feet to five (5) feet in width. The excavated upper portion of the flow path measured approximately 200 feet long, and was approximately 14 feet wide near the point of release, narrowing to approximately two (2) feet wide at the down-gradient extent. The total depth varied from approximately six (6) feet bgs near the point of release to six (6) inches bgs at the down-gradient extent.

The lithology encountered during the completion of corrective action activities consisted primarily of sand and gravel, weathered shale and sandstone.

A total of approximately 1,412 cubic yards of hydrocarbon affected soils were transported to the Industrial Ecosystems, Inc. landfarm on Crouch Mesa near Aztec, New Mexico for disposal/remediation. The executed C-138 form is provided in **Appendix C**. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

Figure 3 is a Flow Path Sampling Map that indicates the approximate soil sample locations along the flow path (Appendix B). Figure 4 is an Excavation Area Map with Soil Analytical Results that indicates the approximate sample locations in relation to the excavation extents and the location of the pipeline (Appendix B). Photographic documentation of the field activities is included in Appendix D.

#### 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of 13 soil samples from the flow path and seven (7) confirmation soil samples (S-1 through S-5, FP-1a, and FP-1b) from the pipeline ROW and flow path excavations for laboratory analysis. **Figure 3** and **Figure 4** depict the approximate



locations of the excavated area and flow path, and identify the approximate sample locations in relation to the final excavation dimensions (**Appendix B**).

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

### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to condensate releases, the New Mexico EMNRD OCD utilizes the *Guidelines for Remediation of Leaks, Spills and Releases* as guidance, in addition to the OCD rules, specifically New Mexico Administrative Code 19.15.29 *Release Notification*. These guidance documents establish investigation and abatement action requirements for sites subject to reporting and/or corrective action.

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation samples (S-1 through S-5, FP-1a, FP-1b, FP-2 through FP-5, and Q-1 through Q-8) collected from the excavated areas and flow path to the OCD *RALs* for sites having a total ranking score of "40". Soils associated with soil sample FP-1 were removed and transported to IEI for disposal/treatment, and are not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the PQLs, which are below the OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate total BTEX concentrations above the PQLs, which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO/MRO concentrations ranging from below the PQLs to 69 mg/kg (S-3), which are below the OCD RAL of 100 mg/kg for a Site ranking of "40".

The stockpiled soils resulting from the excavations were transported to the Industrial Ecosystems, Inc. landfarm on Crouch Mesa near Aztec, New Mexico for disposal/remediation.

Confirmation sample analytical results are provided in Table 1 in Appendix E.



#### 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral H-45 Pipeline Release Site originates at the Enterprise pipeline in the NE ¼ of Section 11, Township 31 North, Range 13 West, in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including one (1) Enterprise natural gas pipeline which traverses the area from approximately north to south.

On February 15, 2017, Apex visited the Site to map the flow path and perform soil field screening. Preliminary PID measurements of the soils indicated that hydrocarbon affected soils were present at the ground surface in the upper flow path.

On March 8, 2017, Apex performed the flow path sampling activities, collecting a total of 13 surface samples for laboratory analyses to evaluate COC concentrations in shallow soils.

On April 13, 2017, Enterprise initiated corrective action activities at the Site to facilitate the repair of the pipeline, and to remediate hydrocarbon impact.

- The primary objective of the environmental corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of sand and gravel, weathered shale and sandstone.
- The final pipeline ROW excavation measured approximately 33 feet long by 24 feet wide, with a total depth of approximately 20 feet bgs.
- The excavated upper portion of the flow path measured approximately 200 feet long, and was approximately 14 feet wide near the point of release, narrowing to approximately to two (2) feet wide at the down-gradient extent. The total depth varied from approximately six (6) feet bgs near the point of release to six (6) inches bgs at the down-gradient extent.
- A total of 20 soil samples were collected from the flow path and final excavations for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD RALs for a Site ranking of "40".
- A total of approximately 1,412 cubic yards of hydrocarbon affected soils were transported to Industrial Ecosystems, Inc. landfarm on Crouch Mesa near Aztec, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and contoured to surrounding grade.

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

#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

Enterprise Field Services, LLC Corrective Action Report Lateral H-45 Pipeline Release June 27,2017



laboratories, regulatory agencies, or other third parties). This scope of services was performed in accordance with the scope of work agreed with the client.

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

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



**APPENDIX A** 

**Spill Containment Documentation** 



March 23, 2017

Project Number 97057-0824

Email: tilong@eprod.com

Phone:

(505)599-2286

Mr. Tom Long Enterprise 614 Reilly Ave Farmington, New Mexico, 87401

RE: SPILL ASSESSMENT DOCUMENTATION FOR THE RELEASE OF LIQUID HYDROCARBONS FROM A PIPELINE NEAR LA PLATA, SAN JUAN COUNTY, NEW MEXICO

Dear Mr. Long:

Enclosed please find the *Vicinity Map* and *Site Map*, for the activities performed at the pipeline spill located in Section 12, Township 31 North, Range 13 West, La Plata, San Juan County, New Mexico; see enclosed *Vicinity Map*. On February 13, 2017, Envirotech Inc. was contacted by Mr. Tom Long, Enterprise Products representative, to perform spill containment activities for a release of liquid hydrocarbons from a pipeline at the aforementioned location. Upon arrival to the site, a brief site assessment was performed and a Job Safety Analysis (JSA) was conducted. The area of release was approximately 0.8 of a mile southeast of the intersection of Highway 574 and County Road 1300, (36.91977, -108.16735) within an ephemeral wash; see enclosed *Site Map*. Due to an active precipitation event, water was running in the wash and a light sheen was observed on the water. Additionally, hydrocarbon impacted soil was observed along the spill path.

Envirotech personnel utilized the following material to confine and contain the release: one (1) bag of oil pads, four (4) bags of oil absorbing booms, and three (3) bags of sphagnum moss. The absorbent materials were used in conjunction with dirt dykes to mitigate additional migration of the contamination. Based on the on-site observations, Envirotech recommends remediation of the impacted areas, followed by confirmation sampling and analysis.

We appreciate the opportunity to be of service. Should you have any questions or require additional information, please contact our office at (505) 632-0615.

Respectfully submitted,

ENVIROTECH, INC.

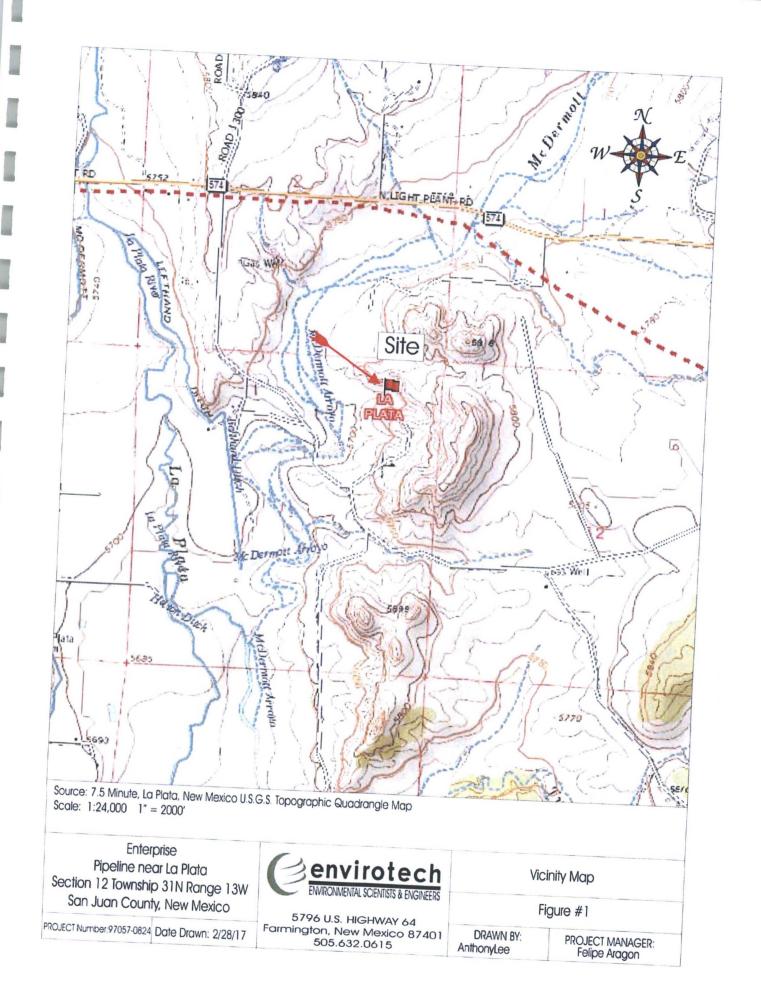
Anthony Lee

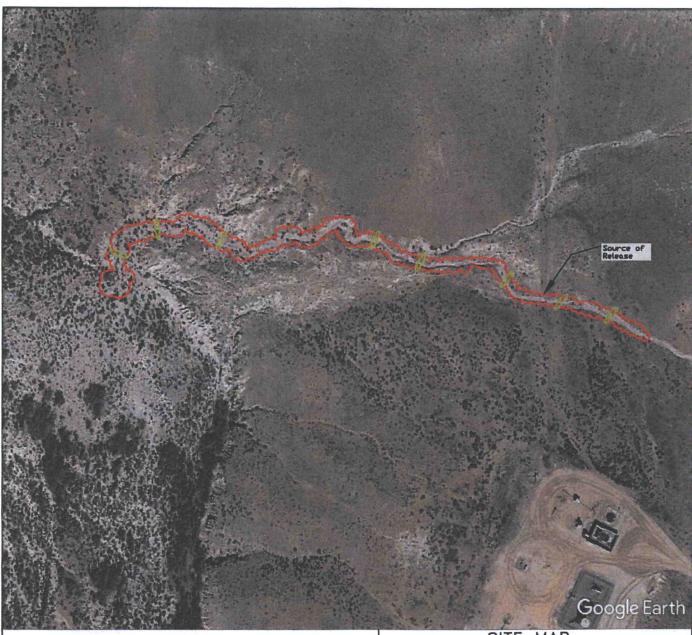
Environmental Field Technician

alee@envirotech-inc.com

Enclosure(s):

Figure 1, Vicinity Map





LEGEND



Placement of Booms

SITE MAP
Enterprise Products
Pipeline Spill near La Plata
SECTION 12, TWP 31 NORTH, RANGE 13 WEST
SAN JUAN COUNTY, NEW MEXICO

REV SCALE: FIGURE NO. PROJECT N097057-0824 REVISIONS DESCRIPTION DATE MAP DRWN AL 3/2/17 BASE DRWN AL 3/2/17



5796 U.S. HIGHWAY 64, FARMINGTON, NM 87401 505-632-0615



APPENDIX B

Figures







Apex TITAN, Inc.
12100 Ford Road, Suite 401
Dallas, Texas 75234
Phone: (469) 365-1100
www.apexcos.com
A Subsidiary of Apex Companies, LLC

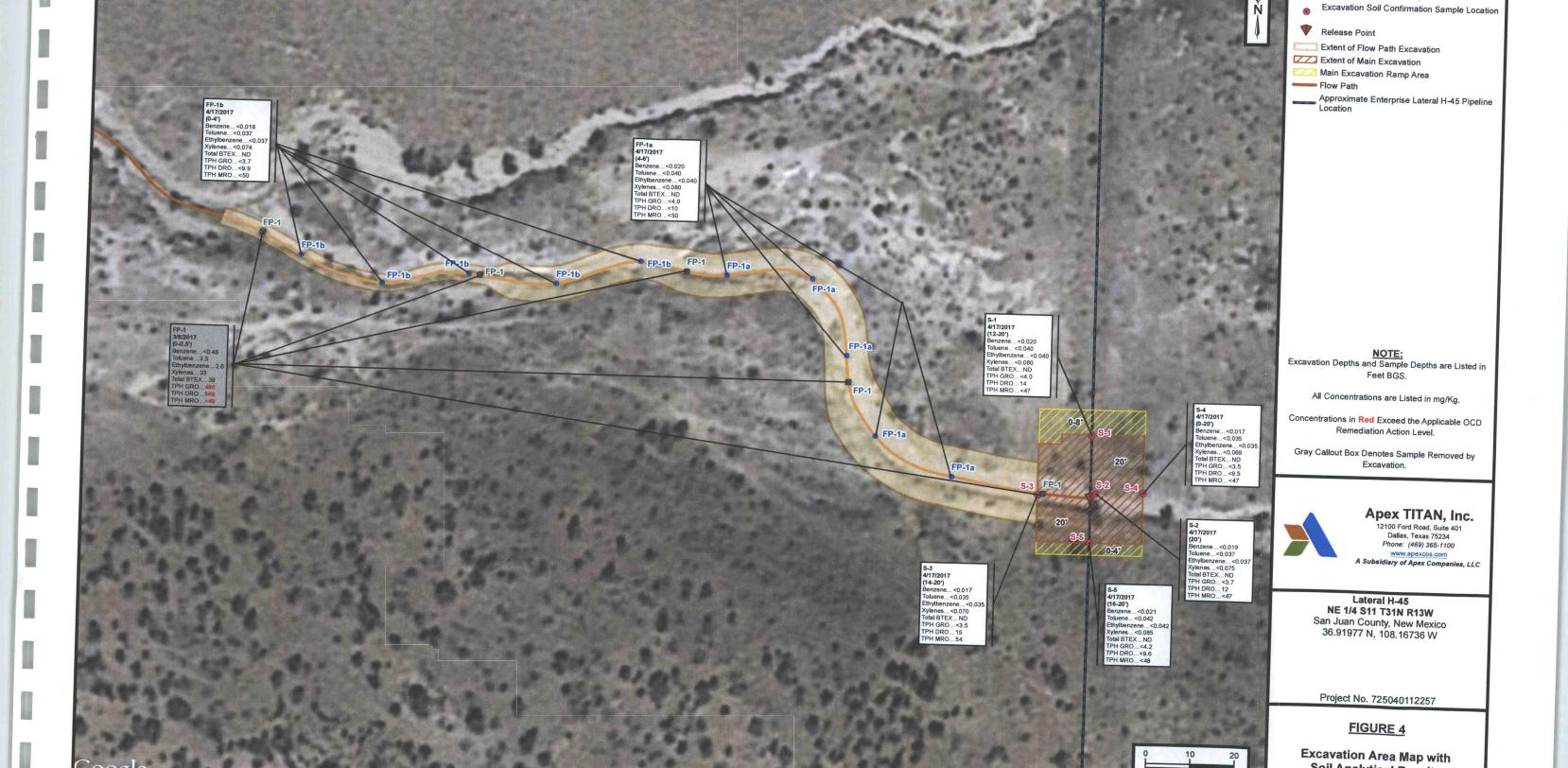
Lateral H-45
NE 1/4 S11 T31N R13W
San Juan County, New Mexico
36.91977 N, 108.16736 W

Project No. 725040112257

FIGURE 2

Site Vicinity Man







**APPENDIX C** 

Executed C-138 Solid Waste Acceptance Form

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

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

Form C-138 Revised 08/01/11

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE
1. Generator Name and Address:
Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site:
Lateral H-45 4/9/7-150 cu
3. Location of Material (Street Address, City, State or ULSTR):
Unit A Sec 11 T 31 N R 13 W, San Juan County, NM; 36.91977, -108.1673
4. Source and Description of Waste: 4/3/17 - 130 cu
Source: Hydrocarbon impacted soil from a Leak from a Natural Gas Gathering Line
Description: Soil impacted with Natural Gas Liquids (Condensate and Water)
Estimated Volume _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 there Long, representative or authorized agent for Enterprise Products Operating do hereby
Generator Signature
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 mix 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 wast subspace that does not exceed the minimum standards for wast subspace to characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CF subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-haz the check the appropriate items)
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description 5
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
Those Long
I, Thomas Long 411-17, representative for Enterprise Products Operating authorizes IEI, Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.
The required testing orgin the contract. Waste resting contractions
I, Mundoll) ollem, representative for IEI, Inc. do hereby certify the
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
19.15.36 NMAC.
5. Transporter: TBD $h=0$
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: JFJ Landfarm/Industrial Ecosystems, Inc. * Permit #: NM 01-0010B Address of Facility: #49 CR 2150 Aztec, New Mexico
Method of Treatment and/or Disposal:
Evaporation   Injection   Treating Plant   Landfarm   Landfill   Other
Waste Acceptance Status:
APPROVED DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Mastle Walling TITLE: Clean DATE: 41117
GNATURE: TELEPHONE NO.: 505-632-1782  SurfaceWaste Management Facility Authorized Agent

4/4/17



APPENDIX D

Photographic Documentation





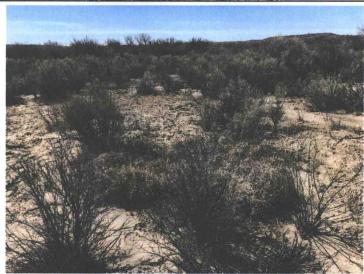
## Photograph 1

Flow path near the release point, facing southwest.



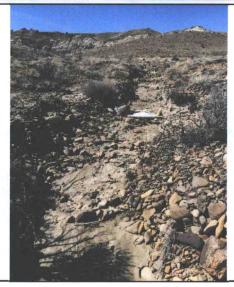
## Photograph 2

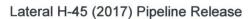
Flow path and potential sheet flow area, facing south.



## Photograph 3

Central flow path, facing northeast.







## Photograph 4

View of excavation activities, facing west.



## Photograph 5

View of the pipeline ROW excavation, facing south.



## Photograph 6

View of the upper flow path excavation, facing east.





## Photograph 7

View of the flow path excavation.



## Photograph 8

View of the flow path excavation, facing southeast.



## Photograph 9

View of the flow path excavation, facing east.





APPENDIX E

Table



# TABLE 1 Lateral H-45 Pipeline Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departmen	ergy, Mineral & nt, Oil Conserva nediation Actio		10	NE	NE	NE	50		100	
Mark States				Soil S	amples Removed by E	xcavation		STATE OF STREET		
FP-1	03.08.17	0 to 0.5	<0.48	3.5	2.6	33	39	480	540	<49
				Soil Samples	Collected from the P	rimary Flow Path				
FP-1a	04.17.17	4 to 6	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<10	<50
FP-1b	04.17.17	0 to 4	<0.018	<0.037	<0.037	< 0.074	ND	<3.7	<9.9	<50
FP-2	03.08.17	0 to 0.5	<0.025	<0.049	<0.049	<0.098	ND	<4.9	<9.5	<47
FP-3	03.08.17	0 to 0.5	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<9.3	<47
FP-4	03.08.17	0 to 0.5	<0.025	<0.049	<0.049	<0.098	ND	<4.9	<9.8	<49
FP-5	03.08.17	0 to 0.5	<0.024	<0.048	<0.048	<0.096	ND	<4.8	<9.9	<50
				Surface :	Soil Samples Collecte	d from Grids				
Q-1	03.08.17	0 to 0.5	<0.024	<0.049	<0.049	<0.097	ND	<4.9	<9.2	<46
Q-2	03.08.17	0 to 0.5	<0.025	< 0.050	<0.050	<0.099	ND	<5.0	<9.1	<46 `
Q-3	03.08.17	0 to 0.5	<0.024	<0.048	<0.048	< 0.096	ND	<4.8	<9.9	<49
Q-4	03.08.17	0 to 0.5	< 0.025	< 0.050	<0.050	<0.10	ND	<5.0	<10	<50
Q-5	03.08.17	0 to 0.5	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<9.3	<47
Q-6	03.08.17	0 to 0.5	< 0.023	<0.046	<0.046	<0.091	ND	<4.6	<9.2	<46
Q-7	03.08.17	0 to 0.5	<0.025	<0.049	<0.049	< 0.099	ND	<4.9	<9.8	<49
Q-8	03.08.17	0 to 0.5	<0.024	<0.048	<0.048	< 0.096	ND	<4.8	<9.2	<46
				Excava	ation Confirmation So	il Samples				
S-1	04.17.17	12 to 20	<0.020	<0.040	<0.040	<0.080	ND	<4.0	14	<47
S-2	04.17.17	20	<0.019	<0.037	<0.037	< 0.075	ND	<3.7	12	<47
S-3	04.17.17	14 to 20	<0.017	<0.035	<0.035	<0.070	ND	<3.5	15	54
S-4	04.17.17	0 to 20	<0.017	<0.035	<0.035	<0.069	ND	<3.5	<9.5	<47
S-5	04.17.17	16 to 20	<0.021	<0.042	<0.042	<0.085	ND	<4.2	<9.6	<48

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix F

Laboratory Analytical Reports & Chain of Custody Documentation



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

March 14, 2017

Kyle Summers APEX TITAN 606 S. Rio Grande Unit A Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Lateral H-45

OrderNo.: 1703493

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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

andyst

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1703493

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

**Project:** Lateral H-45

Lab ID:

1703493-001

Client Sample ID: FP-1

Collection Date: 3/8/2017 9:00:00 AM

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL (	Qual U	U <b>nits</b>	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S				Analys	t: TOM
Diesel Range Organics (DRO)	540	9.7		mg/Kg	1	3/13/2017 3:41:46 PM	30627
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/13/2017 3:41:46 PM	30627
Surr: DNOP	93.4	70-130		%Rec	1	3/13/2017 3:41:46 PM	30627
EPA METHOD 8015D: GASOLINE RANG	GE					Analys	t: NSB
Gasoline Range Organics (GRO)	480	96		mg/Kg	20	3/10/2017 12:39:19 PI	A 30613
Surr: BFB	259	54-150	S	%Rec	20	3/10/2017 12:39:19 Pt	A 30613
<b>EPA METHOD 8021B: VOLATILES</b>						Analys	t: NSB
Benzene	ND	0.48		mg/Kg	20	3/10/2017 12:39:19 PI	A 30613
Toluene	3.5	0.96		mg/Kg	20	3/10/2017 12:39:19 PI	A 30613
Ethylbenzene	2.6	0.96		mg/Kg	20	3/10/2017 12:39:19 Pt	A 30613
Xylenes, Total	33	1.9		mg/Kg	20	3/10/2017 12:39:19 Pt	A 30613
Surr: 4-Bromofluorobenzene	111	66.6-132		%Rec	20	3/10/2017 12:39:19 PM	A 30613

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
- RPD outside accepted recovery limits
- % 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
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1703493

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Lab ID:

Project: Lateral H-45

1703493-002

**Client Sample ID: FP-2** 

Collection Date: 3/8/2017 9:05:00 AM

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	3/13/2017 4:06:20 PM	30627
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	3/13/2017 4:06:20 PM	30627
Surr: DNOP	93.0	70-130	%Rec	1	3/13/2017 4:06:20 PM	30627
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	3/10/2017 10:15:45 PM	30613
Surr: BFB	81.5	54-150	%Rec	1	3/10/2017 10:15:45 PM	30613
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	3/10/2017 10:15:45 PM	30613
Toluene	ND	0.049	mg/Kg	1	3/10/2017 10:15:45 PM	30613
Ethylbenzene	ND	0.049	mg/Kg	1	3/10/2017 10:15:45 PM	30613
Xylenes, Total	ND	0.098	mg/Kg	1	3/10/2017 10:15:45 PM	30613
Surr: 4-Bromofluorobenzene	87.5	66.6-132	%Rec	1	3/10/2017 10:15:45 PM	30613

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

- 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
- % 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 1703493

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-3

Project: Lateral H-45

Collection Date: 3/8/2017 9:10:00 AM

Lab ID: 1703493-003 Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	3/13/2017 4:31:19 PM	30627
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	3/13/2017 4:31:19 PM	30627
Surr: DNOP	92.9	70-130	%Rec	1	3/13/2017 4:31:19 PM	30627
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	3/11/2017 12:01:11 AM	30613
Surr: BFB	94.9	54-150	%Rec	1	3/11/2017 12:01:11 AM	1 30613
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.023	mg/Kg	1	3/11/2017 12:01:11 AM	30613
Toluene	ND	0.046	mg/Kg	1	3/11/2017 12:01:11 AM	30613
Ethylbenzene	ND	0.046	mg/Kg	1	3/11/2017 12:01:11 AM	30613
Xylenes, Total	ND	0.092	mg/Kg	1	3/11/2017 12:01:11 AM	30613
Surr: 4-Bromofluorobenzene	105	66.6-132	%Rec	1	3/11/2017 12:01:11 AM	1 30613

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
- RPD outside accepted recovery limits R
- % 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 3 of 8 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1703493

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-4

Project: Lateral H-45 Collection Date: 3/8/2017 9:15:00 AM

Lab ID: 1703493-004 Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	6			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	3/13/2017 4:56:07 PM	30627
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	3/13/2017 4:56:07 PM	30627
Surr: DNOP	96.0	70-130	%Rec	1	3/13/2017 4:56:07 PM	30627
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	3/11/2017 12:27:31 AM	30613
Surr: BFB	92.2	54-150	%Rec	1	3/11/2017 12:27:31 AM	30613
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.025	mg/Kg	1	3/11/2017 12:27:31 AM	30613
Toluene	ND	0.049	mg/Kg	1	3/11/2017 12:27:31 AM	30613
Ethylbenzene	ND	0.049	mg/Kg	1	3/11/2017 12:27:31 AM	30613
Xylenes, Total	ND	0.098	mg/Kg	1	3/11/2017 12:27:31 AM	30613
Surr: 4-Bromofluorobenzene	100	66.6-132	%Rec	1	3/11/2017 12:27:31 AM	30613

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

- 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
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 8 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1703493

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-5

Project: Lateral H-45

Collection Date: 3/8/2017 9:20:00 AM

Lab ID: 1703493-005

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	3/13/2017 5:21:07 PM	30627
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	3/13/2017 5:21:07 PM	30627
Surr: DNOP	95.9	70-130	%Rec	1	3/13/2017 5:21:07 PM	30627
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	3/11/2017 12:53:46 AM	30613
Surr: BFB	87.2	54-150	%Rec	1	3/11/2017 12:53:46 AM	30613
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	3/11/2017 12:53:46 AM	30613
Toluene	ND	0.048	mg/Kg	1	3/11/2017 12:53:46 AM	30613
Ethylbenzene	ND	0.048	mg/Kg	1	3/11/2017 12:53:46 AM	30613
Xylenes, Total	ND	0.096	mg/Kg	1	3/11/2017 12:53:46 AM	30613
Surr: 4-Bromofluorobenzene	94.6	66.6-132	%Rec	1	3/11/2017 12:53:46 AM	30613

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % 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 8 J
- 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#:

1703493

14-Mar-17

**Client:** 

APEX TITAN

Project:

Lateral H-45

Troject. Datorari			
Sample ID MB-30627	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 30627	RunNo: 41321	
Prep Date: 3/10/2017	Analysis Date: 3/13/2017	SeqNo: 1294825	Units: mg/Kg
Analyte	Result PQL SPK va	ue SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10		
Motor Oil Range Organics (MRO)	ND 50		
Surr: DNOP	8.8 10	00 87.5 70	130
Sample ID LCS-30627	SampType: LCS	TestCode: EPA Method	I 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 30627	RunNo: 41321	
Prep Date: 3/10/2017	Analysis Date: 3/13/2017	SeqNo: 1294826	Units: mg/Kg
Analyte	Result PQL SPK va	ue SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	49 10 50	00 0 98.5 63.8	116
Surr: DNOP	4.5 5.0	00 89.2 70	130
Sample ID LCS-30637	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 30637	RunNo: 41324	
Prep Date: 3/10/2017	Analysis Date: 3/13/2017	SeqNo: 1295865	Units: %Rec
Analyte	Result PQL SPK va	ue SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Surr: DNOP	4.3 5.0	00 86.1 70	130
Sample ID MB-30637	SampType: MBLK	TestCode: EPA Method	I 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 30637	RunNo: 41324	
Prep Date: 3/10/2017	Analysis Date: 3/13/2017	SeqNo: 1295866	Units: %Rec
Analyte	Result PQL SPK va	ue SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Surr: DNOP	9.1 10	00 91.2 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
- 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 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#:

1703493 14-Mar-17

Client:

**APEX TITAN** 

Project:

Lateral H-45

Sample ID MB-30613

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 30613

RunNo: 41306

Prep Date: 3/9/2017

Analysis Date: 3/10/2017

SeqNo: 1294532

Units: mg/Kg

Analyte

Result **PQL** 5.0 SPK value SPK Ref Val %REC

Gasoline Range Organics (GRO) Surr: BFB

820

LowLimit

HighLimit

ND

LCSS

Result

24

990

1000

81.9

SeqNo: 1294534

150

%RPD

%RPD

Qual

Sample ID LCS-30613

Prep Date: 3/9/2017

SampType: LCS Batch ID: 30613 Analysis Date: 3/10/2017

**PQL** 

RunNo: 41306

SPK Ref Val

0

54

TestCode: EPA Method 8015D: Gasoline Range

Units: mg/Kg

**HighLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

Client ID:

SPK value 5.0 25.00 1000 %REC 96.2 99.4

76.4 54

150

125

**RPDLimit** 

**RPDLimit** 

**Oualifiers:** 

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

RPD outside accepted recovery limits R

% 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 Sample container temperature is out of limit as specified Page 7 of 8

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1703493

14-Mar-17

Client:

**APEX TITAN** 

Project:

Lateral H-45

Sample ID MB-30613

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

66.6

Client ID:

PBS

3/9/2017

Batch ID: 30613

RunNo: 41306

Result

ND

ND

ND

ND

Analysis Date: 3/10/2017 **PQL** 

0.025

0.050

0.050

0.10

SeqNo: 1294570

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

HighLimit

%RPD

%RPD

**RPDLimit** 

**RPDLimit** Qual

Qual

Analyte Benzene Toluene Ethylbenzene Xylenes, Total

Prep Date:

Surr: 4-Bromofluorobenzene

0.90 SampType: LCS

1.000

TestCode: EPA Method 8021B: Volatiles

89.9

132

Sample ID LCS-30613 Client ID: LCSS

Prep Date:

3/9/2017

Batch ID: 30613 Analysis Date: 3/10/2017

RunNo: 41306

SeqNo: 1294577

Units: mg/Kg

Result **PQL** SPK value SPK Ref Val %REC LowLimit HighLimit Analyte 0.025 95.7 80 Benzene 0.96 1.000 0 120 0.050 1.000 96.4 80 120 Toluene 0.96 0 97.1 80 120 0.97 0.050 1.000 0 Ethylbenzene Xylenes, Total 3.0 0.10 3.000 0 99.6 80 120 Surr: 4-Bromofluorobenzene 0.86 1.000 86.1 66.6 132

#### Qualifiers:

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

Page 8 of 8



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

**APEX AZTEC** Work Order Number: 1703493 RcptNo: 1 Client Name: Received by/date: Logged By: **Lindsay Mangin** 3/9/2017 7:10:00 AM Completed By: Lindsay Mangin 3/9/2017 1:05:16 PM Reviewed By: Chain of Custody No 🗆 Not Present 1. Custody seals intact on sample bottles? Yes 🗌 No  $\square$ Not Present Yes V 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA 🗌 Yes V 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 🗌 Yes V 6. Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 8. Are samples (except VOA and ONG) properly preserved? No V NA 🗍 Yes 9. Was preservative added to bottles? Yes No 🗌 No VOA Vials 10.VOA vials have zero headspace? Yes No V 11. Were any sample containers received broken? # of preserved bottles checked for pH: No 🗌 Yes 🗹 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) No 🗆 Adjusted? 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes 🗸 14. Is it clear what analyses were requested? 15. Were all holding times able to be met? 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

CHAIN	OF	CUSTODY	RECORD
	,	7	

Office Location Aztec INM  Project Manager KSummers  Sampler's Name  Rand Deschilly Chad D'Aganti F  Proj. No.  Project Name  Lateral H-		NM		ANALYSIS REQUESTED POINTORO POINTS THAT STORY ST	Lab use only Due Date:  (. Ø  Temp. of coolers when received (C"):  1 2 3 4 5  Page J of J
Matrix Date Time C G r Identifying Mark	s of Sample(s)	ANG 1.LL. 250	Pio	[	Lab Sample ID (Lab Use Only)
5 3/8/17 900 X FP-	-1			XX	1703493-001
S 1 905 X FP-	.2			XX	-202
5 910 V FA	3			XV	-003
S 915 X FP				XX	- 004
S V 920 X FP-	.5			XI	- 005
	TOFS				
			_		
	50% Rush ☐ 100% Rush ime: Received by: (Signat	une) F	ate:	Time: NOTES:	
Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Date: Ti	me: Received by: (Signat	ure)	8/7 atc: 1/9//7 ate:	1330 Time: Bill+0 Tom 0710	Long (EPROD) = N29405
	- Soil SD - Solid L - Liquid	A - Air Bag Glass wide mouth	C - Char	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

March 14, 2017

Kyle Summers

APEX TITAN 606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

**FAX** 

RE: Lateral H-45

OrderNo.: 1703496

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 3/9/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral H-45

Lab ID: 1703496-001

Client Sample ID: Q-1

Collection Date: 3/8/2017 9:25:00 AM

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	6			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	3/13/2017 7:01:00 PM	30627
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	3/13/2017 7:01:00 PM	30627
Surr: DNOP	91.5	70-130	%Rec	1	3/13/2017 7:01:00 PM	30627
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	3/13/2017 7:40:19 PM	30631
Surr: BFB	82.5	54-150	%Rec	1	3/13/2017 7:40:19 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	3/13/2017 7:40:19 PM	30631
Toluene	ND	0.049	mg/Kg	1	3/13/2017 7:40:19 PM	30631
Ethylbenzene	ND	0.049	mg/Kg	1	3/13/2017 7:40:19 PM	30631
Xylenes, Total	ND	0.097	mg/Kg	1	3/13/2017 7:40:19 PM	30631
Surr: 4-Bromofluorobenzene	90.8	66.6-132	%Rec	1	3/13/2017 7:40:19 PM	30631

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

- 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 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 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral H-45

Lab ID: 1703496-002 Client Sample ID: Q-2

Collection Date: 3/8/2017 9:30:00 AM

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	: TOM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	3/13/2017 7:25:51 PM	30627
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	3/13/2017 7:25:51 PM	30627
Surr: DNOP	93.5	70-130	%Rec	1	3/13/2017 7:25:51 PM	30627
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	3/13/2017 8:06:31 PM	30631
Surr: BFB	76.2	54-150	%Rec	1	3/13/2017 8:06:31 PM	30631
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	3/13/2017 8:06:31 PM	30631
Toluene	ND	0.050	mg/Kg	1	3/13/2017 8:06:31 PM	30631
Ethylbenzene	ND	0.050	mg/Kg	1	3/13/2017 8:06:31 PM	30631
Xylenes, Total	ND	0.099	mg/Kg	1	3/13/2017 8:06:31 PM	30631
Surr: 4-Bromofluorobenzene	84.7	66.6-132	%Rec	1	3/13/2017 8:06:31 PM	30631

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

- 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
- R RPD outside accepted recovery limits
- % 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 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral H-45

Lab ID: 1703496-003 Client Sample ID: Q-3

Collection Date: 3/8/2017 9:35:00 AM

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	3/13/2017 7:50:39 PM	30627
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	3/13/2017 7:50:39 PM	30627
Surr: DNOP	92.4	70-130	%Rec	1	3/13/2017 7:50:39 PM	30627
<b>EPA METHOD 8015D: GASOLINE RAI</b>	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	3/13/2017 8:32:41 PM	30631
Surr: BFB	79.5	54-150	%Rec	1	3/13/2017 8:32:41 PM	30631
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	3/13/2017 8:32:41 PM	30631
Toluene	ND	0.048	mg/Kg	1	3/13/2017 8:32:41 PM	30631
Ethylbenzene	ND	0.048	mg/Kg	1	3/13/2017 8:32:41 PM	30631
Xylenes, Total	ND	0.096	mg/Kg	1	3/13/2017 8:32:41 PM	30631
Surr: 4-Bromofluorobenzene	87.1	66.6-132	%Rec	1	3/13/2017 8:32:41 PM	30631

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 H
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % 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 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: Q-4

Project: Lateral H-45

**Collection Date:** 3/8/2017 9:40:00 AM

Lab ID: 1703496-004

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	ıal Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	3/13/2017 8:15:22 PM	30627
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	3/13/2017 8:15:22 PM	30627
Surr: DNOP	93.2	70-130	%Rec	1	3/13/2017 8:15:22 PM	30627
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	3/13/2017 8:58:49 PM	30631
Surr: BFB	79.8	54-150	%Rec	1	3/13/2017 8:58:49 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.025	mg/Kg	1	3/13/2017 8:58:49 PM	30631
Toluene	ND	0.050	mg/Kg	1	3/13/2017 8:58:49 PM	30631
Ethylbenzene	ND	0.050	mg/Kg	1	3/13/2017 8:58:49 PM	30631
Xylenes, Total	ND	0.10	mg/Kg	1	3/13/2017 8:58:49 PM	30631
Surr: 4-Bromofluorobenzene	88.0	66.6-132	%Rec	1	3/13/2017 8:58:49 PM	30631

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

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

Lab Order 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: Q-5

**Project:** Lateral H-45

Collection Date: 3/8/2017 9:45:00 AM

Lab ID: 1703496-005

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	3/13/2017 9:29:34 PM	30637
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	3/13/2017 9:29:34 PM	30637
Surr: DNOP	92.6	70-130	%Rec	1	3/13/2017 9:29:34 PM	30637
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	3/13/2017 9:24:57 PM	30631
Surr: BFB	76.2	54-150	%Rec	1	3/13/2017 9:24:57 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.025	mg/Kg	1	3/13/2017 9:24:57 PM	30631
Toluene	ND	0.050	mg/Kg	1	3/13/2017 9:24:57 PM	30631
Ethylbenzene	ND	0.050	mg/Kg	1	3/13/2017 9:24:57 PM	30631
Xylenes, Total	ND	0.099	mg/Kg	1	3/13/2017 9:24:57 PM	30631
Surr: 4-Bromofluorobenzene	84.4	66.6-132	%Rec	1	3/13/2017 9:24:57 PM	30631

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

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

Lab Order 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: Q-6

**Project:** Lateral H-45

**Collection Date:** 3/8/2017 9:50:00 AM

**Lab ID:** 1703496-006

Matrix: SOIL Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	том
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	3/13/2017 10:43:09 PM	30637
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	3/13/2017 10:43:09 PM	30637
Surr: DNOP	97.1	70-130	%Rec	1	3/13/2017 10:43:09 PM	30637
EPA METHOD 8015D: GASOLINE RAI				Analyst	NSB	
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	3/13/2017 9:51:10 PM	30631
Surr: BFB	76.6	54-150	%Rec	1	3/13/2017 9:51:10 PM	30631
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	3/13/2017 9:51:10 PM	30631
Toluene	ND	0.046	mg/Kg	1	3/13/2017 9:51:10 PM	30631
Ethylbenzene	ND	0.046	mg/Kg	1	3/13/2017 9:51:10 PM	30631
Xylenes, Total	ND	0.091	mg/Kg	1	3/13/2017 9:51:10 PM	30631
Surr: 4-Bromofluorobenzene	83.9	66.6-132	%Rec	1	3/13/2017 9:51:10 PM	30631

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

- \* 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 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 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Q-7

CLIENT: APEX TITAN

Project: Lateral H-45

**Collection Date:** 3/8/2017 9:55:00 AM

Lab ID: 1703496-007

Matrix: SOIL

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	3/13/2017 11:07:45 PI	A 30637
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	3/13/2017 11:07:45 PI	A 30637
Surr: DNOP	95.9	70-130	%Rec	1	3/13/2017 11:07:45 Pf	M 30637
EPA METHOD 8015D: GASOLINE RAN	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	3/13/2017 10:17:26 PI	A 30631
Surr: BFB	75.5	54-150	%Rec	1	3/13/2017 10:17:26 Pf	A 30631
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.025	mg/Kg	1	3/13/2017 10:17:26 PM	A 30631
Toluene	ND	0.049	mg/Kg	1	3/13/2017 10:17:26 PM	/ 30631
Ethylbenzene	ND	0.049	mg/Kg	1	3/13/2017 10:17:26 PM	A 30631
Xylenes, Total	ND	0.099	mg/Kg	1	3/13/2017 10:17:26 PI	A 30631
Surr: 4-Bromofluorobenzene	82.8	66.6-132	%Rec	1	3/13/2017 10:17:26 PM	A 30631

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

Lab Order 1703496

Date Reported: 3/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: Q-8

**Project:** Lateral H-45

Collection Date: 3/8/2017 10:00:00 AM

**Lab ID:** 1703496-008

Received Date: 3/9/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	3/13/2017 11:32:12 PM	30637
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	3/13/2017 11:32:12 PM	30637
Surr: DNOP	96.1	70-130	%Rec	1	3/13/2017 11:32:12 PM	30637
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	3/13/2017 10:43:45 PM	30631
Surr: BFB	111	54-150	%Rec	1	3/13/2017 10:43:45 PM	30631
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	3/13/2017 10:43:45 PM	30631
Toluene	ND	0.048	mg/Kg	1	3/13/2017 10:43:45 PM	30631
Ethylbenzene	ND	0.048	mg/Kg	1	3/13/2017 10:43:45 PM	30631
Xylenes, Total	ND	0.096	mg/Kg	1	3/13/2017 10:43:45 PM	30631
Surr: 4-Bromofluorobenzene	84.4	66.6-132	%Rec	1	3/13/2017 10:43:45 PM	30631

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
- 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 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#:

1703496

14-Mar-17

Client:

APEX TITAN

**Project:** 

Lateral H-45

Sample ID	MB-30627	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	PBS	Batch	ID: 30	627	F	RunNo: 4	1321				
Prep Date:	3/10/2017	Analysis Da	ate: 3/	13/2017	S	SeqNo: 1	294825	Units: mg/l	<b>K</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	ND	10								
Motor Oil Rang	e Organics (MRO)	ND	50								
Surr: DNOP		8.8		10.00		87.5	70	130			
Sample ID	LCS-30627	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 30	627	F	RunNo: 4	1321				
Prep Date:	3/10/2017	Analysis Da	ate: 3/	13/2017	S	SeqNo: 1	294826	Units: mg/l	<b>K</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	49	10	50.00	0	98.5	63.8	116			
Surr: DNOP		4.5		5.000		89.2	70	130			
Sample ID	1703496-005AMS	SampTy	ype: MS	3	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Sample ID Client ID:			ype: MS			tCode: El		8015M/D: Di	esel Range	e Organics	
Client ID:			ID: 30	637	R		1324	8015M/D: Di		e Organics	
Client ID:	Q-5	Batch	ID: 30	637 13/2017	R	RunNo: 4 SeqNo: 1	1324			e Organics RPDLimit	Qual
Client ID: Prep Date: Analyte	Q-5	Batch Analysis Da	ID: <b>30</b> ate: <b>3</b> /	637 13/2017	R	RunNo: 4 SeqNo: 1	1324 295857	Units: mg/l	⟨g		Qual
Client ID: Prep Date: Analyte	Q-5 3/10/2017	Batch Analysis Da Result	ID: <b>30</b> ate: <b>3</b> / PQL	637 13/2017 SPK value	SPK Ref Val	RunNo: 4 SeqNo: 1: %REC	1324 295857 LowLimit	Units: mg/k	⟨g		Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP	Q-5 3/10/2017	Batch Analysis Da Result 42 4.3	ID: <b>30</b> ate: <b>3/</b> PQL 10	637 13/2017 SPK value 50.00 5.000	SPK Ref Val	RunNo: 4 SeqNo: 1: %REC 80.8 85.9	1324 295857 LowLimit 51.6 70	Units: mg/h HighLimit	<b>(g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP	Q-5 3/10/2017  Drganics (DRO)  1703496-005AMSE	Batch Analysis Da Result 42 4.3  D SampTy	ID: <b>30</b> ate: <b>3/</b> PQL 10	637 13/2017 SPK value 50.00 5.000	SPK Ref Val 1.880	RunNo: 4 SeqNo: 1: %REC 80.8 85.9	1324 295857 LowLimit 51.6 70 PA Method	Units: mg/li HighLimit 130 130	<b>(g</b> %RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID:	Q-5 3/10/2017  Drganics (DRO)  1703496-005AMSE	Batch Analysis Da Result 42 4.3  D SampTy	PQL 10  ype: MS	637 13/2017 SPK value 50.00 5.000	SPK Ref Val 1.880 Tesi	RunNo: 4 SeqNo: 1: %REC 80.8 85.9	1324 295857 LowLimit 51.6 70 PA Method 1324	Units: mg/li HighLimit 130 130	(g %RPD esel Range	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID:	Q-5 3/10/2017 Drganics (DRO) 1703496-005AMSE Q-5	Batch Analysis Da Result 42 4.3  SampTy Batch	PQL 10  ype: MS	SPK value 50.00 5.000 637 13/2017	SPK Ref Val 1.880 Tesi	RunNo: 4 SeqNo: 1:  %REC 80.8 85.9  Code: El	1324 295857 LowLimit 51.6 70 PA Method 1324	Units: mg/k HighLimit 130 130 8015M/D: Di	(g %RPD esel Range	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Prep Date: Analyte	Q-5 3/10/2017 Drganics (DRO) 1703496-005AMSE Q-5	Batch Analysis Da Result 42 4.3  D SampTy Batch Analysis Da	PQL 10  ype: MS  ID: 30  ate: 3/	SPK value 50.00 5.000 637 13/2017	SPK Ref Val 1.880 Tesi	RunNo: 4 SeqNo: 1: %REC 80.8 85.9 CCode: El RunNo: 4: SeqNo: 1:	1324 295857 LowLimit 51.6 70 PA Method 1324 295858	Units: mg/k HighLimit 130 130 8015M/D: Di Units: mg/k	%RPD esel Range	RPDLimit e Organics	
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Prep Date: Analyte	Q-5 3/10/2017 Organics (DRO) 1703496-005AMSE Q-5 3/10/2017	Batch Analysis Da Result 42 4.3  D SampTy Batch Analysis Da Result	PQL 10: 30 ppe: MS ID: 30 ppe: MS ID: 30 ppe: MS ID: 30 ppe: 31 ppe: MS ID: 30 pp	SPK value 50.00 5.000 60 637 13/2017 SPK value	SPK Ref Val 1.880 Tesi R S	RunNo: 4 SeqNo: 1: %REC 80.8 85.9 COde: El RunNo: 4 SeqNo: 1:	1324 295857 LowLimit 51.6 70 PA Method 1324 295858 LowLimit	Units: mg/k HighLimit 130 130 8015M/D: Di Units: mg/k	%RPD esel Range  %RPD %RPD	RPDLimit  Organics  RPDLimit	

#### Qualifiers:

Analyte

Surr: DNOP

Client ID: LCSS

Prep Date: 3/10/2017

Diesel Range Organics (DRO)

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

Batch ID: 30637

Analysis Date: 3/13/2017

**PQL** 

10

Result

43

4.3

- 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

RunNo: 41324

85.8

86.1

SPK value SPK Ref Val %REC

0

50.00

5.000

SeqNo: 1295865

LowLimit

63.8

70

Units: mg/Kg

116

130

%RPD

**RPDLimit** 

Qual

HighLimit

- 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 9 of 12

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1703496

14-Mar-17

**Client:** 

APEX TITAN

**Project:** 

Lateral H-45

Sample ID MB-30637

SampType: MBLK

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

**RPDLimit** 

Client ID:

Surr: DNOP

PBS

Batch ID: 30637

RunNo: 41324

%RPD

Prep Date: 3/10/2017

Analysis Date: 3/13/2017

PQL

10

50

SeqNo: 1295866

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

HighLimit

Qual

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

ND 9.1

10.00

91.2

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

RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank B

E Value above quantitation range

Analyte detected below quantitation limits J

Page 10 of 12

P Sample pH Not In Range

Reporting Detection Limit

Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1703496

14-Mar-17

**Client:** 

**APEX TITAN** 

Project:

Lateral H-45

Sample ID MB-30631

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 30631

**PQL** 

5.0

RunNo: 41331

Prep Date: 3/10/2017

Analysis Date: 3/13/2017

SeqNo: 1295376

Units: mg/Kg

Analyte Gasoline Range Organics (GRO) Result

SPK value SPK Ref Val

1000

%REC

Qual

Qual

Surr: BFB

ND

LowLimit

54

HighLimit

**RPDLimit** 

800

79.9

150

%RPD

%RPD

Sample ID LCS-30631 Client ID:

LCSS

SampType: LCS Batch ID: 30631

RunNo: 41331

TestCode: EPA Method 8015D: Gasoline Range

Prep Date: 3/10/2017

Analysis Date: 3/13/2017

SeqNo: 1295377

Units: mg/Kg

SPK value Result PQL SPK Ref Val %REC LowLimit HighLimit Gasoline Range Organics (GRO) 26 5.0 25.00 0 105 76.4 125 1000 1000 103 54 150

Surr: BFB

Sample ID 1703496-002AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

Q-2

Batch ID: 30631

RunNo: 41331

Units: mg/Kg

**RPDLimit** 

Analyte Gasoline Range Organics (GRO)

Prep Date: 3/10/2017

3/10/2017

Analysis Date: 3/13/2017

SPK value SPK Ref Val PQL

SeqNo: 1295383 %REC LowLimit

HighLimit

150

150

%RPD

**RPDLimit** Qual

Qual

Surr: BFB

20 830

24

860

Result

4.7 23.28 931.1

0 84.3 89.3

TestCode: EPA Method 8015D: Gasoline Range

Sample ID 1703496-002AMSD Client ID:

0-2

SampType: MSD Batch ID: 30631

RunNo: 41331

61.3

LowLimit

54

HighLimit

Prep Date: Analyte

Analysis Date: 3/13/2017 Result PQL SPK value SPK Ref Val

SeqNo: 1295384

0

Units: mg/Kg

Gasoline Range Organics (GRO) Surr: BFB

5.0 24.80 992.1

%REC 95.3 86.3

61.3 54

18.6 150 150

%RPD

0

**RPDLimit** 

20

0

Page 11 of 12

## **Oualifiers:**

ND

- 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 RPD outside accepted recovery limits R
- % 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
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

Result

ND

ND

ND

ND

0.89

WO#:

1703496

14-Mar-17

Client:

**APEX TITAN** 

Project:

Lateral H-45

Sample ID MB-30631

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID:

PBS

Batch ID: 30631

RunNo: 41331

Prep Date:

3/10/2017

Analysis Date: 3/13/2017 **PQL** 

0.025

0.050

0.050

0.10

SeqNo: 1295395

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

**RPDLimit** 

Qual

Qual

Benzene Toluene Ethylbenzene

Analyte

Xylenes, Total Surr: 4-Bromofluorobenzene

SampType: LCS

TestCode: EPA Method 8021B: Volatiles

1.000

88.9

132

Sample ID LCS-30631 Client ID: LCSS

Batch ID: 30631

RunNo: 41331

Prep Date: 3/10/2017

Analysis Date: 3/13/2017

SPK value SPK Ref Val %REC LowLimit

SeqNo: 1295396

Units: mg/Kg

%RPD

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Benzene	0.97	0.025	1.000	0	96.7	80	120
Toluene	0.99	0.050	1.000	0	98.9	80	120
Ethylbenzene	1.0	0.050	1.000	0	100	80	120
Xylenes, Total	3.1	0.10	3.000	0	103	80	120
Surr: 4-Bromofluorobenzene	0.92		1.000		92.5	66.6	132

Sample ID 1703496-001AMS

SampType: MS

TestCode: EPA Method 8021B: Volatiles RunNo: 41331

Client ID: Q-1

Batch ID: 30631

Prep Date: 3/10/2017	Analysis Date: 3/13/2017			S	SeqNo: <b>1295399</b> Units: <b>mg/K</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Benzene	0.90	0.024	0.9728	0.007700	91.3	61.5	138			
Toluene	0.92	0.049	0.9728	0	94.7	71.4	127			
Ethylbenzene	0.95	0.049	0.9728	0	97.2	70.9	132			
Xylenes, Total	2.9	0.097	2.918	0	99.5	76.2	123			
Surr: 4-Bromofluorobenzene	0.94		0.9728		96.2	66.6	132			

Sample ID 1703496-001AMSD Client ID: Q-1

SampType: MSD

TestCode: EPA Method 8021B: Volatiles

RunNo: 41331

Pren Date: 3/10/2017

Batch ID: 30631

Unite: malke

	· · · · · · · · · · · · · · · · · · ·						
Analyte	Result	PQL	SI				
Benzene	0.88	0.025					
Toluene	0.92	0.050					
Ethylbenzene	0.93	0.050					
Xylenes, Total	2.9	0.099					

Analysis Date: 3/13/2017

SeaNo: 1205400

Frep Date. 3/10/2017	Allalysis L	Jale. 31	13/2017		equo. I	295400	Office. High	vg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Benzene	0.88	0.025	0.9940	0.007700	87.5	61.5	138	2.07	20	
Toluene	0.92	0.050	0.9940	0	92.6	71.4	127	0.0569	20	
Ethylbenzene	0.93	0.050	0.9940	0	93.5	70.9	132	1.71	20	
Xylenes, Total	2.9	0.099	2.982	0	95.6	76.2	123	1.91	20	
Surr: 4-Bromofluorobenzene	0.88		0.9940		88.1	66.6	132	0	0	

- 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
- % 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 12 of 12

- 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

**APEX AZTEC** Work Order Number: 1703496 RcptNo: 1 Client Name: Received by/date: Lindsay Mangin 3/9/2017 7:10:00 AM Logged By: Completed By: 3/9/2017 1:12;04 PM Lindsay Mangin Reviewed By: Chain of Custody No 🗌 Not Present 1. Custody seals intact on sample bottles? Yes No 🗌 Yes 🗹 Not Present 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? No NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🗌 Yes 🗸 Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 8. Are samples (except VOA and ONG) properly preserved? Yes 🗌 No V NA  $\square$ 9. Was preservative added to bottles? No No VOA Vials Yes 🗌 10. VOA vials have zero headspace? Yes 🗌 No 🗸 11. Were any sample containers received broken? # of preserved bottles checked No 🗆 for pH: Yes 🗹 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes V 14. Is it clear what analyses were requested? No Checked by: Yes V 15. Were all holding times able to be met? (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: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date 1.0 Good Yes

										_	-		_	-			OTT	AIN OF COSTODY RECOR
Office Project	Location to Mana	Address: _ Contact: _ Phone: _ PO/SO #:	Laboratory: Hall Environmental  Address: ABBINM  Contact: AiFreeman  Phone: PO/SO#: Sampler's Signature							Red	BITE	STED PROTING			Lab use only Due Date:  Temp. of ccolers when received (C°):  1 2 3 4 5  Page 1 of 1			
				ect Name				110/1	Jhe or r	-universit				NO 3	8 / / 1	1 /	-1	
				Lateral	H-45	-			*	-	-			1	7 / / /	f = f	/ /	
Matrix	Date	Time	030U	G r Identifying	Marks of Sample(s)	Start	End	VOA	A/G	250 E	Glass	D/O						Lab Sample ID (Lab Use Only)
5	3/8/17	935	X	0	2-1						1		X	<			1	703496-001
1	-	930			2-2						1		1	1				-00z
		935		(	2-3						1			1				-003
		940			Q-4						)							-004
		945	1		Q-5						)							-015
		950			2-6						1			1				-006
		955	1		Q-7						1			1				-007
V	V	1000	A		Q-8						1		V	1				-008
			-		NES	-								_				
Turn ar	ound time	Nor	mal	⊇ 25% Rush	☐ 50% Rush	⊒ 100%	Rush				_							
		(Signature)		Date: 3 8 17	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWIND TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN	ved by:		ture)		_	Date:	1		me:	NOTES:	11 to 7	Tom L	ong (EPROD)
Reling	uished by	(Signature)		Date: 0/8/17		ved by:	(Signa	Mure)			Date:			me:	01	10	N/2	9405
Relinqu	uished by	(Signature)		Dave:		ved by:	(Signa	iture)			Date:	1		me:	1 100	MATE	[Val	7-10)
Relinqu	uished by	(Signature)		Date:	Time: Recei	ved by:	(Signa	ture)		+	Date:	1	Ti	me:	1			
Matrix Contain		V - Wastewa A - 40 mi via		W - Water A/G - Amber	S - Soil SD - So / Or Glass 1 Liter	olid I	- Liquio	d A	- Air Ba	ag outh			coal tu		St 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

April 19, 2017

Kyle Summers
APEX TITAN
606 S. Rio Grande Unit A

5. Kio Grande Ollit A

Aztec, NM 87410 TEL: (903) 821-5603

FAX

RE: Lateral H 45

OrderNo.: 1704733

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/18/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <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

Lab Order 1704733

Date Reported: 4/19/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral H 45

Lab ID:

1704733-001

Client Sample ID: S-1

Collection Date: 4/17/2017 2:00:00 PM

Matrix: MEOH (SOIL) Received Date: 4/18/2017 6:48:00 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)	14	9.4	mg/Kg	1	4/18/2017 11:18:41 AM	1 31287
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/18/2017 11:18:41 AM	1 31287
Surr: DNOP	84.3	70-130	%Rec	1	4/18/2017 11:18:41 AM	1 31287
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	4/18/2017 8:30:50 PM	31284
Surr: BFB	94.2	54-150	%Rec	1	4/18/2017 8:30:50 PM	31284
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.020	mg/Kg	1	4/18/2017 8:30:50 PM	31284
Toluene	ND	0.040	mg/Kg	1	4/18/2017 8:30:50 PM	31284
Ethylbenzene	ND	0.040	mg/Kg	1	4/18/2017 8:30:50 PM	31284
Xylenes, Total	ND	0.080	mg/Kg	1	4/18/2017 8:30:50 PM	31284
Surr: 4-Bromofluorobenzene	114	66.6-132	%Rec	1	4/18/2017 8:30:50 PM	31284

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

- 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
- % 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 1 of 10 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1704733

Date Reported: 4/19/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Lab ID:

1704733-002

Project: Lateral H 45

Client Sample ID: S-2

Collection Date: 4/17/2017 2:10:00 PM

Matrix: MEOH (SOIL) Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	S			Analys	t: TOM
Diesel Range Organics (DRO)	12	9.4	mg/Kg	1	4/18/2017 11:47:13 AM	1 31287
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/18/2017 11:47:13 AM	1 31287
Surr: DNOP	77.3	70-130	%Rec	1	4/18/2017 11:47:13 AM	1 31287
EPA METHOD 8015D: GASOLINE RANG	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	4/18/2017 10:22:00 AM	1 31284
Surr: BFB	92.2	54-150	%Rec	1	4/18/2017 10:22:00 AM	1 31284
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.019	mg/Kg	1	4/18/2017 10:22:00 AN	1 31284
Toluene	ND	0.037	mg/Kg	1	4/18/2017 10:22:00 AM	1 31284
Ethylbenzene	ND	0.037	mg/Kg	1	4/18/2017 10:22:00 AM	1 31284
Xylenes, Total	ND	0.075	mg/Kg	1	4/18/2017 10:22:00 AM	1 31284
Surr: 4-Bromofluorobenzene	109	66.6-132	%Rec	1	4/18/2017 10:22:00 AM	1 31284

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
- RPD outside accepted recovery limits
- % 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
- Sample pH Not In Range P
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1704733

Date Reported: 4/19/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-3

Project: Lateral H 45

Collection Date: 4/17/2017 2:20:00 PM

Lab ID: 1704733-003

Matrix: MEOH (SOIL) Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL Qu	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analysi	: TOM
Diesel Range Organics (DRO)	15	9.8	mg/Kg	1	4/18/2017 12:15:17 PM	31287
Motor Oil Range Organics (MRO)	54	49	mg/Kg	1	4/18/2017 12:15:17 PM	31287
Surr: DNOP	89.7	70-130	%Rec	1	4/18/2017 12:15:17 PM	31287
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	4/18/2017 10:45:30 AM	31284
Surr: BFB	95.3	54-150	%Rec	1	4/18/2017 10:45:30 AM	31284
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.017	mg/Kg	1	4/18/2017 10:45:30 AM	31284
Toluene	ND	0.035	mg/Kg	1	4/18/2017 10:45:30 AM	31284
Ethylbenzene	ND	0.035	mg/Kg	1	4/18/2017 10:45:30 AM	31284
Xylenes, Total	ND	0.070	mg/Kg	1	4/18/2017 10:45:30 AM	31284
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/18/2017 10:45:30 AM	31284

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

- 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 3 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1704733

Date Reported: 4/19/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Lab ID:

Project:

Lateral H 45

1704733-004

Client Sample ID: S-4

Collection Date: 4/17/2017 2:30:00 PM

Matrix: MEOH (SOIL) Received Date: 4/18/2017 6:48:00 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	9.5	mg/Kg	1	4/18/2017 12:43:38 PM	1 31287
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/18/2017 12:43:38 PM	1 31287
Surr: DNOP	81.5	70-130	%Rec	1	4/18/2017 12:43:38 PM	1 31287
EPA METHOD 8015D: GASOLINE RANG	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	4/18/2017 11:09:06 AN	1 31284
Surr: BFB	93.2	54-150	%Rec	1	4/18/2017 11:09:06 AN	1 31284
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.017	mg/Kg	1	4/18/2017 11:09:06 AM	1 31284
Toluene	ND	0.035	mg/Kg	1	4/18/2017 11:09:06 AM	1 31284
Ethylbenzene	ND	0.035	mg/Kg	1	4/18/2017 11:09:06 AM	31284
Xylenes, Total	ND	0.069	mg/Kg	1	4/18/2017 11:09:06 AM	1 31284
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/18/2017 11:09:06 AM	31284

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

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

Lab Order 1704733

Date Reported: 4/19/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-5

Project: Lateral H 45

Collection Date: 4/17/2017 2:40:00 PM

**Lab ID:** 1704733-005

Matrix: MEOH (SOIL) Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL 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	4/18/2017 1:12:10 PM	31287
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/18/2017 1:12:10 PM	31287
Surr: DNOP	83.7	70-130	%Rec	1	4/18/2017 1:12:10 PM	31287
EPA METHOD 8015D: GASOLINE RAM	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	4/18/2017 1:06:40 PM	31284
Surr: BFB	93.0	54-150	%Rec	1	4/18/2017 1:06:40 PM	31284
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.021	mg/Kg	1	4/18/2017 1:06:40 PM	31284
Toluene	ND	0.042	mg/Kg	1	4/18/2017 1:06:40 PM	31284
Ethylbenzene	ND	0.042	mg/Kg	1	4/18/2017 1:06:40 PM	31284
Xylenes, Total	ND	0.085	mg/Kg	1	4/18/2017 1:06:40 PM	31284
Surr: 4-Bromofluorobenzene	109	66.6-132	%Rec	1	4/18/2017 1:06:40 PM	31284

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

- \* 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 5 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1704733

Date Reported: 4/19/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-1a

Project: Lateral H 45 Collection Date: 4/17/2017 2:50:00 PM

Lab ID: 1704733-006

Matrix: MEOH (SOIL) Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analysi	: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/18/2017 1:35:33 PM	31287
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/18/2017 1:35:33 PM	31287
Surr: DNOP	89.9	70-130	%Rec	1	4/18/2017 1:35:33 PM	31287
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	4/18/2017 1:30:01 PM	31284
Surr: BFB	92.7	54-150	%Rec	1	4/18/2017 1:30:01 PM	31284
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	: NSB
Benzene	ND	0.020	mg/Kg	1	4/18/2017 1:30:01 PM	31284
Toluene	ND	0.040	mg/Kg	1	4/18/2017 1:30:01 PM	31284
Ethylbenzene	ND	0.040	mg/Kg	1	4/18/2017 1:30:01 PM	31284
Xylenes, Total	ND	0.080	mg/Kg	1	4/18/2017 1:30:01 PM	31284
Surr: 4-Bromofluorobenzene	107	66.6-132	%Rec	1	4/18/2017 1:30:01 PM	31284

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

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

Lab Order 1704733

Date Reported: 4/19/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-1b

**Project:** Lateral H 45

Collection Date: 4/17/2017 3:00:00 PM

**Lab ID:** 1704733-007

Matrix: MEOH (SOIL) Received Date: 4/18/2017 6:48:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGI	ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	4/18/2017 1:10:46 PM	31287
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/18/2017 1:10:46 PM	31287
Surr: DNOP	87.9	70-130	%Rec	1	4/18/2017 1:10:46 PM	31287
EPA METHOD 8015D: GASOLINE RANG	Ε				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	4/18/2017 1:53:21 PM	31284
Surr: BFB	92.9	54-150	%Rec	1	4/18/2017 1:53:21 PM	31284
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	4/18/2017 1:53:21 PM	31284
Toluene	ND	0.037	mg/Kg	1	4/18/2017 1:53:21 PM	31284
Ethylbenzene	ND	0.037	mg/Kg	1	4/18/2017 1:53:21 PM	31284
Xylenes, Total	ND	0.074	mg/Kg	1	4/18/2017 1:53:21 PM	31284
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	4/18/2017 1:53:21 PM	31284

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

- 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 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1704733

19-Apr-17

Client:

**APEX TITAN** 

Project:

Lateral H 45

Sample ID MB-31240

SampType: MBLK

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

PBS Client ID:

Batch ID: 31240

RunNo: 42155

Prep Date: 4/14/2017

Result

8.7

SPK value SPK Ref Val

SeqNo: 1324298

LowLimit

LowLimit

63.8

Units: %Rec

Analyte

Analysis Date: 4/17/2017 **PQL** 

%REC

**HighLimit** 

130

Qual

Surr: DNOP

10.00

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

87.0

**RPDLimit** 

Sample ID LCS-31287

Client ID: LCSS SampType: LCS Batch ID: 31287

RunNo: 42181

Prep Date: 4/18/2017

Analysis Date: 4/18/2017

SeqNo: 1325111

Units: mg/Kg

Analyte

Result **PQL** SPK value SPK Ref Val

HighLimit

%RPD

%RPD

Diesel Range Organics (DRO) Surr: DNOP

42 4.3

10 50.00 5.000 84.3 85.4

%REC

116

**RPDLimit** Qual

SampType: MBLK

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

70 130

Sample ID MB-31287

**PBS** 

Batch ID: 31287

RunNo: 42181

Client ID: Prep Date:

4/18/2017

Analysis Date: 4/18/2017

SeqNo: 1325112

Units: mg/Kg

Analyte

Diesel Range Organics (DRO)

Result PQL ND 10

SPK value SPK Ref Val %REC LowLimit

0

%RPD HighLimit

**RPDLimit** 

Motor Oil Range Organics (MRO) Surr: DNOP

ND 50 8.5

10.00

85.2

130

Qual

Qual

Sample ID 1704733-001AMS

SampType: MS

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

Client ID: S-1

Batch ID: 31287

RunNo: 42181

0.08

%REC

78.0

86.2

130

130

Prep Date: 4/18/2017

Analysis Date: 4/18/2017

9.7

PQL

Analyte

Result

SPK value SPK Ref Val

48.59

48.45

4.845

SeqNo: 1325896 %REC

LowLimit **HighLimit** 

70

Units: mg/Kg

%RPD

**RPDLimit** Qual

Diesel Range Organics (DRO) Surr: DNOP

4.2 SampType: MSD

53

51

4.2

13.62 4.859 86.7

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

Sample ID 1704733-001AMSD

Client ID: S-1

Prep Date: 4/18/2017

Batch ID: 31287

9.7

RunNo: 42181

51.6

130

130

0

Page 8 of 10

Diesel Range Organics (DRO)

Surr: DNOP

Analysis Date: 4/18/2017 Result **PQL** 

SPK value SPK Ref Val

SeqNo: 1325897

LowLimit

51.6

70

Units: mg/Kg HighLimit

%RPD

0

**RPDLimit** 2.13 20

# **Oualifiers:**

- Sample Diluted Due to Matrix
- ND Not Detected at the Reporting Limit
- Value exceeds Maximum Contaminant Level.
- H Holding times for preparation or analysis exceeded
- R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E
- Analyte detected below quantitation limits J P Sample pH Not In Range
- RL Reporting Detection Limit
- Value above quantitation range

Sample container temperature is out of limit as specified

# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1704733

19-Apr-17

Client:

APEX TITAN

Project:

Lateral H 45

Sample ID MB-31284

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

PBS

Batch ID: 31284

RunNo: 42191

%REC

Prep Date:

4/17/2017

Analysis Date: 4/18/2017 **PQL** 

SeqNo: 1325839

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

ND

Result

Result

24

1000

SPK value SPK Ref Val 1000

SPK value SPK Ref Val

25.00

1000

1000

LowLimit

**RPDLimit** HighLimit %RPD

Qual

Surr: BFB

5.0 930

93.1

0

150

TestCode: EPA Method 8015D: Gasoline Range

76.4

54

Sample ID LCS-31284

Client ID: LCSS SampType: LCS Batch ID: 31284

PQL

5.0

RunNo: 42191

Prep Date: 4/17/2017

Analysis Date: 4/18/2017

SeqNo: 1325840

Units: mg/Kg

125

150

LowLimit HighLimit %RPD

**RPDLimit** Qual

Gasoline Range Organics (GRO) Surr: BFB

Prep Date:

Surr: BFB

Client ID:

4/17/2017

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

%REC

95.1

99.8

%RPD

%RPD

Sample ID MB-31275 Client ID: PBS

Batch ID: 31275 Analysis Date: 4/18/2017

RunNo: 42191

Units: %Rec

150

Analyte

SPK value SPK Ref Val %REC Result

SeqNo: 1325850 LowLimit 92.8

HighLimit

**RPDLimit** 

**RPDLimit** 

Qual

Sample ID LCS-31275

SampType: LCS Batch ID: 31275 TestCode: EPA Method 8015D: Gasoline Range

RunNo: 42191

LowLimit

Prep Date:

4/17/2017

LCSS

Analysis Date: 4/18/2017

SeqNo: 1325851

Units: %Rec

Analyte Surr: BFB Result 1000 SPK value SPK Ref Val 1000

%REC 101

HighLimit 150

#### **Qualifiers:**

R

- 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

RPD outside accepted recovery limits

- % 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 10

- 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#: 1704733

19-Apr-17

**Client:** 

**APEX TITAN** 

**Project:** 

Lateral H 45

Sample ID MB-31284

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID: PBS

Batch ID: 31284

RunNo: 42191

SPK value SPK Ref Val %REC LowLimit

%RPD

%RPD

**RPDLimit** 

Prep Date:

4/17/2017

Analysis Date: 4/18/2017 **PQL** 

0.025

0.050

0.050

SeqNo: 1325867

Units: mg/Kg

HighLimit

**RPDLimit** Qual

Qual

Analyte Benzene Toluene Ethylbenzene

Xylenes, Total Surr: 4-Bromofluorobenzene

ND 0.10 1.1

Result

ND

ND

ND

1.000

113

66.6

132

Sample ID LCS-31284

Prep Date: 4/17/2017

Client ID: LCSS

SampType: LCS

Analysis Date: 4/18/2017

Batch ID: 31284

RunNo: 42191

SeqNo: 1325868

TestCode: EPA Method 8021B: Volatiles

Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	- 1
Benzene	1.2	0.025	1.000	0	116	80	120	
Toluene	1.1	0.050	1.000	0	106	80	120	
Ethylbenzene	1.0	0.050	1.000	0	102	80	120	
Xylenes, Total	2.8	0.10	3.000	0	94.9	80	120	
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132	

#### **Oualifiers:**

- 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 B
- 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 10 of 10



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:	1704733		RcptNo:	1
Descripted Day	Linday Manula	4/40/0047 0.40.00 434		Street How		
Received By:	Lindsay Mangin	4/18/2017 6:48:00 AM	ž.			
Completed By:	Lindsay Mangin	4/18/2017 7:19:45 AM		James Harry		
Reviewed By:	ENM	04/18/18/17				
Chain of Cus	tody			·		
	als intact on sample bottle	se?	Yes	No [	Not Present	
	Custody complete?		Yes 🗸	No 🗆	Not Present	
	e sample delivered?		Courier	7		
Log In						
4. Was an atte	empt made to cool the sa	mples?	Yes 🗹	No 🗆	NA []	
5. Were all san	mples received at a temp	erature of >0° C to 6.0°C	Yes 🗹	No []	NA []	
6. Sample(s) in	n proper container(s)?	*	Yes 🗸	No []		
7. Sufficient sa	mple volume for indicate	i test(s)?	Yes 🗸	No 🗌		
8. Are samples	(except VOA and ONG)	properly preserved?	Yes 🗸	No		
9. Was preserv	vative added to bottles?		Yes	No V	NA []	
10.VOA vials ha	ave zero headspace?	¥	Yes 🗍	No 🗀	No VOA Vials	
11. Were any sa	ample containers receive	d broken?	Yes	No 🗹	# of preserved	
12 Does paper	work match bottle labels?		Yes 🗹	No 🗀	bottles checked for pH:	
	pancles on chain of custo	dy)	103			r >12 unless noted)
13. Are matrices	correctly identified on C	nain of Custody?	Yes 🗹	No 🗌	Adjusted?	***************************************
	at analyses were request		Yes 🗹	No 🗌		
	ding times able to be met customer for authorizatio		Yes 🗸	No []	Checked by:	
(ii jia) iiaaiy		,				
Special Hand	lling (if applicable)					
16. Was client n	otified of all discrepancie	s with this order?	Yes 🗍	No	NA 📝	
Person	Notified:	Date:		**************************************		
By Wh	om:	Via: [	] eMail [	Phone Fax	In Person	
Regard	ding:					
Client	Instructions:					
17. Additional re	emarks:					
18. Cooler Info	rmation					
Cooler No			Seal Date	Signed By		
1	1.7 Good	Yes	***************************************			
	r	at communications of a second	o. or areas a			

			-															CHAIN	OF (	COSTODY RECORD
Offic	ect Mar ler's Nar	nager	ر ک	17:	Conta Phone PO/SC Sampler	atory: ss: ct: ct: s Signatur	A Fin	1/				R	NALYSI EQUES	TED (						Lab use only Due Date:  Temp. of coolers when received (C°): 1 2 3 4 5  Page of
Proj.	NO.		Fioje	ect IN	Lateral t	1-43		NO/1	ype or c	ontaine	rs		2/3	///	/ /	/	/ /	/		
Matrix	Date	Time	COED		Identifying Marks of Sam		Depth End Depth	VOA	AG 1.	250 ml 250	Jar P/O			$^{\prime}$ $^{\prime}$ $^{\prime}$		//	///		Lab S	ample ID (Lab Use Only)
(	4.2	7 1400	1	, L	5-(						1	X	X		+		$\top$	17/	VF.	133-001
دہ	1	14/10	+			_		-			1	1				+	-	TC		
+	-		-		5-2	_	_	-			1	+				+	+			-002
	1	1420	-		5-3				-		1	+	+++			+	+			-003
1		1430			5-01						1	Ш					$\perp$			-004
		1440			5-3						١	'								-005
		1450			FP-La						1									-006
1	1	1500			FA-1.5						1	1	14							-00t
				-																
														3						
			$\vdash$					_			+	+								
Turn a	round ti	ne 🗋 No	rmal	02	25% Rush 🔲 50% Rus	sh 📜 10	0% Rush	-	ame	00	4									
Relinquished by (Signature)  Date: Time: Received by (Signature)  Date: 17-17   1646   Wat YAM   41717							1	Time:	NOTES:	2.1	, A	n 2	Bin.	Lon	3 Sapay					
Relind	Relinquished by (Signature)  Date: Time: Received by: (Signature)  O4 18 17							ate:	M	Time:	1	5:11	10	, ,		•	ne !			
		by (Signature			Date: Time:	Received	by: Sign	ature)	04		ate:		Time:	1 -	_		20	Unc		SPINN
Police:	u labad l	ns /Clamat	`	_	Date: Time:	Received	10:				lada.		Time:	AF	5	N	0 7	703		120
Reino	juisned i	y (Signature	)		Date: Time:	neceived	ny: (sign	ature)		'	ate:		ime:							
Matrix Contai		WW - Wastew VOA - 40 ml v			W - Water S - Soil S A/G - Amber / Or Glass 1 L		L - Liqu 250 ml	id A	- Air Ba	ag outh		narcoa	tube or other_	SL - sludge	•	O - Oil				***