## 3R-1011

# Release Report/ General Correspondence

**Enterprise SJ** 

Date: Mar-Jun 2018



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

Type of Release Natural gas and Natural Gas Liquids

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

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

NMOCD Form C-141 MAR 1 2 2018 Revised April 3, 2017 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Volume Recovered None

Rel	ease Notificat	tion and Correctiv	e Action	
		OPERATOR	☐ Initial Repo	rt 🛛 Final Report
Name of Company Enterprise Field	d Services, LLC	Contact Thomas Lon	g	
Address 614 Reilly Ave, Farmington	on, NM 87401	Telephone No. 505-59	99-2286	
Facility Name Hughes LS #3		Facility Type Natural	Gas Gathering Pipelin	е
Surface Owner BLM	Mineral Ow	ner <b>BLM</b>	Serial No. N	IM 031701

Volume of Release 4.92 MCF

Gas; 5-7 BBLs Condensate

LOCATION OF RELEASE Norto/South Unit Letter Section **Township** Range Feet from Feet from East/West County P 20 29N **8W** the Line the Line San Juan 761 1645

Latitude 36.705922 Longitude -107696048. NAD83

#### NATURE OF RELEASE

Source of Release Internal Corrosion of the Pipeline		e and Hour of Discovery I1/2017 @ 8:48 a.m.
Was Immediate Notice Given?	If YES, To Whom? : Courtesy Notifica	tion Cory Smith – NMOCD;
☐ Yes ☐ No ☒ Not Required	Whitney Thomas - BLM	
By Whom? Thomas Long	Date and Hour December 12, 2017 @	
Was a Watercourse Reached?  ☐ Yes ☒ No	If YES, Volume Impacting the Watero	ourse.
If a Watercourse was Impacted, Describe Fully.*		
Describe Cause of Problem and Remedial Action Taken.* On Dece		
pipeline. Enterprise technicians confirmed the release and isolated	, depressurized, locked out and tagged	out the pipeline.
Describe Area Affected and Cleanup Action Taken.* The contamina		
dimensions measured approximately 25 feet long by 10 feet by 11 were excavated and transported to a New Mexico Oil Conservation	reet deep. Approximately 52 cubic yard	ls of hydrocarbon impacted soil
report is included with this "Final" C-141.	Division approved land farm facility. A	tilla party corrective action
I hereby certify that the information given above is true and complete	te to the best of my knowledge and under	erstand that pursuant to NMOCD
rules and regulations all operators are required to report and/or file	certain release notifications and perforn	corrective actions for releases
which may endanger public health or the environment. The accept relieve the operator of liability should their operations have failed to		
ground water, surface water, human health or the environment. In		
operator of responsibility for compliance with any other federal, stat		
	OIL CONSERVAT	ION DIVISION
Signature: M. Fund		
	Approved by Environmental Specialist:	
Printed Name: Jon E. Fields	Approved by Environmental opecialist.	2
Title: Director, Environmental	Approval Date: 4 2 6 8 Expir	ation Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached
Date: 3/7/2018 Phone: (713) 381-6684		Attached []

Attach Additional Sheets If Necessary

NCS 1801656251



#### CORRECTIVE ACTION REPORT

Property:

Hughes LS #3A Well Tie SE 1/4, S20 T29N R8W San Juan County, New Mexico

February 21, 2018 Apex Project No. 725040112363 NMOCD
MAR 12 2018
DISTRICT\_III

Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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#### CORRECTIVE ACTION REPORT

Hughes LS #3A Well Tie SE 1/4, S20 T29N R8W San Juan County, New Mexico

Apex Project No. 725040112363

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Hughes LS #3A well tie release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southeast (SE) ¼ of Section 20, Township 29 North, Range 8 West, in rural San Juan County, New Mexico (36.705922N,107.696048W). 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 valve tie that was connected to the Hughes LS #3A well tie.

On December 11, 2017, a release of natural gas and associated pipeline liquids was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On December 18, 2017, Enterprise initiated excavation activities to facilitate the removal of the unused valve tie that was connected to the Hughes LS #3A well tie, and to remediate potential petroleum hydrocarbon impact resulting from the release.

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

#### 1.2 Project Objective

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

#### 2.0 SITE RANKING

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



Ranki	,000 feet from a water Yes 20					
	<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 Confess Western	<200 feet	20				
Distance to Surface Water	200 to 1,000 feet	10	10			
Body	>1,000 feet	0				
Total Ra	anking Score		10			

Based on Apex's evaluation of the scoring criteria, the Site would earn a maximum Total Ranking Score of "10". The ranking is based on the following information:

- Two (2) water wells (SJ 00005 and SJ 00025) were identified on the OSE Water Rights Reporting System (WRRS) database, one of which appears to be visible on the topographic map to the northeast of the Site and with an elevation approximately 40 feet lower than the Site. The well visible on the topographic map is approximately 2,000 feet east-northeast of the Site. These wells are apparently near each other, with identical depths to water listed at 406 feet below grade surface (bgs). Based on this information, the depth to groundwater at the Site is anticipated to be greater than 100 feet bgs. 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/water source protection area ranking score of "0".
- The release point is approximately 311 feet east of an 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 "10".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On December 11, 2017, a release of natural gas and associated pipeline liquids was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On December 18, 2017, Enterprise initiated excavation activities to facilitate the removal of the unused valve tie that was connected to the Hughes LS #3A well tie, and to remediate potential petroleum hydrocarbon impact resulting from the release. During the pipeline repair and corrective action activities, Halo Services Inc., provided heavy equipment and labor support, and Apex provided environmental consulting support.

Five (5) composite soil samples (S-1 through S-5) were collected from the sidewalls and base of the excavation for laboratory analysis. In addition, two (2) composite soil samples (SP-1 and SP-2) were collected from stockpiled soils. Subsequent laboratory analytical results indicate that soils associated with composite soil sample S-1 and composite stockpile soil sample SP-2 exhibit COC concentrations above New Mexico EMNRD OCD standards. On December 20, 2017, the base of the excavation was further excavated near the point of release and six (6) composite soil samples (S-6 through S-11) were collected from the excavation to complete the analytical profile.



The excavation measured approximately 25 feet long by ten (10) feet wide. The maximum depth of the excavation measured approximately 11 feet bgs.

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

A total of approximately 52 cubic yards of petroleum hydrocarbon affected soils and 65 barrels (bbls) of hydro-excavation cuttings were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with laboratory-confirmed stockpiled soils and imported fill and contoured to surrounding grade.

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

#### 3.2 Soil Sampling Program

Apex field screened soil samples from the excavation utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp to guide excavation extents.

Apex's soil sampling program included the collection of 11 composite soil samples (S-1 through S-11) from the excavation and two (2) composite soil samples (SP-1 and SP-2) from stockpiled soils for laboratory analysis.

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

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

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



#### 4.1 Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory practical quantitation limits (PQLs) associated with the composite soil samples (S-2 through S-11) and composite stockpiled soil sample SP-1 to the New Mexico EMNRD OCD *RALs* for sites having a total ranking score of "10". Soils associated with composite soil sample S-1 and composite stockpiled soil sample SP-2 were removed and transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/treatment, and are not included in the following discussion.

- The laboratory analyses of the composite soil samples collected from soils remaining in
  place and the composite soil sample collected from the reused stockpiled soils indicate
  benzene concentrations ranging from below the laboratory PQLs to 1.9 mg/kg (S-5),
  which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram
  (mg/kg).
- The laboratory analyses of the composite soil samples collected from soils remaining in
  place and the composite soil sample collected from the reused stockpiled soils indicate
  total BTEX concentrations ranging from below the laboratory PQLs to 39 mg/kg (S-5),
  which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of the composite soil samples collected from soils remaining in
  place and the composite soil sample collected from the reused stockpiled soils indicate
  combined TPH GRO/DRO/MRO concentrations ranging from below the laboratory PQLs
  to 270 mg/kg (S-5), which are below the New Mexico EMNRD OCD RAL of 1,000 mg/kg
  for a Site ranking of "10".
- The laboratory analyses of the composite soil samples collected from soils remaining in
  place and the composite soil sample collected from the reused stockpiled soils do not
  indicate chloride concentrations above the laboratory PQLs.

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Hughes LS #3A well tie release site is located within the Enterprise ROW in the SE ¼ of Section 20, Township 29 North, Range 8 West, in rural San Juan County, New Mexico. The Site is located on land managed by the United States BLM. The Site is surrounded by rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise valve tie that was connected to the Hughes LS #3A well tie.

On December 11, 2017, a release of natural gas and associated pipeline liquids was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On December 18, 2017, Enterprise initiated excavation activities to facilitate the removal of the unused valve tie that was connected to the Hughes LS #3A well tie, and to remediate potential petroleum hydrocarbon impact resulting from the release.

- The primary objective of the corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand and weathered shally sandstone.



- The excavation measured approximately 25 feet long by ten (10) feet wide. The maximum depth of the excavation measured approximately 11 feet bgs.
- Prior to backfilling, 11 composite samples soil samples were collected from the final excavation and two (2) composite soil samples were collected from the stockpiled soils for laboratory analyses. Based on soil analytical results, soils remaining in place and reused stockpiled soils do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs for a Site ranking of "10".
- A total of approximately 52 cubic yards of petroleum hydrocarbon affected soils and 65 bbls of hydro-excavation sludge were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with laboratoryconfirmed stockpiled soils and imported fill, and contoured to 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 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.

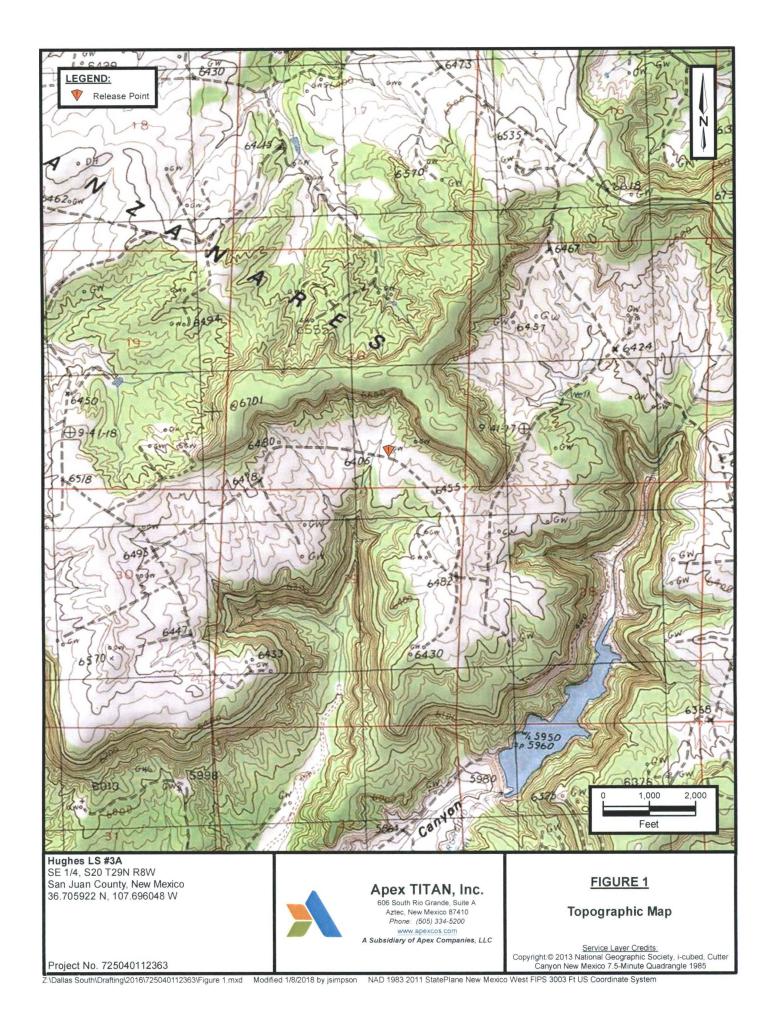
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

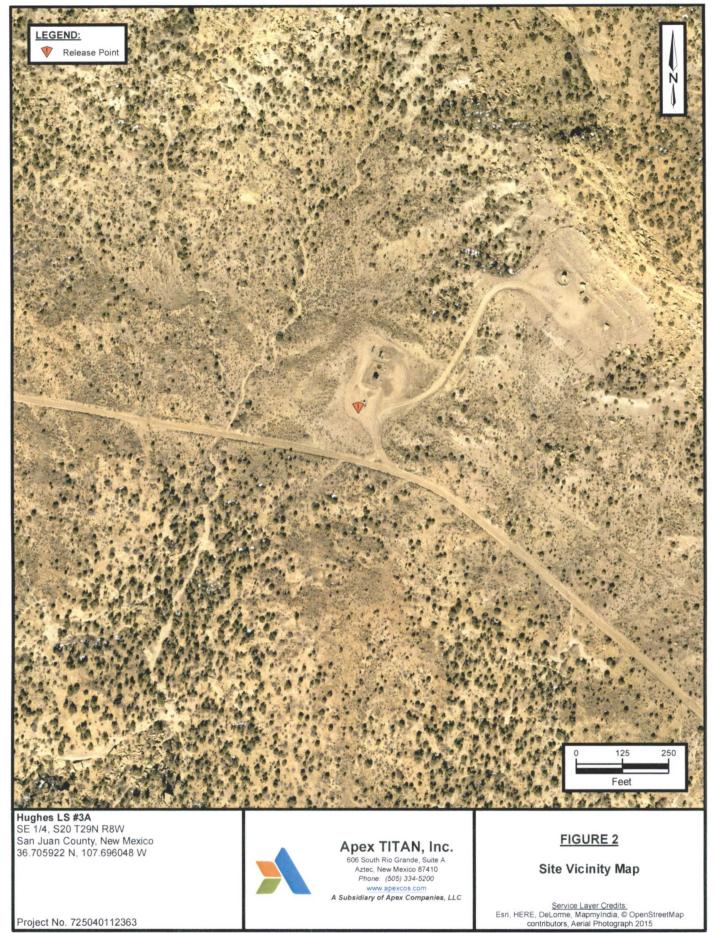
This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution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

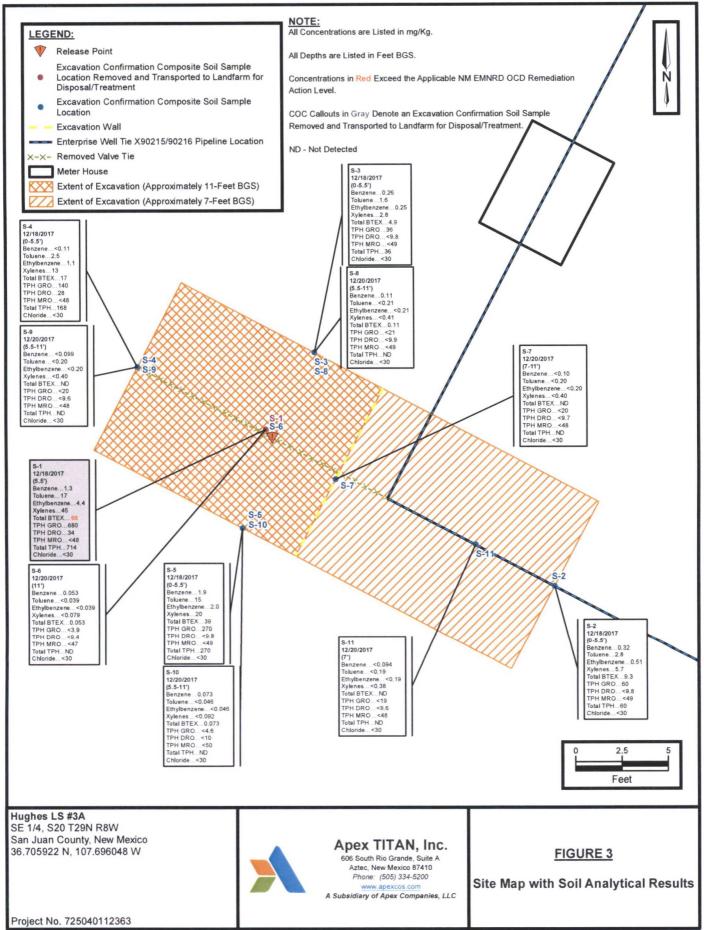


APPENDIX A

Figures









APPENDIX B

Executed C-138 Solid Waste Acceptance Form

District 1 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 7857-0875 Form C-138 Revised August 1, 2011

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

	REQUEST FOR ATTROVILE TO RECELT SOCIE WHSTE
1.	Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2.	Originating Site: Hughes LS #3A Pipeline
3.	Location of Material (Street Address, City, State or ULSTR):
	Unit Letter P, Section 20, T29N, R8W; 36.705922, -107.696048, San Juan County  Dec. 2017
4.	Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.
Esti	imated Volume 50 yd³ bbls Known Volume (to be entered by the operator at the end of the haul) 52/65 yd³/bbls
5.	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
cer	Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby COMPANY NAME tify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 ulatory 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
	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
Ger	12-11-17 , representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete the required string/sign the Generator Waste Testing Certification.
hav	, representative for Envirotech, Inc. do hereby certify that resentative 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 the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 15.36 NMAC.
	Transporter: TBD Halo, IMI, Kelly Dilfield
Nam	D Permitted Surface Waste Management Facility see and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 ress of Facility: Hilltop, NM
	nod of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Was	te Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRI	NT NAME: Greg Crabtree TITLE: Environmental Manager DATE: 12/12/17
SIG	NATURE: TELEPHONE NO.: 505-632-0615  Surface Waste Management Facility Authorized Agent



APPENDIX C
Photographic Documentation



## Photograph 1

View of the source area, facing south.



## Photograph 2

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



## Photograph 3

View of the initial excavation, facing northeast.





## Photograph 4

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



## Photograph 5

View of the final excavation, facing southeast.





APPENDIX D

Table



## TABLE 1 Hughes LS #3A SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (mg/kg)	Chloride (mg/kg)
		Natural Resources Remediation Acti		10	NE	NE	NE	50			1,000  66 < <50	NE	
					Stockpiled Soils	Removed and Trans	ported to Landfa	rm for Disposal/Tre	eatment	STATE AND			
SP-2	12.18.17	С	Stockpile	6.4	48	8.3	84	147	1,100	66	<50	1,166	<30
				Excavation	Composite Soil	Samples Removed	and Transported	to Landfarm for Dis	sposal/Treatment				9/00/00/00/00
S-1	12.18.17	С	5.5	1.3	17	4.4	45	68	680	34	<48	714	<30
						Soil Sample Collect	ed from Stockpi	led Soils				是自己的人的主义	
SP-1	12.18.17	С	Stockpile	0.41	3.6	0.73	8.6	13.3	82	<9.8	<49	82	<30
						Excavation Con	nposite Soil San	ples					
S-2	12.18.17	С	0 to 5.5	0.32	2.8	0.51	5.7	9.3	60	<9.8	<49	60	<30
S-3	12.18.17	С	0 to 5.5	0.26	1.6	0.25	2.8	4.9	36	<9.8	<49	36	<30
S-4	12.18.17	С	0 to 5.5	<0.11	2.5	1.1	13	17	140	28	<48	168	<30
S-5	12.18.17	С	0 to 5.5	1.9	15	2.0	20	39	270	<9.8	<49	270	<30
S-6	12.20.17	С	11	0.053	< 0.039	<0.039	< 0.079	0.053	<3.9	<9.4	<47	ND	<30
S-7	12.20.17	С	7 to 11	<0.10	<0.20	<0.20	< 0.40	ND	<20	<9.7	<48	ND	<30
S-8	12.20.17	С	5.5 to 11	0.11	<0.21	<0.21	<0.41	0.11	<21	<9.9	<49	ND	<30
S-9	12.20.17	С	5.5 to 11	< 0.099	<0.20	<0.20	< 0.40	ND	<20	<9.6	<48	ND	<30
S-10	12.20.17	С	5.5 to 11	0.073	<0.046	<0.046	<0.092	0.073	<4.6	<10	<50	ND	<30
S-11	12.20.17	С	7	< 0.094	<0.19	<0.19	< 0.38	ND	<19	<9.6	<48	ND	<30

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

OrderNo.: 1712A64

December 20, 2017

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

TEL: (903) 821-5603

**FAX** 

RE: Hughes LS 3A

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 12/19/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

## Lab Order 1712A64

Date Reported: 12/20/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: S-1

 Project:
 Hughes LS 3A
 Collection Date: 12/18/2017 2:00:00 PM

 Lab ID:
 1712A64-001
 Matrix: SOIL
 Received Date: 12/19/2017 6:55:00 AM

Analyses	Result	PQL (	Qual U	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	st: MRA
Chloride	ND	30		mg/Kg	20	12/19/2017 11:33:45	AM 35591
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS					Analys	st: TOM
Diesel Range Organics (DRO)	34	9.5		mg/Kg	1	12/19/2017 10:09:32	AM 35586
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/19/2017 10:09:32	AM 35586
Surr: DNOP	90.5	70-130		%Rec	1	12/19/2017 10:09:32	AM 35586
EPA METHOD 8015D: GASOLINE RAN	IGE					Analys	st: NSB
Gasoline Range Organics (GRO)	680	19		mg/Kg	5	12/19/2017 9:57:30 Al	M G47885
Surr: BFB	464	15-316	S	%Rec	5	12/19/2017 9:57:30 Al	M G47885
<b>EPA METHOD 8021B: VOLATILES</b>						Analys	st: NSB
Benzene	1.3	0.096		mg/Kg	5	12/19/2017 9:57:30 Al	M B47885
Toluene	17	0.19		mg/Kg	5	12/19/2017 9:57:30 Al	M B47885
Ethylbenzene	4.4	0.19		mg/Kg	5	12/19/2017 9:57:30 Al	M B47885
Xylenes, Total	45	0.38		mg/Kg	5	12/19/2017 9:57:30 Al	M B47885
Surr: 4-Bromofluorobenzene	131	80-120	S	%Rec	5	12/19/2017 9:57:30 A	M B47885

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

#### Lab Order 1712A64

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/20/2017

CLIENT: APEX TITAN Client Sample ID: S-2

 Project:
 Hughes LS 3A
 Collection Date: 12/18/2017 2:10:00 PM

 Lab ID:
 1712A64-002
 Matrix: SOIL
 Received Date: 12/19/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	yst: MRA
Chloride	ND	30	mg/Kg	20	12/19/2017 11:46:10	AM 35591
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analy	yst: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/19/2017 10:31:42	AM 35586
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/19/2017 10:31:42	AM 35586
Surr: DNOP	93.6	70-130	%Rec	1	12/19/2017 10:31:42	AM 35586
EPA METHOD 8015D: GASOLINE RAN	IGE				Analy	yst: NSB
Gasoline Range Organics (GRO)	60	18	mg/Kg	5	12/19/2017 10:21:24	AM G47885
Surr: BFB	137	15-316	%Rec	5	12/19/2017 10:21:24	AM G47885
EPA METHOD 8021B: VOLATILES					Analy	yst: NSB
Benzene	0.32	0.089	mg/Kg	5	12/19/2017 10:21:24	AM B47885
Toluene	2.8	0.18	mg/Kg	5	12/19/2017 10:21:24	AM B47885
Ethylbenzene	0.51	0.18	mg/Kg	5	12/19/2017 10:21:24	AM B47885
Xylenes, Total	5.7	0.36	mg/Kg	5	12/19/2017 10:21:24	AM B47885
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	5	12/19/2017 10:21:24	AM B47885

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712A64

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/20/2017

CLIENT: APEX TITAN Client Sample ID: S-3

 Project:
 Hughes LS 3A
 Collection Date: 12/18/2017 2:20:00 PM

 Lab ID:
 1712A64-003
 Matrix: SOIL
 Received Date: 12/19/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: MRA
Chloride	ND	30	mg/Kg	20	12/19/2017 11:58:34	AM 35591
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/19/2017 10:53:36	AM 35586
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/19/2017 10:53:36	AM 35586
Surr: DNOP	94.2	70-130	%Rec	1	12/19/2017 10:53:36	AM 35586
EPA METHOD 8015D: GASOLINE RAN	IGE				Analy	st: NSB
Gasoline Range Organics (GRO)	36	19	mg/Kg	5	12/19/2017 10:45:11	AM G47885
Surr: BFB	120	15-316	%Rec	5	12/19/2017 10:45:11	AM G47885
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	0.26	0.093	mg/Kg	5	12/19/2017 10:45:11	AM B47885
Toluene	1.6	0.19	mg/Kg	5	12/19/2017 10:45:11	AM B47885
Ethylbenzene	0.25	0.19	mg/Kg	5	12/19/2017 10:45:11	AM B47885
Xylenes, Total	2.8	0.37	mg/Kg	5	12/19/2017 10:45:11	AM B47885
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	5	12/19/2017 10:45:11	AM B47885

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712A64

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/20/2017

CLIENT: APEX TITAN Client Sample ID: S-4

 Project:
 Hughes LS 3A
 Collection Date: 12/18/2017 2:30:00 PM

 Lab ID:
 1712A64-004
 Matrix: SOIL
 Received Date: 12/19/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	ND	30	mg/Kg	20	12/19/2017 12:10:59 P	M 35591
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	t: <b>TOM</b>
Diesel Range Organics (DRO)	28	9.6	mg/Kg	1	12/19/2017 11:15:38 A	M 35586
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/19/2017 11:15:38 A	M 35586
Surr: DNOP	90.7	70-130	%Rec	1	12/19/2017 11:15:38 A	M 35586
EPA METHOD 8015D: GASOLINE RAM	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	140	21	mg/Kg	5	12/19/2017 11:09:05 A	M G47885
Surr: BFB	217	15-316	%Rec	5	12/19/2017 11:09:05 A	M G47885
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	t: NSB
Benzene	ND	0.11	mg/Kg	5	12/19/2017 11:09:05 A	M B47885
Toluene	2.5	0.21	mg/Kg	5	12/19/2017 11:09:05 A	M B47885
Ethylbenzene	1.1	0.21	mg/Kg	5	12/19/2017 11:09:05 A	M B47885
Xylenes, Total	13	0.42	mg/Kg	5	12/19/2017 11:09:05 A	M B47885
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	5	12/19/2017 11:09:05 A	M B47885

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

## Qualifiers: \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 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 1712A64

Date Reported: 12/20/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-5

 Project:
 Hughes LS 3A
 Collection Date: 12/18/2017 2:40:00 PM

 Lab ID:
 1712A64-005
 Matrix: SOIL
 Received Date: 12/19/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: MRA
Chloride	ND	30	mg/Kg	20	12/19/2017 12:23:23	PM 35591
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/19/2017 11:37:37	AM 35586
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/19/2017 11:37:37	AM 35586
Surr: DNOP	94.5	70-130	%Rec	1	12/19/2017 11:37:37	AM 35586
EPA METHOD 8015D: GASOLINE RAN	GE				Analy	st: NSB
Gasoline Range Organics (GRO)	270	21	mg/Kg	5	12/19/2017 11:33:05	AM G47885
Surr: BFB	188	15-316	%Rec	5	12/19/2017 11:33:05	AM G47885
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	1.9	0.10	mg/Kg	5	12/19/2017 11:33:05	AM B47885
Toluene	15	0.21	mg/Kg	5	12/19/2017 11:33:05	AM B47885
Ethylbenzene	2.0	0.21	mg/Kg	5	12/19/2017 11:33:05	AM B47885
Xylenes, Total	20	0.41	mg/Kg	5	12/19/2017 11:33:05	AM B47885
Surr: 4-Bromofluorobenzene	113	80-120	%Rec	5	12/19/2017 11:33:05	AM B47885

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
- 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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1712A64

20-Dec-17

Client: Project:

APEX TITAN Hughes LS 3A

Sample ID MB-35591

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID:

**PBS** 

Batch ID: 35591

RunNo: 47880

HighLimit

Prep Date:

12/19/2017

Analysis Date: 12/19/2017

SeqNo: 1534177

Units: mg/Kg

**RPDLimit** Qual

Analyte

Result **PQL** 

1.5

SPK value SPK Ref Val %REC LowLimit

%RPD

Chloride

ND

Sample ID LCS-35591

SampType: Ics

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

Batch ID: 35591

RunNo: 47880

Units: mg/Kg

Prep Date: 12/19/2017 Analysis Date: 12/19/2017

SeqNo: 1534178 %REC

HighLimit

Analyte

PQL

SPK value SPK Ref Val

0

Result

97.4

15.00

110

**RPDLimit** 

Chloride

15

1.5

%RPD

Qual

Qualifiers:

ND

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded Н

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

Analyte detected below quantitation limits

Page 6 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, Inc.

WO#: 1712A64

20-Dec-17

Client: APEX TITAN
Project: Hughes LS 3A

Sample ID LCS-35586	SampTy	SampType: LCS			Code: El	PA Method	A Method 8015M/D: Diesel Range Organics					
Client ID: LCSS	Batch ID: 35586 RunNo			unNo: 4	7873							
Prep Date: 12/19/2017	Analysis Da	ate: 12	2/19/2017	S	eqNo: 1	532225	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	45	10	50.00	0	90.6	73.2	114					
Surr: DNOP	4.5		5.000		89.2	70	130					

Sample ID MB-35586	SampT	ype: ME	BLK	TestCode: EPA Method 8015M/D: Diesel Range Organics									
Client ID: PBS	Batch	Batch ID: <b>35586</b> RunNo: <b>47873</b>											
Prep Date: 12/19/2017	Analysis D	ate: 12	2/19/2017	S	SeqNo: 1	532226	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Diesel Range Organics (DRO)	ND	10											
Motor Oil Range Organics (MRO)	ND	50											
Surr: DNOP	8.9		10.00		89.2	70	130						

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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

nits Page 7 of 9

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Client: Project:

Client ID: S-2

Gasoline Range Organics (GRO)

Prep Date:

Surr: BFB

Analyte

APEX TITAN

Hughes LS 3A

## Hall Environmental Analysis Laboratory, Inc.

Batch ID: G47885

Analysis Date: 12/19/2017

PQL

18

Result

150

5400

WO#: 1712A64

20-Dec-17

Sample ID RB	SampT	ype: ME	BLK	Test	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch	ID: G4	17885	R	unNo: 4	7885						
Prep Date:	Analysis D	ate: 12	2/19/2017	S	eqNo: 1	533476	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	ND	5.0										
Surr: BFB	1100		1000		109	15	316					
Sample ID 2.5UG GRO LCS	2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range											
Client ID: LCSS	Batch	ID: G4	17885	R	RunNo: 4	7885						
Prep Date:	Analysis D	ate: 1:	2/19/2017	S	SeqNo: 1	533477	Units: mg/k	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	26	5.0	25.00	0	103	75.9	131					
0 050	1200		1000		117	15	316					
Surr: BFB	1200											

Sample ID 1712A64-002AMS	2A64-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range											
Client ID: S-2	Batch ID: <b>G47885</b> RunNo: <b>47885</b>											
Prep Date:	Analysis D	2/19/2017	S	SeqNo: 1	533480	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	150	18	88.90	59.92	104	77.8	128	0.977	20			
Surr: BFB	5400		3556		152	15	316	0	0			

59.92

SPK value SPK Ref Val

88.90

3556

RunNo: 47885

105

151

%REC

SeqNo: 1533478

LowLimit

77.8

15

Units: mg/Kg

128

316

%RPD

**RPDLimit** 

Qual

HighLimit

#### 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 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#: 1712A64

20-Dec-17

Client: APEX TITAN
Project: Hughes LS 3A

Sample ID RB	SampT	уре: МЕ	BLK	Tes	tCode: El						
Client ID: PBS	Batch	n ID: <b>B4</b>	7885	R	RunNo: 4						
Prep Date:	Analysis D	)ate: 12	2/19/2017	S	SeqNo: 1	533488	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	0.99		1.000		99.4	80	120				

Sample ID 100NG BTEX LCS	SampT	Type: LC	S	Test						
Client ID: LCSS	Batch	h ID: <b>B4</b>	7885	R	RunNo: 4					
Prep Date:	Analysis D	Date: 12	2/19/2017	S	SeqNo: 1	(g				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	94.2	77.3	128			
Toluene	0.96	0.050	1.000	0	96.5	79.2	125			
Ethylbenzene	0.94	0.050	1.000	0	93.6	80.7	127			
Xylenes, Total	2.7	0.10	3.000	0	91.2	81.6	129			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Sample ID 1712A64-003AMS	SampT	ype: MS	3	Tes										
Client ID: S-3	Batch	ID: <b>B4</b>	7885	R	RunNo: 4									
Prep Date:	Analysis D	Analysis Date: 12/19/2017 SeqNo: 1533490							Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	4.3	0.093	3.740	0.2554	108	80.9	132							
Toluene	5.9	0.19	3.740	1.598	114	79.8	136							
Ethylbenzene	4.1	0.19	3.740	0.2504	102	79.4	140							
Xylenes, Total	14	0.37	11.22	2.754	99.4	78.5	142							
Surr: 4-Bromofluorobenzene	4.0		3.740		108	80	120							

Sample ID 1712A64-003AM	SD SampT	ype: MS	8021B: Volat	tiles						
Client ID: S-3	Batch	1D: <b>B4</b>	7885	R	RunNo: 4					
Prep Date:	Analysis D	ate: 12	2/19/2017	S	SeqNo: 1					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	3.6	0.093	3.740	0.2554	89.8	80.9	132	16.8	20	
Toluene	5.1	0.19	3.740	1.598	93.5	79.8	136	14.1	20	
Ethylbenzene	3.7	0.19	3.740	0.2504	92.8	79.4	140	8.45	20	
Xylenes, Total	13	0.37	11.22	2.754	92.2	78.5	142	5.98	20	
Surr: 4-Bromofluorobenzene	3.8		3.740		102	80	120	0	0	

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 9 of 9

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



Hall Environn

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: 1712A64 RcptNo: 1 Client Name: an Ilm Received By: Anne Thorne 12/19/2017 6:55:00 AM Om Am 12/19/2017 7:04:13 AM Completed By: Anne Thorne 12/19/17 2005 Reviewed By: Chain of Custody No 🗍 Not Present Yes 🗸 1 Custody seals intact on sample bottles? Yes 🗸 No 🗌 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 . 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🗌 Yes V No 🗌 6. Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? Yes V No 🗌 8. Are samples (except VOA and ONG) properly preserved? No 🗸 NA 🗌 Yes 9. Was preservative added to bottles? Yes T No No VOA Vials 10. VOA vials have zero headspace? Yes No V 11 Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: 12. Does paperwork match bottle labels? Yes V (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 Yes 🗸 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes V 14. Is it clear what analyses were requested? 15. Were all holding times able to be met? Yes 🗸 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: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Temp °C | Condition Seal Intact | Seal No Cooler No Seal Date 1.0 Good

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Relinqui	ished by (	Signature)		1	Date:	Time: Re	ceived by	: (Signa	iture)			Date:		Time:	5	AM	ED.	174			(EPRED) CCC Seal
Matrix	WW	/ - Wastewal	ter	Щ,	W - Water	S - Soil SD	- Solid	L - Liqui	d A	- Air Ba	ag	C - Ch	narco	pal tube	SL - slud	-	0-0	-			
Containe		A - 40 ml via				Or Glass 1 Liter		250 ml -	Glass v	vide mo	outh	P/O -	Plas	stic or other_							



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

December 20, 2017

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

FAX

RE: Hughes LS 3A OrderNo.: 1712A65

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/19/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1712A65

Date Reported: 12/20/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: SP-1

 Project:
 Hughes LS 3A
 Collection Date: 12/18/2017 2:50:00 PM

 Lab ID:
 1712A65-001
 Matrix: SOIL
 Received Date: 12/19/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: MRA
Chloride	ND	30	mg/Kg	20	12/19/2017 12:35:47	PM 35591
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	12/19/2017 10:15:05	AM 35586
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/19/2017 10:15:05	AM 35586
Surr: DNOP	85.3	70-130	%Rec	1	12/19/2017 10:15:05	AM 35586
EPA METHOD 8015D: GASOLINE RAN	GE				Analy	st: NSB
Gasoline Range Organics (GRO)	82	19	mg/Kg	5	12/19/2017 11:56:58	AM G47885
Surr: BFB	154	15-316	%Rec	5	12/19/2017 11:56:58	AM G47885
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	0.41	0.094	mg/Kg	5	12/19/2017 11:56:58	AM B47885
Toluene	3.6	0.19	mg/Kg	5	12/19/2017 11:56:58	AM B47885
Ethylbenzene	0.73	0.19	mg/Kg	5	12/19/2017 11:56:58	AM B47885
Xylenes, Total	8.6	0.38	mg/Kg	5	12/19/2017 11:56:58	AM B47885
Surr: 4-Bromofluorobenzene	109	80-120	%Rec	5	12/19/2017 11:56:58	AM B47885

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
- 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 1712A65

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/20/2017

CLIENT: APEX TITAN Client Sample ID: SP-2

 Project:
 Hughes LS 3A
 Collection Date: 12/18/2017 3:00:00 PM

 Lab ID:
 1712A65-002
 Matrix: SOIL
 Received Date: 12/19/2017 6:55:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analy	yst: MRA
Chloride	ND	30		mg/Kg	20	12/19/2017 12:48:11	PM 35591
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS					Analy	yst: TOM
Diesel Range Organics (DRO)	66	10		mg/Kg	1	12/19/2017 10:42:35	AM 35586
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	12/19/2017 10:42:35	AM 35586
Surr: DNOP	85.1	70-130		%Rec	1	12/19/2017 10:42:35	AM 35586
EPA METHOD 8015D: GASOLINE RAM	NGE					Analy	yst: NSB
Gasoline Range Organics (GRO)	1100	21		mg/Kg	5	12/19/2017 12:20:51	PM G47885
Surr: BFB	582	15-316	S	%Rec	5	12/19/2017 12:20:51	PM G47885
EPA METHOD 8021B: VOLATILES						Anal	yst: NSB
Benzene	6.4	0.10		mg/Kg	5	12/19/2017 12:20:51	PM B47885
Toluene	48	2.1		mg/Kg	50	12/19/2017 1:08:42	PM B47885
Ethylbenzene	8.3	0.21		mg/Kg	5	12/19/2017 12:20:51	PM B47885
Xylenes, Total	84	4.1		mg/Kg	50	12/19/2017 1:08:42	PM B47885
Surr: 4-Bromofluorobenzene	140	80-120	S	%Rec	5	12/19/2017 12:20:51	PM B47885

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#: 1712A65

20-Dec-17

APEX TITAN Client: Hughes LS 3A Project:

Sample ID MB-35591 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Batch ID: 35591 RunNo: 47880

Analysis Date: 12/19/2017 SeqNo: 1534177 Prep Date: 12/19/2017 Units: mg/Kg

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

ND 1.5 Chloride

Sample ID LCS-35591 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: Batch ID: 35591 RunNo: 47880 LCSS

Prep Date: 12/19/2017 Analysis Date: 12/19/2017 SeqNo: 1534178 Units: mg/Kg

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

Chloride 15 1.5 15.00 0 97.4 90 110

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

Practical Quanitative Limit **PQL** 

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 3 of 5

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1712A65 20-Dec-17

Client: APEX TITAN
Project: Hughes LS 3A

Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: G47885 RunNo: 47885

Prep Date: Analysis Date: 12/19/2017 SeqNo: 1533476 Units: mg/Kg

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

Gasoline Range Organics (GRO) ND 5.0

Surr: BFB 1100 1000 109 15 316

Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: G47885 RunNo: 47885

Prep Date: Analysis Date: 12/19/2017 SeqNo: 1533477 Units: mg/Kg

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

 Gasoline Range Organics (GRO)
 26
 5.0
 25.00
 0
 103
 75.9
 131

 Surr: BFB
 1200
 1000
 117
 15
 316

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 4 of 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#: 1712A65

20-Dec-17

Client: APEX TITAN
Project: Hughes LS 3A

Sample ID RB	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	h ID: <b>B4</b>	7885	RunNo: 47885						
Prep Date:	Analysis D	Date: 12	2/19/2017	S	eqNo: 1	533488	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		99.4	80	120			

Sample ID 100NG BTEX LC	S Sampl	ype: LC	S	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batc	h ID: <b>B4</b>	7885	RunNo: 47885							
Prep Date:	Analysis [	Date: 12	2/19/2017	8	SeqNo: 1	533489	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.94	0.025	1.000	0	94.2	77.3	128				
Toluene	0.96	0.050	1.000	0	96.5	79.2	125				
Ethylbenzene	0.94	0.050	1.000	0	93.6	80.7	127				
Xylenes, Total	2.7	0.10	3.000	0	91.2	81.6	129				
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120				

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 5 of 5

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



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

Website: www.hallenvironmental.com

Sample Log-In Check List

APEX AZTEC Work Order Number: 1712A65 RcptNo: 1 Client Name: anne Am Received By: **Anne Thorne** 12/19/2017 6:55:00 AM 12/19/2017 7:11:36 AM Completed By: Anne Thorne 12/19/17 Reviewed By: 1775 Chain of Custody No 🗌 Not Present Yes V 1 Custody seals intact on sample bottles? No 🗌 Not Present Yes 🗸 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA 🗌 Yes V 4. Was an attempt made to cool the samples? NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No . Yes 🗸 No. Sample(s) in proper container(s)? No 🗌 Yes 🗸 7. Sufficient sample volume for indicated test(s)? No 🗌 8. Are samples (except VOA and ONG) properly preserved? No V Yes 9. Was preservative added to bottles? No 🗌 No VOA Vials Yes 10. VOA vials have zero headspace? No 🗸 Yes 11. Were any sample containers received broken? # of preserved bottles checked Yes V No 🗌 for pH: 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 🗌 Yes V 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes 🗸 15. Were all holding times able to be met? (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 eMail Phone Fax In Person By Whom: Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By Good Yes

· ·				CHAIN OF CUSTODY RECORD
<b>m</b> A	Hall Fru	ironmental	Analysis / /	Lab use only
	Laboratory: Analys		REQUESTED /	Due Date:
APEX	Address: 4901 H		REQUESTED 3	/ / / / / /.0
				Temp. of coolers when received (C°):
Office Location	Albuqueque,	714 8 +109		1 2 3 4 5
606 S. Rio Grande Suite 4	Contact: A, F			
Aztec, NM 87410	Phone: 505-3		7 7 7	/ / / Page! of!
	PO/SO#:	rates		/ / / / /
Sampler's Name	Sampler's Signature		703	
Rance Deechilly =	ho beness	)		/ / / / /
Proj. No. Project Name	: 6 471	No/Type of Containers	ETTEX FRESSI Chillicology MPEOS	
725040112363 Hughe	s LS #3.4			
Matrix Date Time C G r Identifying Mar	ks of Sample(s) Start Depth	VOA A/G 1Lt. 250 ml Glass Jar P/O		Lab Sample ID (Lab Use Only)
5 1218/17/450 X SP	-1		XXX	1712ALS TO
	-2		XXX	103
5 1214/17 1500 X SP	:2		17070	We
	NS			
	to the said of the		5.	
Turn around time ☐ Normal ☐ 25% Rush ☐	50% Rush \(\square\) 100% Rush	SAMEDAU		
	Ime: Received by: (Signa	ture) Date:	Time: NOTES:	
Relinguished by (Signature) Date: 177	ime: Received by: (Signal		1710 Time: Bill 7	to Tom Long (Epped)
12/8/7	1911 Cam	In 12/19/1		) * )
Relinguished by (Signature) Date:	ime: Received by: (Signa	ture) Date:	Time:	AU
Relinquished by (Signature) Date: T	ime: Received by: (Signa	ture) Date:	Time: SAME	( no and
	Call DO Calld I Hard	A Air Day O Oh	arcoal tube SL - sludge	0-011
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / Or	S - Soil SD - Solid L - Liquid Glass 1 Liter 250 ml -		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

OrderNo.: 1712C48

December 27, 2017

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

**FAX** 

RE: Hughes LS 3A

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/21/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

# Lab Order 1712C48

Date Reported: 12/27/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Project: Hughes LS 3A

**Lab ID:** 1712C48-001

Client Sample ID: S-6

**Collection Date:** 12/20/2017 10:20:00 AM

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

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	st: CJS
Chloride	ND	30	mg/Kg	20	12/21/2017 11:45:08	AM 35656
EPA METHOD 8015D MOD: GASOL	NE RANGE				Analys	st: AG
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	12/21/2017 9:56:46 A	M A47955
Surr: BFB	106	70-130	%Rec	1	12/21/2017 9:56:46 A	M A47955
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	st: TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	12/21/2017 9:10:56 A	M 35648
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/21/2017 9:10:56 A	M 35648
Surr: DNOP	98.5	70-130	%Rec	1	12/21/2017 9:10:56 A	M 35648
EPA METHOD 8260B: VOLATILES S	SHORT LIST				Analys	st: AG
Benzene	0.053	0.020	mg/Kg	1	12/21/2017 9:56:46 A	M R47955
Toluene	ND	0.039	mg/Kg	1	12/21/2017 9:56:46 A	M R47955
Ethylbenzene	ND	0.039	mg/Kg	1	12/21/2017 9:56:46 A	M R47955
Xylenes, Total	ND	0.079	mg/Kg	1	12/21/2017 9:56:46 A	M R47955
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	12/21/2017 9:56:46 A	M R47955
Surr: Toluene-d8	95.3	70-130	%Rec	1	12/21/2017 9:56:46 A	M R47955

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## **Analytical Report**

### Lab Order 1712C48

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/27/2017

CLIENT: APEX TITAN Client Sample ID: S-7

 Project:
 Hughes LS 3A
 Collection Date: 12/20/2017 10:30:00 AM

 Lab ID:
 1712C48-002
 Matrix: SOIL
 Received Date: 12/21/2017 6:12:00 AM

Analyses	Result	PQL Qua	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst:	CJS
Chloride	ND	30	mg/Kg	20	12/21/2017 11:57:33 AM	1 35656
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analyst:	AG
Gasoline Range Organics (GRO)	ND	20	mg/Kg	5	12/21/2017 10:19:51 AM	1 A47955
Surr: BFB	106	70-130	%Rec	5	12/21/2017 10:19:51 AM	1 A47955
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/21/2017 9:32:56 AM	35648
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/21/2017 9:32:56 AM	35648
Surr: DNOP	97.8	70-130	%Rec	1	12/21/2017 9:32:56 AM	35648
EPA METHOD 8260B: VOLATILES SHO	RT LIST				Analyst:	AG
Benzene	ND	0.10	mg/Kg	5	12/21/2017 10:19:51 AM	1 R47955
Toluene	ND	0.20	mg/Kg	5	12/21/2017 10:19:51 AM	1 R47955
Ethylbenzene	ND	0.20	mg/Kg	5	12/21/2017 10:19:51 AM	1 R47955
Xylenes, Total	ND	0.40	mg/Kg	5	12/21/2017 10:19:51 AM	1 R47955
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	5	12/21/2017 10:19:51 AM	1 R47955
Surr: Toluene-d8	97.6	70-130	%Rec	5	12/21/2017 10:19:51 AM	1 R47955

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

# **Analytical Report**

#### Lab Order 1712C48

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/27/2017

CLIENT: APEX TITAN Client Sample ID: S-8

 Project:
 Hughes LS 3A
 Collection Date: 12/20/2017 10:40:00 AM

 Lab ID:
 1712C48-003
 Matrix: SOIL
 Received Date: 12/21/2017 6:12:00 AM

Analyses	Result	PQL Qual	Units	DF Date Analyzed Batch
EPA METHOD 300.0: ANIONS				Analyst: CJS
Chloride	ND	30	mg/Kg	20 12/21/2017 12:09:57 PM 35656
EPA METHOD 8015D MOD: GASOLINE F	RANGE			Analyst: AG
Gasoline Range Organics (GRO)	ND	21	mg/Kg	5 12/21/2017 10:42:58 AM A47955
Surr: BFB	101	70-130	%Rec	5 12/21/2017 10:42:58 AM A47955
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS	3		Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1 12/21/2017 9:54:49 AM 35648
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1 12/21/2017 9:54:49 AM 35648
Surr: DNOP	97.3	70-130	%Rec	1 12/21/2017 9:54:49 AM 35648
EPA METHOD 8260B: VOLATILES SHOP	RT LIST			Analyst: AG
Benzene	0.11	0.10	mg/Kg	5 12/21/2017 10:42:58 AM R47955
Toluene	ND	0.21	mg/Kg	5 12/21/2017 10:42:58 AM R47955
Ethylbenzene	ND	0.21	mg/Kg	5 12/21/2017 10:42:58 AM R47955
Xylenes, Total	ND	0.41	mg/Kg	5 12/21/2017 10:42:58 AM R47955
Surr: 4-Bromofluorobenzene	99.3	70-130	%Rec	5 12/21/2017 10:42:58 AM R47955
Surr: Toluene-d8	100	70-130	%Rec	5 12/21/2017 10:42:58 AM R47955

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
- 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 1712C48

Date Reported: 12/27/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: S-9

 Project:
 Hughes LS 3A
 Collection Date: 12/20/2017 10:50:00 AM

 Lab ID:
 1712C48-004
 Matrix: SOIL
 Received Date: 12/21/2017 6:12:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Ana	lyst: CJS
Chloride	ND	30	mg/Kg	20	12/21/2017 12:22:23	2 PM 35656
EPA METHOD 8015D MOD: GASOL	INE RANGE				Ana	lyst: AG
Gasoline Range Organics (GRO)	ND	20	mg/Kg	5	12/21/2017 11:06:03	3 AM A47955
Surr: BFB	106	70-130	%Rec	5	12/21/2017 11:06:03	3 AM A47955
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Ana	lyst: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/21/2017 10:17:10	0 AM 35648
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/21/2017 10:17:10	0 AM 35648
Surr: DNOP	101	70-130	%Rec	1	12/21/2017 10:17:10	0 AM 35648
EPA METHOD 8260B: VOLATILES	SHORT LIST				Ana	lyst: AG
Benzene	ND	0.099	mg/Kg	5	12/21/2017 11:06:03	3 AM R47955
Toluene	ND	0.20	mg/Kg	5	12/21/2017 11:06:03	3 AM R47955
Ethylbenzene	ND	0.20	mg/Kg	5	12/21/2017 11:06:03	3 AM R47955
Xylenes, Total	ND	0.40	mg/Kg	5	12/21/2017 11:06:03	3 AM R47955
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	5	12/21/2017 11:06:03	3 AM R47955
Surr: Toluene-d8	101	70-130	%Rec	5	12/21/2017 11:06:03	3 AM R47955

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

## **Analytical Report**

### Lab Order 1712C48

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 12/27/2017

CLIENT: APEX TITAN Client Sample ID: S-10

 Project:
 Hughes LS 3A
 Collection Date: 12/20/2017 11:00:00 AM

 Lab ID:
 1712C48-005
 Matrix: SOIL
 Received Date: 12/21/2017 6:12:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CJS
Chloride	ND	30	mg/Kg	20	12/21/2017 12:34:46 PI	M 35656
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst	: AG
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	12/21/2017 11:29:04 AI	M A47955
Surr: BFB	107	70-130	%Rec	1	12/21/2017 11:29:04 AI	M A47955
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/21/2017 10:39:06 AI	M 35648
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/21/2017 10:39:06 AI	M 35648
Surr: DNOP	98.8	70-130	%Rec	1	12/21/2017 10:39:06 Al	M 35648
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst	: AG
Benzene	0.073	0.023	mg/Kg	1	12/21/2017 11:29:04 Al	M R47955
Toluene	ND	0.046	mg/Kg	1	12/21/2017 11:29:04 Al	M R47955
Ethylbenzene	ND	0.046	mg/Kg	1	12/21/2017 11:29:04 Al	M R47955
Xylenes, Total	ND	0.092	mg/Kg	1	12/21/2017 11:29:04 Al	M R47955
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	1	12/21/2017 11:29:04 Al	M R47955
Surr: Toluene-d8	97.5	70-130	%Rec	1	12/21/2017 11:29:04 Al	M R47955

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

#### Qualifiers: Value exceeds Maximum Contaminant Level. Analyte detected in the associated Method Blank D Sample Diluted Due to Matrix E Value above quantitation range Analyte detected below quantitation limits Page 5 of 11 H Holding times for preparation or analysis exceeded Sample pH Not In Range ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit RL Reporting Detection Limit % Recovery outside of range due to dilution or matrix Sample container temperature is out of limit as specified

### **Analytical Report**

### Lab Order 1712C48

Date Reported: 12/27/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-11

 Project:
 Hughes LS 3A
 Collection Date: 12/20/2017 11:10:00 AM

 Lab ID:
 1712C48-006
 Matrix: SOIL
 Received Date: 12/21/2017 6:12:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	/st: CJS
Chloride	ND	30	mg/Kg	20	12/21/2017 12:47:11	PM 35656
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analy	st: AG
Gasoline Range Organics (GRO)	ND	19	mg/Kg	5	12/21/2017 11:52:06	AM A47955
Surr: BFB	102	70-130	%Rec	5	12/21/2017 11:52:06	AM A47955
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANICS	3			Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	12/21/2017 11:01:16	AM 35648
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/21/2017 11:01:16	AM 35648
Surr: DNOP	99.7	70-130	%Rec	1	12/21/2017 11:01:16	AM 35648
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analy	yst: AG
Benzene	ND	0.094	mg/Kg	5	12/21/2017 11:52:06	AM R47955
Toluene	ND	0.19	mg/Kg	5	12/21/2017 11:52:06	AM R47955
Ethylbenzene	ND	0.19	mg/Kg	5	12/21/2017 11:52:06	AM R47955
Xylenes, Total	ND	0.38	mg/Kg	5	12/21/2017 11:52:06	AM R47955
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	5	12/21/2017 11:52:06	AM R47955
Surr: Toluene-d8	99.3	70-130	%Rec	5	12/21/2017 11:52:06	AM R47955

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 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#: 1712C48

27-Dec-17

Client: APEX TITAN
Project: Hughes LS 3A

Sample ID MB-35656 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 35656 RunNo: 47960

Prep Date: 12/21/2017 Analysis Date: 12/21/2017 SeqNo: 1537422 Units: mg/Kg

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

Chloride ND 1.5

Sample ID LCS-35656 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 35656 RunNo: 47960

Prep Date: 12/21/2017 Analysis Date: 12/21/2017 SeqNo: 1537423 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 90.9 90 110

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 7 of 11

# Hall Environmental Analysis Laboratory, Inc.

Client: APEX TITAN
Project: Hughes LS 3A

Sample ID 1712C48-001AMS	SampT	ype: <b>M</b> \$	3	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: S-6	Batch	ID: 35	648	R	RunNo: 4	7948				
Prep Date: 12/21/2017	Analysis Da	ate: 12	2/21/2017	S	SeqNo: 1	536256	Units: mg/l	⟨g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.6	47.80	5.295	88.9	55.8	125			
Surr: DNOP	4.7		4.780		97.6	70	130			
Sample ID LCS-35648	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: LCSS	Batch	ID: 35	648	F	RunNo: 4	7948				
			01041004=		Coallo: 4	536262	Units: mg/l	(a		
Prep Date: 12/21/2017	Analysis D	ate: 12	2/21/2017	3	sequo. I	330202	Offics. High	.9		
Prep Date: <b>12/21/2017</b> Analyte	Analysis Da	ate: 12		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
									RPDLimit	Qual
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit		RPDLimit	Qual
Analyte Diesel Range Organics (DRO)	Result 46 4.6	PQL	SPK value 50.00 5.000	SPK Ref Val	%REC 91.7 91.5	LowLimit 73.2 70	HighLimit 114	%RPD		Qual
Analyte Diesel Range Organics (DRO) Surr: DNOP	Result 46 4.6 SampT	PQL 10	SPK value 50.00 5.000	SPK Ref Val 0	%REC 91.7 91.5	LowLimit 73.2 70 PA Method	HighLimit 114 130	%RPD		Qual

Sample ID MB-35648	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: PBS	Batch	ID: 356	648	F	RunNo: 4	7948				
Prep Date: 12/21/2017	Analysis D	ate: 12	2/21/2017	S	SeqNo: 1	536263	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		92.7	70	130			

Sample ID	1712C48-001AMSD	SampTyp	e: <b>M</b> \$	SD	Tes	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID:	S-6	Batch II	): 35	648	R	RunNo: 4	7948				
Prep Date:	12/21/2017	Analysis Dat	e: <b>1</b>	2/21/2017	S	SeqNo: 1	536518	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	49	9.6	48.22	5.295	91.5	55.8	125	3.34	20	
Surr: DNOP		4.8		4.822		98.9	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 8 of 11

WO#:

1712C48

27-Dec-17

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Project:

# Hall Environmental Analysis Laboratory, Inc.

APEX TITAN Client:

Hughes LS 3A

TestCode: EPA Method 8260B: Volatiles Short List Sample ID rb SampType: MBLK Client ID: PBS Batch ID: R47955 RunNo: 47955 SeqNo: 1536390 Units: mg/Kg Prep Date: Analysis Date: 12/21/2017 PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Result ND 0.025 Benzene Toluene ND 0.050 ND 0.050 Ethylbenzene ND 0.10 Xylenes, Total 0 0.5000 0 70 130 S Surr: 1,2-Dichloroethane-d4 98.6 70 130 0.49 0.5000 Surr: 4-Bromofluorobenzene S Surr: Dibromofluoromethane 0 0.5000 0 70 130 0.5000 101 70 130 Surr: Toluene-d8 0.51

Sample ID 1712c48-002ams	SampType: MS4 TestCode: EPA Metho						8260B: Vola	tiles Short	List			
Client ID: S-7	Batch	ID: R4	7955	F	RunNo: 47955							
Prep Date:	Analysis D	ate: 12	2/21/2017	8	SeqNo: 1	536891	Units: mg/k	Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	4.6	0.10	4.010	0.04687	113	80	120					
Toluene	4.2	0.20	4.010	0.05461	103	80	120					
Ethylbenzene	4.0	0.20	4.010	0.03909	99.1	80	120					
Xylenes, Total	12	0.40	12.03	0.1530	98.6	80	120					
Surr: 4-Bromofluorobenzene	1.9		2.005		94.4	70	130					
Surr: Toluene-d8	2.0		2.005		98.2	70	130					

Sample ID 1712c48-002am	sd SampT	ype: MS	SD4	Tes	TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: S-7	Batch	ID: <b>R4</b>	7955	F	RunNo: 47955						
Prep Date:	Analysis D	ate: 12	2/21/2017	017 SeqNo: 1536892 Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	4.5	0.10	4.010	0.04687	110	80	120	2.49	0		
Toluene	4.0	0.20	4.010	0.05461	98.8	80	120	4.35	0		
Ethylbenzene	4.0	0.20	4.010	0.03909	97.6	80	120	1.60	0		
Xylenes, Total	12	0.40	12.03	0.1530	96.4	80	120	2.28	0		
Surr: 4-Bromofluorobenzene	1.8		2.005		90.1	70	130	0	0		
Surr: Toluene-d8	2.0		2.005		99.2	70	130	0	0		

Sample ID	100ng btex lcs	SampT	ype: LC	S4	TestCode: EPA Method 8260B: Volatiles Short List							
Client ID:	BatchQC	Batch	ID: R4	7955	R	RunNo: 47955						
Prep Date:		Analysis D	ate: 12	2/21/2017	SeqNo: 1536893			Units: mg/Kg				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		1.2	0.025	1.000	0	122	80	120			S	
Toluene		1.1	0.050	1.000	0	106	80	120				

### 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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 9 of 11

WO#:

1712C48

27-Dec-17

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#: 1712C48

27-Dec-17

Client: APEX TITAN
Project: Hughes LS 3A

Sample ID 100ng btex lcs	Samp	Type: LC	S4	TestCode: EPA Method 8260B: Volatiles Short List							
Client ID: BatchQC	Batc	h ID: R4	7955	F	RunNo: 47955						
Prep Date:	Analysis [	Date: 12	2/21/2017	S	SeqNo: 1	536893	Units: mg/k	/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Ethylbenzene	1.0	0.050	1.000	0	102	80	120				
Xylenes, Total	3.1	0.10	3.000	0	102	80	120				
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.2	70	130				
Surr: Toluene-d8	0.51		0.5000		101	70	130				

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 10 of 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#: 1712C48

27-Dec-17

Client: Project: APEX TITAN Hughes LS 3A

Sample ID rb

Result

SampType: MBLK

TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: PBS Batch ID: A47955

RunNo: 47955

Prep Date: Analyte

Analysis Date: 12/21/2017 PQL

SeqNo: 1536322

Units: mg/Kg HighLimit

Qual

Gasoline Range Organics (GRO)

ND 5.0 500

SPK value SPK Ref Val

500.0

25.00

500.0

19.64

99.9

%REC LowLimit

70

**RPDLimit** 

Surr: BFB

Sample ID 2.5ug gro Ics

LCSS

SampType: LCS

5.0

RunNo: 47955

TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: Prep Date: Batch ID: A47955

Analysis Date: 12/21/2017

Units: mg/Kg HighLimit

%RPD

%RPD

%RPD

%RPD

Analyte Gasoline Range Organics (GRO) Result 24 PQL SPK value SPK Ref Val

SeqNo: 1536894 %REC

95.2

95.5

70

70

LowLimit

130

130

**RPDLimit** Qual

Surr: BFB

Sample ID 1712c48-001ams

SampType: MS

TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: S-6 Batch ID: A47955

RunNo: 47955

Units: mg/Kg

142

130

Prep Date: Analyte

Analysis Date: 12/21/2017 Result

Result

18

410

19

480

SeqNo: 1536962 SPK value SPK Ref Val %REC

0

0

LowLimit HighLimit

64.7

70

**RPDLimit** 

Qual

Qual

Gasoline Range Organics (GRO) Surr: BFB

3.9 420 392.8

95.8

106

TestCode: EPA Method 8015D Mod: Gasoline Range

Client ID: S-6

Sample ID 1712c48-001amsd

Batch ID: A47955

SampType: MSD

PQL

RunNo: 47955

Prep Date:

Analysis Date: 12/21/2017

SeqNo: 1536963

Units: mg/Kg

Analyte

SPK value SPK Ref Val PQL

HighLimit

Gasoline Range Organics (GRO) Surr: BFB

3.9 19.64 392.8 %REC LowLimit 90.7 103

64.7 142 70 130 5.45

20 0 0

**RPDLimit** 

**Qualifiers:** 

Value exceeds Maximum Contaminant Level

Sample Diluted Due to Matrix D

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

**PQL** Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Page 11 of 11

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 Webstte: www.hallenvironmental.com

# Sample Log-In Check List

Client Name:	APEX AZTEC	Work Order Number:	1712C48		RcptNo:	1
Received By:	Anne Thome	12/21/2017 6:12:00 AM		arme A.	_	
Completed By:	Anne Thorne	12/21/2017 6:26:10 AM		anne Am		
Reviewed By:	200	12/21/17		and gran		
Chain of Cus	<u>tody</u>					
1. Custody sea	Is intact on sample bo	ttles?	Yes 🗸	No 🗆	Not Present	
2. Is Chain of C	Custody complete?		Yes 🗸	No 🗌	Not Present	
3. How was the	e sample delivered?		Courier			
Log In		·				
4. Was an atte	mpt made to cool the	samples?	Yes 🗹	No 🗌	NA 🗆	
5. Were all san	nples received at a ten	nperature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
6. Sample(s) in	n proper container(s)?		Yes 🗸	No 🗆	e	. , .
7. Sufficient sai	mple volume for indica	ated test(s)?	Yes 🗸	No 🗆		·
8. Are samples	(except VOA and ON	G) properly preserved?	Yes 🗹	No 🗆		
9. Was preserv	ative added to bottles	?	Yes 🗀	No 🗹	NA 🗆	*
	A ** .					
	ave zero headspace?		Yes 🗌	No 🗔	No VOA Vials	
11. Were any sa	ample containers recei	ved broken?	Yes	No 🗹	# of preserved	
12 Does nanery	vork match bottle label	ls?	Yes 🗹	No 🗀	bottles checked for pH:	*
	pancies on chain of cu		165 1		. (<2 c	or >12 unless noted)
13. Are matrices	correctly identified on	Chain of Custody?	Yes 🗸	No 🗀 -	Adjusted? _	<del> </del>
	at analyses were requ		Yes 🗹	No 🗌		
The Control of the Co	ding times able to be mounted to be mounted to be mounted to be more to be mo		Yes 🗹	No □	Checked by:	9 0 9 0
(II IIO, IIOIII)	odstomer for authoriza	idon.)				
Special Hand	ling (if applicable	e)				
	otified of all discrepand		Yes	No 🗆	NA 🗹	
Person	Notified:	Date	Control (Machine) (1997)	The state of the s		
By Wh	om:	Via:	eMail _	Phone Fax	☐ In Person	
Regard	The Barrier of the State of the					
Client I	instructions:					
17. Additional re	emarks:					
18. Cooler Info	1					
Cooler No	Temp °C Condi	tion   Seal Intact   Seal No   S	eal Date	Signed By		
l	10		i			

				CHAIN OF CUSTODY RECORD						
	Hall En	vironmental	ANALYSIS / /	Lab use only Due Date:						
	Laboratory: Analys		REQUESTED	/ / / / Due Date.						
IAPEX	Address: 4901 He	WKINS NE		Temp. of coolers						
Office Location	Almqueque		8	/ / lemp. or coolers when received (C°):						
606 & Zio Grande SuiteA				1 2 3 4 5						
Aztecina 87410	Phone: 565-3			Page of						
Project Manager Kisummers	PO/SO#:~		1 20 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
Sampler's Name	Sampler's Signature			/ / /						
Range Deechilly Proj. No. Project Name	andty		Billy 8021 Trit Geof Prositing &							
Proj. No. Project Name		No/Type of Containers		/ / /						
725040112363 Hughes										
Matrix Date Time C G r Identifying Ma	Start Start Depth Depth	VOA A/G 1Lt. 250 ml Glass Jar P/O		Lab Sample ID (Lab Use Only)						
S 12/20/17-1020 X 5-	-60	)	XXX	1712648-001						
5 12/20/17 1030 V S-	7	1	XXX	702						
S 12/2017 1040 V S-	8	1	XXX	703						
S 12/20/17/1050 Y S-	9	1	XXX	704						
5 12/20/17/1100 X 8-		)	XXX	705						
S 12/20/12 1110 X S-			ZAX	7060						
	NB									
Turn around time    Normal    25% Rush	50% Rush	SAME DAY	P							
12/20/17 15	Time: Received by: (Signa	ture) Date:	Time: NOTES:	Tom long / EDROD)						
Relinquished by (Signature) Date: /	Time: Heceived by: (Signa	ture) Date:	Time: 5111 TO	Tom way						
	Time: Received by: (Signa		Time: Non AF	E. N3.2880						
Relinquished by (Signature) Date:	Time: Received by: (Signa	ture) Date:	Time:	TOM Long (EPROD)  SEN N3 2880  SAME DAY (OGOLOG)						
	trix WW - Wastewater W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - sludge O - Oil									

District I 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 <u>District IV</u> 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.

Form C-141

Revised April 3, 2017

	Santa Fe, NM 87505											
	Release Notification and Corrective Action											
					OP	ERATO	R	$\boxtimes$	Initial	Report		Final Report
Name of C	ompany <b>E</b>	nterprise F	ield Ser	vices, LLC		Contact TI	nomas Long					
		ve, Farmir				Telephone	No. <b>505-599</b> -	-2286				
		snake Com				Facility Ty	pe <b>Natural G</b> a	as Meter	ring Co	mpresso	r Stat	ion
Surface Ov	vner State	e of NM		Mineral	Owner	State of N	M		Serial	No. N/A		
				1111110101					00,10			
				LOC	ATION	OF RE	LEASE					
Unit Letter	Section	Township	Range	Feet from	North	outh	Feet from	East	/est	County		
Н	16	32N	9W	the	Line		the	Line		San Jua	ın	
			L	1646			486					
	Latitude_36.987603Longitude107.77771_NAD83											
				NA	TURE	OF REL	EASE					
		ced Water/C					f Release <b>Unkr</b>			Recovered		
		ks Overtoppi	ing and in	adequate sec	condary		Hour of Occurr			d Hour of [		ery
containment Was Immed		Givon?					<b>3 at 10:00 a.m.</b> o Whom? : Cou			18 at 10:00		OCD
was immed	liate Notice	Given?	□ Yes	⊠ No □	Not	11 15, 1	o whom?. Cou	irtesy ivot	illication	Cory Smill	1 - 14101	OCD
Required			_ 103		1401							
By Whom?							Hour March 23					
Was a Wate	ercourse Re		☐ Yes	⊠ No		If YES, V	olume Impactin	g the wa	tercours	e.		
		npacted, De										
							SPCC inspecti					
							e various tanks ous observed ho			the secon	dary co	ontainment.
							containment an			the release	es are i	in the
							the "Final." C-1				, o aro	
I hereby cer	tify that the	information	given abo	ve is true and	comple	te to the be	st of my knowle	dge and	understa	and that pu	rsuant	to NMOCD
							ase notification					
							-141 report by t					
							investigate and MOCD acceptar					
							aws and/or regu		J-1411e	port does i	iot reile	eve trie
oporator or		//		arry ourior roa	oran, otan	10, 01 100011	OIL CON		ATION	DIVISI	ON	
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i iiiteu ivali	IO. JUII L. F	iolus					terr	45/		and		
Title: Direct	or, Environn	nental				Approval D	ate: 4 1 1 2	N8 E	xpiration	Date:		
E-mail Addr	ess: jefields	@eprod.cor	n			Conditions	of Approval:			Attache	D be	1
Date:	1/4/2	018	Phor	ne: (713) 381-	-6684							

NMOCD APR 0 6 2018 DISTRICT III Operator/Responsible Party,

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

IF 1810336154 It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

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

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

- •Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.
- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.
- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

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

#### Jim Griswold

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

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

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

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

Form C-141 Revised April 3, 2017

Final Report

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

Initial Report

## Release Notification and Corrective Action

**OPERATOR** 

		nterprise F			Contact Thomas Long								
Address 6	14 Reilly A	Ave, Farmir	ngton, NN	187401			No. <b>505-599-</b>						
Facility Na	me <b>Buena</b>	Vista Con	pressor	Station		Facility Type	pe Natural Ga	s Mete	ering Co	mpressor Station			
Surface Ov	wner <b>BLW</b>	I		Mineral (	Owner	BLM			Serial	No. NM 093684			
				LOCA	ATION	N OF REI	EASE						
Unit Letter <b>B</b>	Section 13	Township 30N	Range 9W	Feet from the 389	North Line	outh	Feet from the 1945	East/ Line	Vest	County San Juan			
		La	atitude 36	5.817352 L	Longitu	ıde107.7	30034_NAD83						
				NAT	URE	OF RELI	EASE						
Type of Rel	ease Natura	al Gas				Volume o	f Release 1,110	MCF	Volume	Recovered None			
Source of R	elease Equ	ipment Malfu	inction			Date and 2/17/2018	Hour of Occurre	ence	Date an 2/17/20	d Hour of Discovery 18			
Was Immed	iate Notice	Given?		7 N. 7 .	1	If YES, To	Whom? : Cour	tesy N	otification	Vanessa Fields - NMOCD			
Required			☐ Yes [	⊠ No □ N	Not								
,													
By Whom?	Thomas Lo	ng				Date and Hour February 20, 2018 @ 3:30 p.m.							
	By Whom? Thomas Long Was a Watercourse Reached?						olume Impacting						
			☐ Yes	⊠ No									
Buena Vista Describe Ar	ea Affected	or Station reland	leasing 1, 1	110 MCF of n aken.* On Fel	bruary	gas. No fluid	emergency shu	during it down	this event	ve malfunctioned at the Ifunction at the Buena Vista ction is necessary.			
rules and re which may relieve the o ground water	egulations a endanger poperator of l er, surface v	ll operators a ublic health o iability shoulo water, humar	or the environ or the environ of their open of health or the once with a	I to report and conment. The rations have the the environm ny other fede	d/or file accept failed to ent. In eral, sta	certain rele- tance of a Coordinately addition, NN te, or local la	ase notifications -141 report by the investigate and MOCD acceptant aws and/or regu	and pene NMC remedice of a lations.	erform cor OCD mark liate conta C-141 re	and that pursuant to NMOCE rective actions for releases sed as "Final Report" does n amination that pose a threat port does not relieve the			
		100	/ ,				OIL CON	SER	VATION	N DIVISION			
Signature:	IN	(. tu	4						1				
Printed Nan	ne: Jon E. F	Fields				Approved by Environmental Specialist:							
Title: Direct	or, Environr	mental				Approval Date: 3/5/18			Expiration	n Date:			
E-mail Addr	ess: jefields	s@eprod.con	n			Conditions of Approval:			Attached				
Date: 2	/ Z6 / Zol			e: (713) 381-6	6684								
Attach Add	tional She	ets If Neces	sary			7111	1001 11	24	100				

MVF 1806435193

MAR 0 1 2018

DISTRICT III

<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 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

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

Final Report

Release Notification and Corrective Action											
(	PERATOR	$\boxtimes$	Initial Report								
e Field Services, LLC	Contact Thomas Long										

Name of Company Enterprise Address 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name Huerfano #131 Pipeline Facility Type Natural Gas Gathering Pipeline Surface Owner BLM Serial No. NM 008787 Mineral Owner BLM **LOCATION OF RELEASE** 

Unit Letter	Section	Township	Range	Feet from	North/South	Feet from	East/Vest	County
H	28	26N	10W	the	Line	the	Line	San Juan
				2109		690		

Latitude 36.4605675 Longitude -107.8951255 NAD83

### NATURE OF RELEASE

Type of Release Natural Gas and Natural Gas Liquids	Volume of Release 5-7 BBLs of Condensate  Volume Recovered None							
Source of Release Suspected Internal Corrosion	Date and Hour of Occurrence 3/9/2018 at 12:00 p.m.	Date and Hour of Discovery 3/9/2018 at 12:00 p.m.						
Was Immediate Notice Given?	If YES, To Whom?: Notification Cory Smith – NMOCD; Abiodun							
☐ Yes ☐ No ☐ Not	Adeloye - BLM							
Required								
By Whom? Thomas Long	Date and Hour March 9, 2018 at							
Was a Watercourse Reached?	If YES, Volume Impacting the W	atercourse.						
☐ Yes ☒ No								
If a Watercourse was Impacted, Describe Fully.*								
Describe Cause of Problem and Remedial Action Taken On March	9, 2018, a third party reported a re	elease of natural gas and condensate						
on the Huerfano #131 well tie. Enterprise confirmed the release ar								
*								
Describe Area Affected and Cleanup Action Taken.* An area or ap								
Remediation activities are in progress. A third party corrective acti	on report will be included with the "	Final." C-141.						
I hereby certify that the information given above is true and comple								
rules and regulations all operators are required to report and/or file	certain release notifications and pe	erform corrective actions for releases						
which may endanger public health or the environment. The accept not relieve the operator of liability should their operations have failed								
threat to ground water, surface water, human health or the environ								
relieve the operator of responsibility for compliance with any other								
		ATION DIVISION						
( 6.6 / 11	OIL CONCERN	// //						
Signature:								
	Approved by Environmental Specia	alist:						
Printed Name: Jon E. Fields	, p							
Till Di de E i e e e		5						
Title: Director, Environmental	Approval Date:	Expiration Date:						
E mail Address: infields@enred.com	Conditions of Approval: Sample	For						
		Attached						
Date: 3/15/70/8 Phone: (713) 381-6684	TPH, BTEX, BENZENE							
* Attach Additional Sheets If Necessary	account morrows	All Rad Trail 10						

##DCS 1808 6417 791 Dig AND Heul.



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 NMOCD

MAR 1 2 2018 Form C-141

Revised April 3, 2017

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

# **Release Notification and Corrective Action**

			Cicas	e Nounc			onective	Actio			_	
N	_					ERATOR			Initial F	Report		Final Report
		nterprise F					omas Long	2000				
		ve, Farmir					No. <b>505-599-</b> 2			Ctation		
Facility Na	me Potter	Compress	or Statio	n		Facility Typ	e Natural Ga	s Comp	ressor	Station		
Surface O	wner <b>BLM</b>			Mineral (	Owner	BLM			Serial N	lo. <b>NM 0</b> 9	7488	
						OF REL						
Unit Letter A	Section 19	Township 30N	Range 10W	Feet from the 470	North Line	South	Feet from the 1522	East/ Line	/est	County San Juar	1	
		La	atitude 36	6.803361l	Longitu	de_107.92	0709_NAD83					
	NATURE OF RELEASE											
Type of Rel						of Conde				Recovered		
		r Filling of a	Tank			11/27/201	Hour of Occurre 7 @ 1:30 p.m.		11/27/20	Hour of D 17 @ 1:30	p.	
Was Immed	liate Notice		☐ Yes	□ No ⊠ 1	Not		Whom? : Cour mith - BLM	tesy Not	ification C	Cory Smith	– NMC	OCD;
Required			□ res		NOL	vvnitney S	miitri - BLIVI					
By Whom?	Thomas Loi	ng				Date and	Hour November	27, 201	7 @ 2:30	p.m.		
Was a Wate	ercourse Re		☐ Yes	⊠ No			lume Impacting					
If a Waterco	urse was In	npacted, Des	scribe Fully	1.*								
condensate	in captured	was overfille	ed releasin	g approximat	tely 8-10	) barrels of o	17, during piggir condensate to th	ne ground	d surface.			
Remediation 4 to 13 feet	n of the rele deep. Appro	ase is in the oximately 1,0	scheduling 30 cubic y	process. The ards of hydro	ne final e	excavation n impacted so	65 feet long by 2 neasured appro oil was excavate on report is inclu	ximately d and tra	94 feet lo	ong by 68 f I to a New	eet rar	nging from
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NN rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for relewhich may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a tiground 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.											releases rt" does not e a threat to	
	//	1					OIL CON	SERV	ATION	DIVISIO	N	
Signature:	JW.	1. tus	4						1			
Printed Nan	ne: Jon E. F	ields			,	Approved by Environmental Specialist:						
Title: Directo	or, Environn	nental			,	Approval Date: 4 10 2018 Expiration Date:						
E-mail Addr	ess: jefields	@eprod.com	1		Conditions of Approval:							
Date: 3,	15/7,11	P	Phor	ne: (713) 381	-	Attached						

\* Attach Additional Sheets If Necessary

MF1733227051

### **Enterprise Products**

### Potter Canyon Compressor Station Release: Release Assessment and Final Remediation for Tank 12 (T512)

Latitude 36.803640°, Longitude -107.920706° NE 1/4 of NE 1/4 of Section 19, T30N, R10W San Juan County, New Mexico

January 18, 2018



#### Submitted To:

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



### Submitted By:

Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505) 325-7535





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1.0 Executive Summary	
2.0 Introduction	
3.0 Site Ranking and Land Jurisdiction	
4.0 Remediation Activities	
5.0 Summary of Field Activities	
6.0 Conclusions and Recommendations	
7.0 Closure and Limitations	

# Figures:

Figure 1: Vicinity Map

Figure 2: Site Map

Figure 3: Soil Sample Location Map

#### Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

### Appendices:

Appendix A: Site Photography

Appendix B: Laboratory Analytical Reports

Appendix C: Executed C-138 Form

### 1.0 Executive Summary

On November 28, 2017, Souder, Miller & Associates (SMA) was contacted by an Enterprise field representative regarding a release associated with the Condensate Drain Tank/Pig Receiver Below Grade Tank (BGT), Tank 12 / T512, at the Potter Canyon Compressor Station. Between December 1 and December 13, 2017, SMA oversaw excavation of contaminated soils from the hydrocarbon impacted areas. The final excavation measured approximately 94 feet by 68 feet, and ranged in depth from four to 13 deep. Confirmation soil samples from the walls and base were submitted for laboratory analysis. Laboratory results demonstrated hydrocarbon concentrations below NMOCD regulatory standards for releases and spills. The excavation was approved for backfill with clean soil.

The table below summarizes information about the remediation activities.

TABLE 1: RELEASE INFORMATION					
Name	Potter Canyon Compressor Station, Tank 12				
	Latitude/Longitude		Section, Township, Range		
Location	36.803640	-107.920706	NE1/4 of NE 1/4 Section 19	T 30N, R 10W	
Date Reported	November 28, 2017				
Enterprise Contact	Thomas Long				
Land Owner	Bureau of Land Management (BLM)				
Reported To	New Mexico Oil Conservation Division (NMOCD) and BLM				
Source(s) of Release	Tank 12 (T512) Condensate Drain Tank/Pig Receiver BGT				
Volume of Tank(s)	45 bbl				
Release Contents	Condensate				
Release Volume: Liquids/Condensate	Approximately 8 bbl				
Nearest Waterway	Unnamed arroyo ~440 feet southeast and downgradient of location				
Depth to Groundwater	119 feet				
Nearest Domestic Water Source	2,250 feet to southeast				

NMOCD Ranking	10
SMA Response Dates	December 1, 4-6, 8, and 11-13, 2017
Subcontractors	OFT Construction Inc.
Disposal Facility	Industrial Ecosystems Inc. (IEI) landfarm
Yd³ Contaminated Soil Excavated and Disposed	~1,030

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes excavation and final closure of a hydrocarbon release associated with Tank 12 / T512 (Condensate Drain Tank/Pig Receiver BGT) at the Potter Canyon Compressor Station. The release was attributed to two separate causes: (1) a recent overflow as a result of an open drain valve from the inlet receiver to the BGT, and (2) internal corrosion of the tank. The release location is in the NE ¼ of NE ¼ of Section 19, Township 30 North, Range 10 West, N36.803640°, W107.920706°, San Juan County, New Mexico.

Figure 1, Vicinity Map, illustrates the location of the release.

#### 3.0 Site Ranking and Land Jurisdiction

A site ranking score for the release site was determined using the 1993 NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*. According to the NMOCD C-144 Form for Tank 12, depth to groundwater is estimated to be at 119 feet below ground surface (bgs) (sub-site rank score = 0).

Using the New Mexico Tech Petroleum Recovery Research Center (PRRC) online mapping tool, Google Earth Pro, and the 1985 USGS Aztec Quadrangle (7.5-minute series), the nearest surface water is an unnamed arroyo located approximately 440 feet to the southeast (sub-site rank score = 10).

The nearest known water source for wellhead protection is located approximately 2,250 feet to the southeast (sub-site rank score = 0), according to the New Mexico Office of the State Engineer (NMOSE) online water well database.

The physical location of this release is within the jurisdiction of BLM and NMOCD. This release location has been assigned a NMOCD total site ranking score of 10, which requires a soil remediation standard of 10 parts per million (ppm) benzene, 50 ppm total

benzene, toluene, ethyl-benzene, and total xylenes (BTEX), and 1,000 ppm total petroleum hydrocarbons (TPH). Table 2 illustrates site ranking rationale.

#### 4.0 Remediation Activities

Initial Excavation Activities: December 1, 2017

On December 1, 2017, SMA personnel arrived on site in response to a spill associated with Tank 12. Initial reports state that the drain valve from the inlet receiver barrel to the BGT was not completely closed, resulting in approximately eight barrels of condensate spilling onto the ground. Excavation activities performed by OFT Construction commenced in areas visually stained. Field screening using a calibrated MiniRAE 3000 photoionization detector (PID) and a Dexsil® PetroFLAG TPH Analyzer confirmed hydrocarbon impacted soils south and east of the BGT.

Continued Excavation Activities: December 4-6, 8, and 11-13, 2017

Beginning on December 4, 2017, SMA oversaw additional excavation activities associated with the Tank 12 release. Confirmation samples S-12 and S-13, located immediately adjacent and southeast of the BGT, demonstrated that the soils impacted by the overflow spill were contained to within approximately the upper four feet of the soil surface. However, as excavation activities continued further southeast, it became apparent that hydrocarbon impacted soils were extending as deep as 13 feet below grade surface (bgs). Soils near the 2-inch header drip line and the 30-inch suction line required excavation via hand-digging.

Due to the depth of hydrocarbon impacted soils, it was suspected that the overflow spill was not the only source of contamination. Potholing was performed around the base of the BGT, and field analysis confirmed contamination from below the tank.

A leak pressure test was performed on December 6, which revealed several leak areas within the tank. On December 7 the tank was removed for inspection. Excavation activities resumed on December 8 from the area of the BGT until field analysis demonstrated contaminated soils had been removed. Confirmation samples S-32 through S-37 were submitted for laboratory analysis on December 11, 2017.

Excavation activities near the 30-inch suction line and the 2-inch header drip line resumed in the afternoon of December 11 and continued on through December 13. The southeast portion of the excavation was sampled when field readings indicated soil contamination levels below NMOCD remediation standards. Two composite samples from each wall, and two composite samples from the base were submitted to the lab for confirmation analysis (samples S-50 through S-59). Laboratory results indicated all samples were

below NMOCD regulatory standards for remediation, and the excavation was approved for backfilling with clean material.

In total, approximately 1,030 cubic yards of hydrocarbon impacted soil was removed from the site.

#### Summary of Confirmation Sampling

Confirmation sampling was performed for site closure on December 4, 11, and 13, 2017. A representative from NMOCD witnessed confirmation sampling on December 4 (samples S-12 and S-13) and December 11 (samples S-32 through S-37). A representative from the BLM was not present to witness any of the sampling events. Samples submitted for laboratory analysis were analyzed using U.S. EPA Methods 8021 BTEX, 8015 GRO/DRO/MRO, and 300.0 chlorides.

A summary of the laboratory results is displayed in Table 3. Copies of the laboratory reports (1712150, 1712263, 1712616, and 1712833) are included in the attachments.

#### 5.0 Summary of Field Activities

Between December 1 and 13, 2017, SMA oversaw excavation activities associated with multiple hydrocarbon releases from Tank 12 at the Potter Canyon Compressor Station. The releases were determined to be a result of two causes: (1) an overflow due to an open drain valve, and (2) multiple corrosion areas within the tank. Excavation and sampling activities were performed until the extent of the releases were determined. NMOCD witnessed confirmation sampling on December 4 and 11, 2017. Additional confirmation sampling was performed on December 13, 2017, however, neither BLM nor NMOCD were present to witness. The final excavation measured approximately 94 feet by 68 feet, and ranged from 4 to 13 feet deep. Approximately 1,030 cubic yards of contaminated soil was hauled off for landfarm treatment.

Final laboratory results demonstrated hydrocarbon concentrations below NMOCD regulatory standards for releases and spills. The excavation was approved for backfill with clean soil.

#### 6.0 Conclusions and Recommendations

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

A summary of all laboratory analyses is included in Table 3. Soil contaminant concentrations from the final confirmation sample locations are illustrated in Figure 3, site photographs are included in Appendix A, Hall Analytical Laboratory reports are included in Appendix B, and an executed C-138 Form is included in Appendix C.

SMA recommends no further actions related to the hydrocarbon impacted soils from Tank 12 at the Potter Canyon Compressor Station.

#### 7.0 Closure and Limitations

The scope of our services consisted of the performance of a preliminary release assessment, regulatory liaison, oversight and control of remediation operations, project

management, and preparation of this summary report. All work has been performed in accordance with generally accepted professional environmental consulting practices.

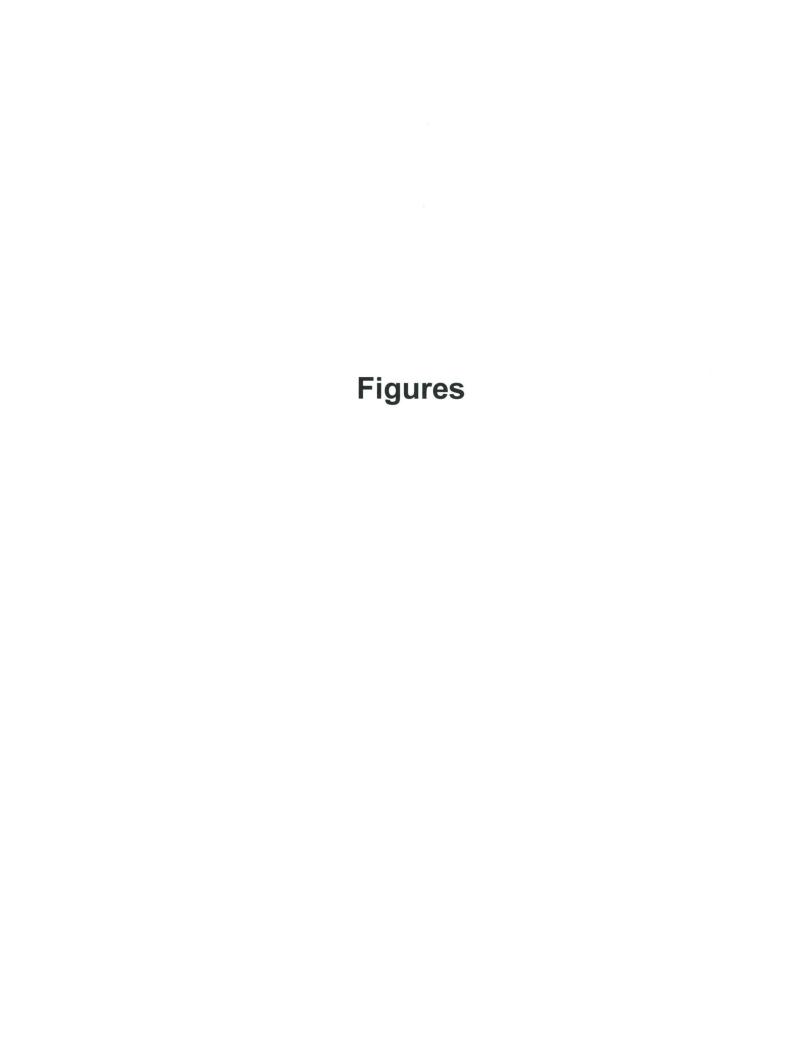
If there are any questions regarding this report, please contact either myself or Shawna Chubbuck at 505-325-7535.

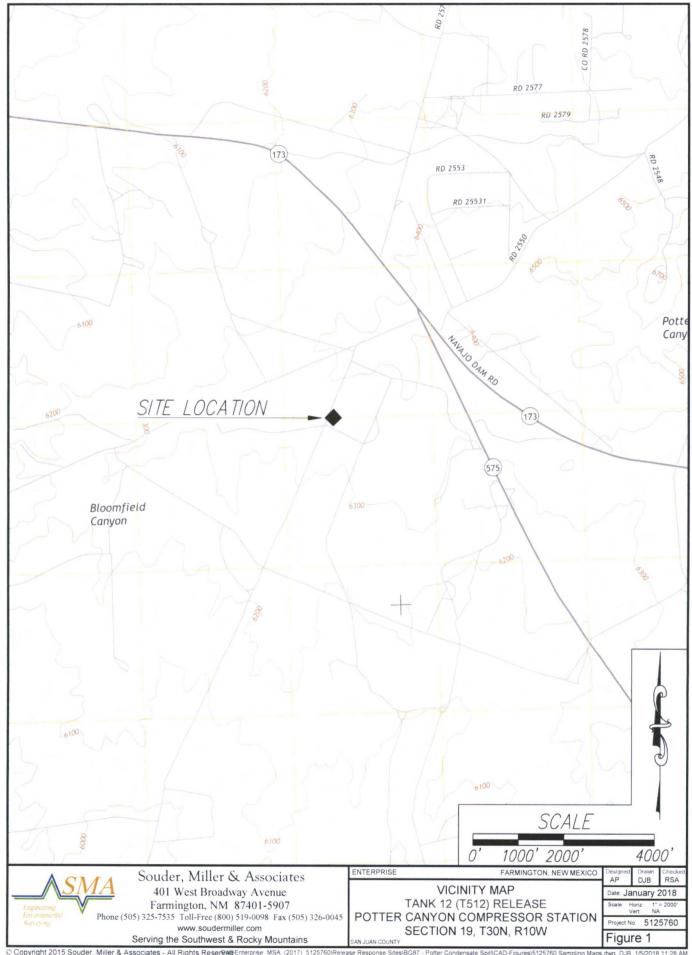
Submitted by:

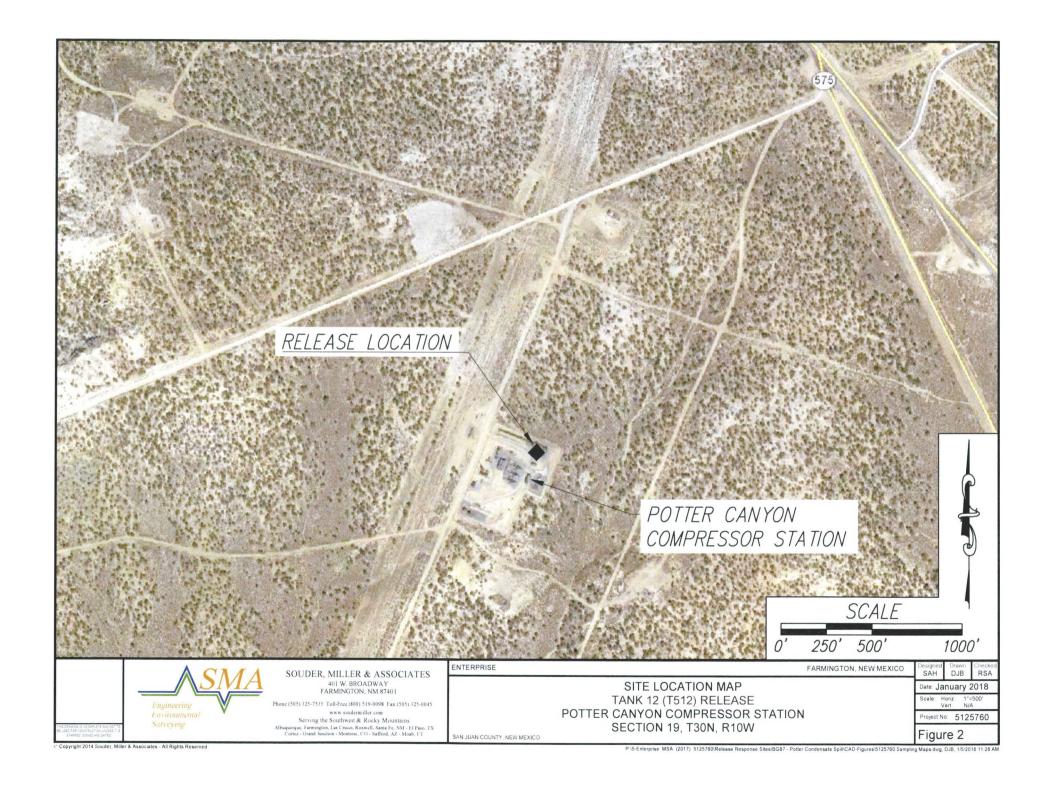
SOUDER, MILLER & ASSOCIATES

Reviewed by:

Ashley Maxwell Staff Scientist Shawna Chubbuck Senior Scientist











Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 50 BGS = 20			Nearby NMOCD- permitted well API
50' to 99' = 10		C-144 BGT registration.	#3004526459 (Schumacher #10A) estimates
>100' = 0	0		groundwater at 119'
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
< 200' = 20		PRRC mapping tool.	Nearest surface
200' - 1000' = 10	10	Verified using Google Earth and USGS topo	water is unnamed arroyo located.~440 feet to southeast.
>1000' = 0		maps.	Field verified.
Ranking Criteria for Horizintal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes
<1000' from a water source? <200' from a private domestic water source? YES OR		NMOSE online water	Nearest water source located ~2,250 feet
NO to BOTH. YES = 20, NO = 0	0	well data base.	to southeast.
Total Site Ranking	10		
Soil Remediation Standards	0	10	20+
Benzene	10 PPM	10 PPM	10 PPM
BTEX	50 PPM	50 PPM	50 PPM
TPH	5000 PPM	1000 PPM	100 PPM



#### **Table 3: Summary of Laboratory Analysis**

Date	Time	Sample ID	Sample Location	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8015 MRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chloride
NMOCD G	uidelines		NMOCD Site Ranking: 10			1,000 mg/kg		10 mg/kg	50 mg/kg	NE
12/4/2017	14:00	S-12	Northwest section composite	0-4	<20	21	<50	<0.098	<0.888	
12/4/2017	14:04	S-13	Southwest section composite	0-4	<17	33	<49	<0.087	<0.777	-
12/5/2017	14:43	S-19	Southeast of air supply line	8	890	440	110	< 0.35	63.65	-
12/11/2017	10:03	S-32	North wall west of pipe	North wall west of pipe 4 <3.8 190 250		250	< 0.019	<0.172	<30	
12/11/2017	10:10	S-33	North wall east of pipe	5	260	260	140	<0.099	10.1	<30
12/11/2017	10:14	S-34	South wall	4	<4.2	<10	<50	<0.021	<0.188	<30
12/11/2017	10:20	S-35	West wall	4	<20	210	210	<0.098	<0.888	<30
12/11/2017	10:24	S-36	West base	5	<3.8	19	66	<0.019	<0.171	<30
12/11/2017	10:29	S-37	Base BGT	5	<4.5	<9.2	<46	<0.023	<0.203	<30
12/13/2017	11:16	S-50	North wall, west side	0-13	500	270	92	<0.11	<32.51	-
12/13/2017	11:20	S-51	North wall, east side	0-13	<22	<9.5	<47	<0.11	<0.98	
12/13/2017	11:23	S-52	East wall, north side	0-13	<19	16	<49	<0.096	<0.87	-
12/13/2017	11:26	S-53	East wall, south side	0-13	<4.1	<9.9	<50	<0.020	< 0.183	-
12/13/2017	11:29	S-54	South wall, east side	0-13	<3.8	<9.7	<48	< 0.019	< 0.171	-
12/13/2017	11:32	S-55	South wall, west side	0-13	4.7	<9.3	<47	<0.019	< 0.167	-
12/13/2017	11:35	S-56	West wall, south side	0-13	6.3	<9.8	<49	<0.020	<0.252	-
12/13/2017	11:38	S-57	West wall, north side	0-13	<5.2	<9.7	<48	<0.026	<0.23	-
12/13/2017	11:40	S-58	Base, east side	10-13	<4.1	<9.9	<49	<0.020	<0.198	-
12/13/2017	11:42	S-59	Base, west side	10-13	<21	50	<48	<0.10	<1.2	-

NE: Not Established
-: Not Analyzed



# Appendix A Site Photography

#### Site Photographs

### Potter Canyon Compressor Station Release: Release Assessment and Final Remediation for Tank 12 (T512)



Figure 1. Release path of overflow, view to the northwest.



Figure 2. Initial excavation of overflow spill, view to east of BGT.

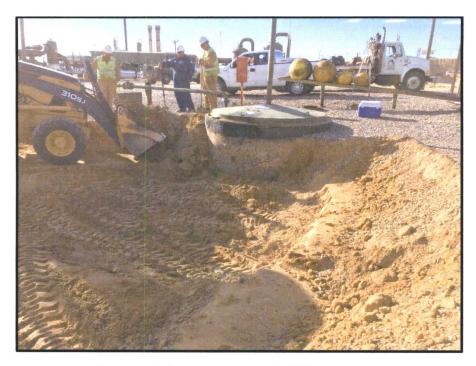


Figure 3. Initial excavation around the BGT, view to west.



Figure 4. Continued excavation at the 2" header drip line and 30" suction line.

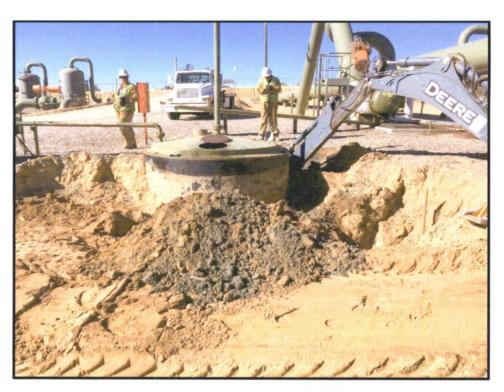


Figure 5. Excavation around the BGT.



Figure 6. Excavation activities following the removal of Tank 12 (T512), view to south.

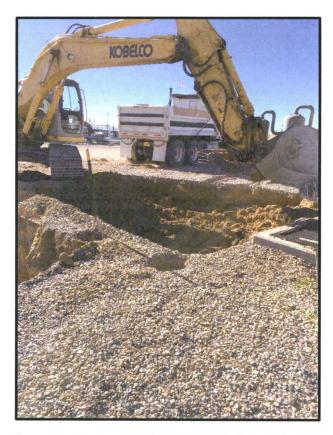


Figure 7. Continued excavation to the west of the removed Tank 12 (T512), view to the southwest.

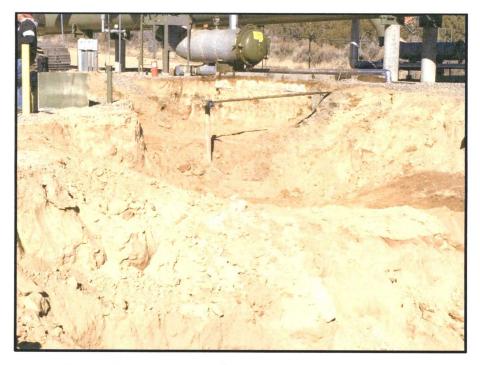


Figure 8. Excavation activities from removed BGT, view to northwest.



Figure 9. Full view of excavation extending east to west.

## Appendix B Laboratory Analytical Reports



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

December 06, 2017

Stephanie Hinds Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401

TEL: (505) 325-7535

FAX

RE: Potter Canyon CS OrderNo.: 1712150

#### Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/5/2017 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

anded

4901 Hawkins NE

Albuquerque, NM 87109

## Lab Order **1712150**Date Reported: **12/6/2017**

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates Client Sample ID: S-12

 Project:
 Potter Canyon CS
 Collection Date: 12/4/2017 2:00:00 PM

 Lab ID:
 1712150-001
 Matrix: SOIL
 Received Date: 12/5/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	21	10	mg/Kg	1	12/5/2017 9:07:01 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/5/2017 9:07:01 AM
Surr: DNOP	101	70-130	%Rec	1	12/5/2017 9:07:01 AM
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	20	mg/Kg	5	12/5/2017 9:36:54 AM
Surr: BFB	123	15-316	%Rec	5	12/5/2017 9:36:54 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.098	mg/Kg	5	12/5/2017 9:36:54 AM
Toluene	ND	0.20	mg/Kg	5	12/5/2017 9:36:54 AM
Ethylbenzene	ND	0.20	mg/Kg	5	12/5/2017 9:36:54 AM
Xylenes, Total	ND	0.39	mg/Kg	5	12/5/2017 9:36:54 AM
Surr: 4-Bromofluorobenzene	108	80-120	%Rec	5	12/5/2017 9:36:54 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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 1712150

Date Reported: 12/6/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-13

Project: Potter Canyon CS

Collection Date: 12/4/2017 2:04:00 PM

Lab ID: 1712150-002

Received Date: 12/5/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	NGE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	33	9.9	mg/Kg	1	12/5/2017 9:31:24 AM
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/5/2017 9:31:24 AM
Surr: DNOP	102	70-130	%Rec	1	12/5/2017 9:31:24 AM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	17	mg/Kg	5	12/5/2017 10:00:37 AM
Surr: BFB	120	15-316	%Rec	5	12/5/2017 10:00:37 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.087	mg/Kg	5	12/5/2017 10:00:37 AM
Toluene	ND	0.17	mg/Kg	5	12/5/2017 10:00:37 AM
Ethylbenzene	ND	0.17	mg/Kg	5	12/5/2017 10:00:37 AM
Xylenes, Total	ND	0.35	mg/Kg	5	12/5/2017 10:00:37 AM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	5	12/5/2017 10:00:37 AM

Matrix: SOIL

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

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

06-Dec-17

1712150

WO#:

Client:

Souder, Miller and Associates

Project:	Potter Ca	nyon CS										
Sample ID	LCS-35318	SampT	ype: LC	s	Test	Code: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID:	LCSS	Batch	1D: 35	318	R	tunNo: 4	7518					
Prep Date:	12/5/2017	Analysis D	ate: 12	2/5/2017	S	eqNo: 1	517359	Units: mg/k	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range (	Organics (DRO)	47	10	50.00	0	94.2	73.2	114				
Surr: DNOP		4.7		5.000		93.1	70	130				
Sample ID	MB-35318	SampT	ype: ME	BLK	Test	Code: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID:	PBS	Batch	n ID: 35	318	R	lunNo: 4	7518					
Prep Date:	12/5/2017	Analysis D	ate: 12	2/5/2017	S	SeqNo: 1	517361	Units: mg/F	(g			
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual												
Diesel Range	Organics (DRO)	ND	10									
Motor Oil Rang	ge Organics (MRO)	ND	50									
Surr: DNOP		9.8		10.00		98.0	70	130				
Sample ID	1712150-001AMS	SampT	ype: MS	3	Test	Code: El	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID:	S-12	Batch	n ID: 35	318	R	RunNo: 4	7518					
Prep Date:	12/5/2017	Analysis D	ate: 12	2/5/2017	S	eqNo: 1	517899	Units: mg/F	<b>(</b> g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range	Organics (DRO)	59	9.3	46.64	21.43	81.3	55.8	125				
Surr: DNOP	<u> </u>	4.7		4.664		100	70	130				
Sample ID	1712150-001AMS	) SampT	ype: MS	SD	Test	Code: El	PA Method	8015M/D: Di	esel Rang	e Organics		
	2	Ratch	n ID: 35	318	R	unNo: 4	7518					
Client ID:	S-12	Datti	110. 33	310								
	S-12 12/5/2017	Analysis D			S	SeqNo: 1	517900	Units: mg/F	(g			
				2/5/2017	SPK Ref Val	SeqNo: 1:	517900 LowLimit	Units: mg/F	<b>(g</b> %RPD	RPDLimit	Qual	
Prep Date:		Analysis D	)ate: 12	2/5/2017					•	RPDLimit 20	Qual	

#### Qualifiers:

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

Page 3 of 5

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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1712150

06-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter Canyon CS

Project:	Otter Canyon CS									
Sample ID RB	SampTy	pe: ME	BLK	Test	Code: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID: PBS	Batch	ID: G4	7528	R	lunNo: 4	7528				
Prep Date:	Analysis Da	ate: 12	2/5/2017	S	SeqNo: 1	518203	Units: mg/F	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	GRO) ND	5.0								
Surr: BFB	1100		1000		114	15	316			
Sample ID 2.5UG G	RO LCS SampTy	pe: LC	s	Test	Code: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batch	ID: G4	7528	R	RunNo: 4	7528				
Prep Date:	Analysis Da	ate: 12	2/5/2017	S	SeqNo: 1	518204	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	GRO) 26	5.0	25.00	0	103	75.9	131			
Surr: BFB	1200		1000		123	15	316			
Sample ID 1712150	001AMS SampTy	pe: MS	3	Test	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID: S-12	Batch	ID: G4	7528	R	RunNo: 4	7528				
Prep Date:	Analysis Da	ate: 12	2/6/2017	S	SeqNo: 1	518206	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	(GRO) 92	20	98.11	6.750	86.5	77.8	128			
Surr: BFB	4900		3925		124	15	316			
Sample ID 1712150	001AMSD SampTy	pe: MS	SD	Test	Code: E	PA Method	8015D: Gaso	oline Rang	e	
Client ID: S-12	Batch	ID: G4	7528	R	RunNo: 4	7528				
Prep Date:	Analysis Da	ate: 12	2/6/2017	S	SeqNo: 1	518207	Units: mg/F	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	(GRO) 94	20	98.11	6.750	88.8	77.8	128	2.37	20	
Surr: BFB	4900		3925		125	15	316	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 4 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#:

1712150

06-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter Canyon CS

Sample ID RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles				
Client ID: PBS	Batch	n ID: <b>B4</b>	7528	F	RunNo: 4	7528						
Prep Date:	Analysis Date: 12/5/2017				SeqNo: 1	518237	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	ND	0.025										
Toluene	ND	0.050										
Ethylbenzene	ND	0.050										
Xylenes, Total	ND	0.10										
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120					

Sample ID 100NG BTEX LC	S Samp	ype: LC	s	Tes	8021B: Volat	tiles				
Client ID: LCSS	Batc	n ID: <b>B4</b>	7528	R	RunNo: 4	7528				
Prep Date:	Analysis [	Date: 12	2/5/2017	S	518238	Units: mg/K	g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Benzene	0.95	0.025	1.000	0	94.5	77.3	128			
Toluene	0.98	0.050	1.000	0	97.6	79.2	125			
Ethylbenzene	0.97	0.050	1.000	0	97.3	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	96.2	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID 1712150-002AMS	SampT	ype: MS	8	Tes	tCode: El	PA Method	A Method 8021B: Volatiles							
Client ID: S-13	Batch	ID: <b>B4</b>	7528	F	RunNo: 4	7528								
Prep Date:	Analysis D	ate: 12	2/5/2017	S	SeqNo: 1	518447	Units: mg/K	g						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Benzene	2.3	0.087	3.472	0	65.4	80.9	132			S				
Toluene	2.3	0.17	3.472	0.05902	64.6	79.8	136			S				
Ethylbenzene	2.2	0.17	3.472	0.06215	62.8	79.4	140			S				
Xylenes, Total	6.8	0.35	10.42	0.3302	62.2	78.5	142			S				
Surr: 4-Bromofluorobenzene	3.8		3.472		111	80	120							

Sample ID 1712150-002AM	SD SampT	ype: MS	SD	TestCode: EPA Method 8021B: Volatiles							
Client ID: S-13	Batch	ID: <b>B4</b>	7528	F	RunNo: 4	7528					
Prep Date:	Analysis D	ate: 12	2/5/2017	5	SeqNo: 1	518449	Units: mg/F	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual	
Benzene	4.7	0.087	3.472	0	136	80.9	132	70.2	20	RS	
Toluene	4.9	0.17	3.472	0.05902	139	79.8	136	71.7	20	RS	
Ethylbenzene	4.7	0.17	3.472	0.06215	135	79.4	140	71.4	20	R	
Xylenes, Total	14	0.35	10.42	0.3302	133	78.5	142	70.3	20	R	
Surr: 4-Bromofluorobenzene	4.0		3.472		115	80	120	0	0		

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 5 of 5

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



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

## Sample Log-In Check List

Client Name: SMA-FARM	Work Order Number:	1712150		RcptNo:	1
Received By: Anne Thorne	12/5/2017 7:00:00 AM		anne Am	_	
Completed By: Anne Thorne	12/5/2017 7:25:07 AM		aone Am		
Reviewed By: DS	12/5/17		CARL Strong		
Chain of Custody					
1. Custody seals intact on sample be	ottles?	Yes	No _	Not Present	
2. Is Chain of Custody complete?		Yes 🗹	No 🗔	Not Present	
3. How was the sample delivered?		Courier			
Log In					
4. Was an attempt made to cool the	samples?	Yes 🗸	No .	NA 🗌	
5. Were all samples received at a te	mperature of >0° C to 6.0°C	Yes 🗸	No 🗌	NA 🗌	
6. Sample(s) in proper container(s)?	,	Yes 🗹	No 🗌		
7. Sufficient sample volume for indic	ated test(s)?	Yes 🗹	No 🗌		
8. Are samples (except VOA and ON	NG) properly preserved?	Yes 🗸	No :		
9. Was preservative added to bottles	6?	Yes	No 🗸	NA .	
10.VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials	
11. Were any sample containers rece	aived broken?	Yes	No 🗸	# of preserved	
12. Does paperwork match bottle labe	els?	Yes 🗸	No 🗌	bottles checked for pH	
(Note discrepancies on chain of c			No.	(<2 o	r >12 unless noted)
13. Are matrices correctly identified or		Yes ✓	No 🗆	7.13,451.53	•
<ul><li>14. Is it clear what analyses were request.</li><li>15. Were all holding times able to be</li></ul>		Yes ✓	No 🗆	Checked by:	
(If no, notify customer for authoriz	ation.)				
Special Handling (if applicable	(e)				
16. Was client notified of all discrepar	ncies with this order?	Yes	No 🗌	NA 🗹	
Person Notified:	Date	udaritmiinin il vii vii kultarittaalaa kalaniiniit	trade to all the production of the state of		1
By Whom:	Via:	eMail	Phone Fax	In Person	
Regarding:	erenne var sen sensettettettettettettet var var stattettettettet et ein i var var til til stattettet et et ei Bestekning i kilonia kallinia kallinia var var var til stattettettet en var var var var var sen sin sin sin si				
Client Instructions: }		_	_	-	
17. Additional remarks:					
18. Cooler Information  Cooler No   Temp °C   Cond	dition   Seal Intact   Seal No	Seal Date	Signed By		
1 1.0 Good	Yes				

Chain-of-Custody Record				Turn-Around	Time:									_		/T.	-				
Client:	SMA			☐ Standard	X Rush	Same a	lay				A	N	AL	YS	SIS	S L	AI	BOF	RAT		
Mailing	Address	: 401 (	2. Broadway	Potter C	anyon Cs				10	01 11			v.hal					om M 871	00		
	ŧ	Farmina	ton, NM 87401	Project #:							)5-34							-4107	Ja		
Phone		325-75		5125	160 BG	87				1. 50		3-3	-	NAME OF TAXABLE PARTY.	-	-	ues	and the latest designation of the latest des		易其	
			e. hinds @ souder miller	Project Mana	iger:				ly)	0					STORES OF THE PERSON	THE PERSON					
QA/QC I	Package: dard		Level 4 (Full Validation)	Stepha	nie And	(·)		HMB4s (8021)	TPH (Gas only)	NO/MR			SIMS)		PO4,SC	PCB's					
Accredi				Sampler: 5.	Hnids			1	PH	/ DF	7	7	8270 S		NO2,	3082					9
O NEL		□ Othe	r	On Ice:	Yes Yes	□ No		+	+	18	418.1)	504.1)	r 82	S	03,1	3 / Se		OA)			or N
□ EDD	Time	Matrix	Sample Request ID	Sample Tem  Container Type and #	Preservative Type  MOHKA	HEAL	A	BTEX + MTBE	BTEX + MTBE	TPH 8015B GRO / DRO / MRO	TPH (Method	EDB (Method	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y
12.4-17	14:00	Soil	5-12	(1)-402	Cool		001	X		X											
12.4.17	14:04	Fioz	5-13	(1)-402	COOL		702	7		x											
Date:	Time:	Relinquishe	d by:	Received by:	,	Date	Time	Ren	narks	3:											
44/17 Date: 44/17	Time:	116	ed by:	Received by:	Uhm Coredited laboratorie	1/2	Time /0 1/7		ic: T	to					N 3			the ana	ytical rep	ort.	



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

December 07, 2017

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

FAX

RE: Potter Canyon CS

OrderNo.: 1712263

#### Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/6/2017 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 1712263

Date Reported: 12/7/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-19

Project: Potter Canyon CS

**Collection Date:** 12/5/2017 2:43:00 PM

**Lab ID:** 1712263-001

Matrix: SOIL Received Date: 12

Received Date: 12/6/2017 7:20:00 AM

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	440	9.2	mg/Kg	1	12/6/2017 10:36:32 AM
Motor Oil Range Organics (MRO)	110	46	mg/Kg	1	12/6/2017 10:36:32 AM
Surr: DNOP	99.9	70-130	%Rec	1	12/6/2017 10:36:32 AM
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	890	70	mg/Kg	20	12/6/2017 9:39:35 AM
Surr: BFB	402	15-316	S %Rec	20	12/6/2017 9:39:35 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.35	mg/Kg	20	12/6/2017 9:39:35 AM
Toluene	8.2	0.70	mg/Kg	20	12/6/2017 9:39:35 AM
Ethylbenzene	4.1	0.70	mg/Kg	20	12/6/2017 9:39:35 AM
Xylenes, Total	51	1.4	mg/Kg	20	12/6/2017 9:39:35 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	20	12/6/2017 9:39:35 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1712263

07-Dec-17

Client:

Souder, Miller and Associates

Project: Potter	Canyon CS	
Sample ID LCS-35347	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 35347	RunNo: 47491
Prep Date: 12/6/2017	Analysis Date: 12/6/2017	SeqNo: 1518688 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	45 10 50.00	0 90.6 73.2 114
Surr: DNOP	4.2 5.000	83.1 70 130
Sample ID MB-35347	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 35347	RunNo: 47491
Prep Date: 12/6/2017	Analysis Date: 12/6/2017	SeqNo: 1518690 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10	
Motor Oil Range Organics (MRO)	ND 50	
Surr: DNOP	8.6 10.00	86.1 70 130
Sample ID LCS-35334	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 35334	RunNo: 47491
Prep Date: 12/5/2017	Analysis Date: 12/6/2017	SeqNo: <b>1520256</b> Units: <b>%Rec</b>
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	3.6 5.000	71.7 70 130
Sample ID MB-35334	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 35334	RunNo: 47491
Prep Date: 12/5/2017	Analysis Date: 12/6/2017	SeqNo: <b>1520258</b> Units: <b>%Rec</b>
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	7.8 10.00	78.0 70 130

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% 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 4

Sample pH Not In Range P

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#: 17

1712263

07-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter Canyon CS

Project: Potter C	Canyon CS			
Sample ID MB-35330	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: PBS	Batch ID: 35330	RunNo: 47564		
Prep Date: 12/5/2017	Analysis Date: 12/6/2017	SeqNo: 1519487	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Gasoline Range Organics (GRO)	ND 5.0			
Surr: BFB	970 1000	97.4 15	316	
Sample ID LCS-35330	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 35330	RunNo: 47564		
Prep Date: 12/5/2017	Analysis Date: 12/6/2017	SeqNo: <b>1519488</b>	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Gasoline Range Organics (GRO)	23 5.0 25.00	0 92.4 75.9	131	
Surr: BFB	1100 1000	108 15	316	
Sample ID MB-35319	SampType: MBLK	TestCode: EPA Method	8015D: Gasoline Range	,
Client ID: PBS	Batch ID: 35319	RunNo: 47564		
Prep Date: 12/5/2017	Analysis Date: 12/6/2017	SeqNo: 1519510	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Surr: BFB	890 1000	88.6 15	316	
Sample ID LCS-35319	SampType: LCS	TestCode: EPA Method	8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 35319	RunNo: 47564		
Prep Date: 12/5/2017	Analysis Date: 12/6/2017	SeqNo: <b>1519511</b>	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD	RPDLimit Qual
Surr: BFB	1100 1000	114 15	316	

#### 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 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#: 1712263

07-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter Canyon CS

Sample ID MB-35330	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batch	n ID: 35	330	F	RunNo: 4	7564				
Prep Date: 12/5/2017	Analysis D	Date: 12	2/6/2017	8	SeqNo: 1	519530	Units: mg/k	ζg		
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	0.91		1.000		91.0	80	120			
Sample ID LCS-35330 Client ID: LCSS		ype: LC			RunNo: 4		8021B: Vola			
Prep Date: 12/5/2017	Analysis D				SeqNo: 1		Units: mg/k	ζq		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.4	77.3	128			
Toluene	0.91	0.050	1.000	0	91.2	79.2	125			
Ethylbenzene	0.90	0.050	1.000	0	90.1	80.7	127			
Xylenes, Total	2.7	0.10	3.000	0	91.1	81.6	129			
Surr: 4-Bromofluorobenzene	0.95		1.000		94.6	80	120			
Sample ID MR 35319	SamnT	vno: ME	DI K	Too	tCode: E	PA Mothod	9021R: Vola	tiloo		

Sample ID MB-35319	SampType	MBLK	TestC	Code: E	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batch ID:	35319	Ru	unNo: 4	17564				
Prep Date: 12/5/2017	Analysis Date:	12/6/2017	Se	eqNo: 1	1519534	Units: %Re	С		
Analyte	Result Po	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87	1 000		86.6	80	120			

Sample ID LCS-35319	SampType	e: LCS	TestCo	de: EPA Method	d 8021B: Volat	tiles		
Client ID: LCSS	Batch ID	35319	Runi	No: <b>47564</b>				
Prep Date: 12/5/2017	Analysis Date	2: 12/6/2017	Seq	No: <b>1519535</b>	Units: %Re	С		
Analyte	Result F	PQL SPK value	SPK Ref Val %	REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	0.87	1 000		86.0 80	120			

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

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: SMA-FARM	Work Order Number:	1712263		RcptNo:	1
Received By: Anne Thorne	12/6/2017 7:20:00 AM		anne Am	_	
Completed By: Anne Thorne	12/6/2017 7:35:59 AM		anne Am		
Reviewed By:	12/6/17		CARRE JE COM		
Chain of Custody					
1. Custody seals intact on sample be	ottles?	Yes	No 🗌	Not Present 🗸	
2. Is Chain of Custody complete?		Yes 🗸	No 🗌	Not Present	
3. How was the sample delivered?		Courier			
Log In					
Was an attempt made to cool the	samples?	Yes 🗹	No 🗆	NA 🗆	
True an attempt made to oder the	adripide.	100		,	
5. Were all samples received at a te	emperature of >0° C to 6.0°C	Yes 🗸	No 🗌	NA 🗆	
6. Sample(s) in proper container(s)?	,	Yes 🗸	No 🗌		
o. Campio(s) in proper container(s):		165	110		
7. Sufficient sample volume for indic	eated test(s)?	Yes 🗸	No 🗌		
8. Are samples (except VOA and ON	NG) properly preserved?	Yes 🗸	No		
9. Was preservative added to bottles	5?	Yes	No 🗹	NA 🗔	
10.VOA vials have zero headspace?		Yes	No 🗆	No VOA Vials	
11. Were any sample containers rece		Yes 🗌	No 🗸		
,,,				# of preserved bottles checked	
12. Does paperwork match bottle labe	els?	Yes 🗸	No 🗌	for pH:	
(Note discrepancies on chain of co					r >12 unless noted)
13. Are matrices correctly identified or		Yes 🗹	No	Adjusted?	
14. Is it clear what analyses were requ		Yes 🗸	No 🗔	Charles d hou	
15. Were all holding times able to be (If no, notify customer for authoriz		Yes 🗸	No 🗌	Checked by:	
Special Handling (if applicabl	(e)				
16. Was client notified of all discrepan	ncies with this order?	Yes	No 🗌	NA 🗸	
Person Notified:	Date 1	and the state of t	to good a total character and a destruction		
By Whom:	Via:	eMail	Phone Fax	In Person	
Regarding:	THE RESIDENCE OF THE PROPERTY	AT KING BERGER AD WARREST & DE WORKER	the time with retaining the control of the control of	ed resonant significations trefer stervists and cover	
Client Instructions:	de anno esta esta esta esta esta esta esta esta	N DROKDALINIKOKOKOK	CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR	ACTIVITY CONCENSES AND ACTIVITY OF THE PROPERTY OF	
17. Additional remarks:					
18. Cooler Information					
Cooler No Temp °C Cond	lition   Seal Intact   Seal No   S	Seal Date	Signed By		
1 1.0 Good	Yes				

		-of-Cu	istody Record	Turn-Around	Time:			2 1						BIL	/TT		BIB	45		
	5MA			☐ Standard Project Name	Rush	SAMEDAY	- [			F	\N	AL	YS		5 L	A	30		TO	
Mailing	Address	: 401 W	. Broadway	Potter C	angon Cs			49	01 H								M 87	109		
	Fa	ru mgte	m. NM 87401	Project #:	1				el. 50								-4107			
Phone		-325-7		5125	760							A	nal	ysis	Req	uesi				
email o	r Fax#: <b>5</b>	tephanie	· haids @ soudermiller	Project Mana	ger:			nly)	A					04)						
QA/QC	Package: dard		Level 4 (Full Validation)	Stepha	use Hand	15	\$ (8021)	TPH (Gas only)	30 / ME			SIMS)		,PO4,S(	PCB's					
Accredi		□ Othe	r	Sampler: 5. On Ice:		□ No	**************************************	+ TPH	30/DI	18.1)	504.1)	8270		D <sub>3</sub> ,NO <sub>2</sub>	\$ / 8082		(A)			or N)
	(Type)			Sample Temp	perature:	1.0	ATTEN TO THE PERSON NAMED IN COLUMN	MTBE +	9	od 4	od 5	0 or	etals	SI,N	sides	A)	0>-			2
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + 1	BTEX + MT	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method	PAH's (8310	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides /	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (Y or N)
2.5.17	14:43	5071	5-19	MEOHIEST	MeOH	7001	X		X											
																			+	
Date: 2/5/17 Date: 2/5/17	Time: 1654 Time: 1916	Relinquishe  Relinquishe  M	elmi Atil	Received by:	half	Date Time  12/5/17 1654  Date Time  12/06/17  (17 20	C	nark c	s: Ton	e Lo Ent	mg	vis	e i	N 31	169	3	•	•	,	
1	necessary,	samples subr	nitted to Hall Environmental may be subo	ontracted to other ac	credited laboratorie	es. This serves as notice of the	is possi	bility.	Any st	ıb-con	tracted	d data	will be	e clear	ly nota	ited or	the ar	nalytical	report.	



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

December 14, 2017

Ashley Maxwell Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401

TEL: (505) 325-7535

FAX

RE: Potter OrderNo.: 1712616

#### Dear Ashley Maxwell:

Hall Environmental Analysis Laboratory received 6 sample(s) on 12/12/2017 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 1712616

Date Reported: 12/14/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-32

Project: Potter

Collection Date: 12/11/2017 10:03:00 AM

Lab ID: 1712616-001

Matrix: SOIL

Received Date: 12/12/2017 7:10:00 AM

EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	:			
		,			Analyst: TOM
Diesel Range Organics (DRO)	190	10	mg/Kg	1	12/12/2017 9:33:07 AM
Motor Oil Range Organics (MRO)	250	50	mg/Kg	1	12/12/2017 9:33:07 AM
Surr: DNOP	101	70-130	%Rec	1	12/12/2017 9:33:07 AM
EPA METHOD 8015D: GASOLINE RANG	BE .				Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	12/12/2017 9:46:50 AM
Surr: BFB	109	15-316	%Rec	1	12/12/2017 9:46:50 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.019	mg/Kg	1	12/12/2017 9:46:50 AM
Toluene	ND	0.038	mg/Kg	1	12/12/2017 9:46:50 AM
Ethylbenzene	ND	0.038	mg/Kg	1	12/12/2017 9:46:50 AM
Xylenes, Total	ND	0.077	mg/Kg	1	12/12/2017 9:46:50 AM
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	12/12/2017 9:46:50 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	12/12/2017 10:51:21 AN

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

Lab Order 1712616

Date Reported: 12/14/2017

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S-33

Project: Potter

Collection Date: 12/11/2017 10:10:00 AM

Lab ID: 1712616-002

Matrix: SOIL

Received Date: 12/12/2017 7:10:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: TOM
Diesel Range Organics (DRO)	260	9.2	mg/Kg	1	12/12/2017 9:55:11 AM
Motor Oil Range Organics (MRO)	140	46	mg/Kg	1	12/12/2017 9:55:11 AM
Surr: DNOP	100	70-130	%Rec	1	12/12/2017 9:55:11 AM
EPA METHOD 8015D: GASOLINE RANGI	E				Analyst: NSB
Gasoline Range Organics (GRO)	260	20	mg/Kg	5	12/12/2017 10:10:12 AM
Surr: BFB	461	15-316	S %Rec	5	12/12/2017 10:10:12 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.099	mg/Kg	5	12/12/2017 10:10:12 AM
Toluene	ND	0.20	mg/Kg	5	12/12/2017 10:10:12 AM
Ethylbenzene	ND	0.20	mg/Kg	5	12/12/2017 10:10:12 AM
Xylenes, Total	9.6	0.40	mg/Kg	5	12/12/2017 10:10:12 AM
Surr: 4-Bromofluorobenzene	117	80-120	%Rec	5	12/12/2017 10:10:12 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	12/12/2017 11:03:45 AM

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- Analyte detected in the associated Method Blank
- Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1712616

Date Reported: 12/14/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-34

Project: Potter

**Collection Date:** 12/11/2017 10:14:00 AM

**Lab ID:** 1712616-003

Matrix: SOIL

**Received Date:** 12/12/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	12/12/2017 10:17:09 AM
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/12/2017 10:17:09 AM
Surr: DNOP	92.2	70-130	%Rec	1	12/12/2017 10:17:09 AM
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	12/12/2017 10:33:43 AM
Surr: BFB	81.9	15-316	%Rec	1	12/12/2017 10:33:43 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.021	mg/Kg	1	12/12/2017 10:33:43 AM
Toluene	ND	0.042	mg/Kg	1	12/12/2017 10:33:43 AM
Ethylbenzene	ND	0.042	mg/Kg	1	12/12/2017 10:33:43 AM
Xylenes, Total	ND	0.083	mg/Kg	1	12/12/2017 10:33:43 AM
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	12/12/2017 10:33:43 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	12/12/2017 11:16:10 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712616

Date Reported: 12/14/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S-35

Project: Potter

Collection Date: 12/11/2017 10:20:00 AM

Lab ID: 1712616-004 Matrix: SOIL

Received Date: 12/12/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	NGE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	210	9.3	mg/Kg	1	12/12/2017 10:39:04 AM
Motor Oil Range Organics (MRO)	210	46	mg/Kg	1	12/12/2017 10:39:04 AM
Surr: DNOP	102	70-130	%Rec	1	12/12/2017 10:39:04 AM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	20	mg/Kg	5	12/12/2017 10:57:10 AM
Surr: BFB	94.7	15-316	%Rec	5	12/12/2017 10:57:10 AM
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst: NSB
Benzene	ND	0.098	mg/Kg	5	12/12/2017 10:57:10 AM
Toluene	ND	0.20	mg/Kg	5	12/12/2017 10:57:10 AM
Ethylbenzene	ND	0.20	mg/Kg	5	12/12/2017 10:57:10 AM
Xylenes, Total	ND	0.39	mg/Kg	5	12/12/2017 10:57:10 AM
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	5	12/12/2017 10:57:10 AM
<b>EPA METHOD 300.0: ANIONS</b>					Analyst: MRA
Chloride	ND	30	mg/Kg	20	12/12/2017 11:28:34 AM

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 11 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1712616

Date Reported: 12/14/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-36

Project: Potter

Collection Date: 12/11/2017 10:24:00 AM Received Date: 12/12/2017 7:10:00 AM

Lab ID: 1712616-005

Matrix: SOIL

**Analyses** Result **PQL Qual Units** DF **Date Analyzed EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: TOM Diesel Range Organics (DRO) 9.3 12/12/2017 11:00:58 AM mg/Kg 1 Motor Oil Range Organics (MRO) 66 46 mg/Kg 12/12/2017 11:00:58 AM 1 Surr: DNOP 98.4 70-130 %Rec 1 12/12/2017 11:00:58 AM **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 3.8 12/12/2017 11:20:41 AM mg/Kg 1 Surr: BFB 88.1 15-316 %Rec 1 12/12/2017 11:20:41 AM **EPA METHOD 8021B: VOLATILES** Analyst: NSB Benzene ND 0.019 1 12/12/2017 11:20:41 AM mg/Kg Toluene ND 0.038 mg/Kg 1 12/12/2017 11:20:41 AM Ethylbenzene ND 0.038 mg/Kg 12/12/2017 11:20:41 AM 1 Xylenes, Total 0.076 ND mg/Kg 12/12/2017 11:20:41 AM 1 Surr: 4-Bromofluorobenzene 108 80-120 %Rec 12/12/2017 11:20:41 AM **EPA METHOD 300.0: ANIONS** Analyst: MRA Chloride ND 30 mg/Kg 20 12/12/2017 11:40:59 AM

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712616

Date Reported: 12/14/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-37

Project: Potter

Collection Date: 12/11/2017 10:29:00 AM

Lab ID: 1712616-006

Matrix: SOIL

Received Date: 12/12/2017 7:10:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	12/12/2017 11:22:57 AM
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	12/12/2017 11:22:57 AM
Surr: DNOP	97.8	70-130	%Rec	1	12/12/2017 11:22:57 AM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	12/12/2017 11:44:12 AM
Surr: BFB	86.9	15-316	%Rec	1	12/12/2017 11:44:12 AM
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst: NSB
Benzene	ND	0.023	mg/Kg	1	12/12/2017 11:44:12 AM
Toluene	ND	0.045	mg/Kg	1	12/12/2017 11:44:12 AM
Ethylbenzene	ND	0.045	mg/Kg	1	12/12/2017 11:44:12 AM
Xylenes, Total	ND	0.090	mg/Kg	1	12/12/2017 11:44:12 AM
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	12/12/2017 11:44:12 AM
<b>EPA METHOD 300.0: ANIONS</b>					Analyst: MRA
Chloride	ND	30	mg/Kg	20	12/12/2017 11:53:23 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 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#:

1712616

14-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter

Sample ID MB-35456

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID:

Batch ID: 35456

RunNo: 47708

Prep Date: 12/12/2017 Analysis Date: 12/12/2017

SeqNo: 1526136

Units: mg/Kg

Qual

Analyte Chloride

Result

PQL

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit** 

ND

SampType: Ics

Batch ID: 35456

TestCode: EPA Method 300.0: Anions

Sample ID LCS-35456

Client ID: LCSS

RunNo: 47708

SeqNo: 1526137

Units: mg/Kg

Analyte

Analysis Date: 12/12/2017

PQL

SPK value SPK Ref Val

0

%REC 90.1

90

Qual

110

LowLimit

Prep Date: 12/12/2017

14

HighLimit

Chloride

15.00

**RPDLimit** 

1.5

%RPD

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

Sample container temperature is out of limit as specified

J P Sample pH Not In Range

Reporting Detection Limit RL

Analyte detected below quantitation limits Page 7 of 11

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1712616 14-Dec-17

Client:

Souder, Miller and Associates

Project:	Potter									
Sample ID	LCS-35454	SampType:	LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	LCSS	Batch ID:	35454	R	unNo: 4	7697				
Prep Date:	12/12/2017	Analysis Date:	12/12/2017	S	eqNo: 1	524595	Units: mg/K	g		
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
•	Organics (DRO)	48	10 50.00	0	96.3	73.2	114			
Surr: DNOP		4.5	5.000		90.2	70	130			
Sample ID	MB-35454	SampType:	MBLK	Test	Code: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	PBS	Batch ID:	35454	R	lunNo: 4	7697				
Prep Date:	12/12/2017	Analysis Date:	12/12/2017	S	eqNo: 1	524596	Units: mg/K	g		
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	ND	10							
	ge Organics (MRO)	ND	50		05.0	70	120			
Surr: DNOP		9.6	10.00		95.8	70	130			
Sample ID	LCS-35433	SampType:	LCS	Test	Code: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	LCSS	Batch ID:	35433	R	RunNo: 4	7696				
Prep Date:	12/11/2017	Analysis Date:	12/12/2017	S	eqNo: 1	524952	Units: %Red			
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.4	5.000		88.8	70	130			
Sample ID	MB-35433	SampType:	MBLK	Test	Code: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	PBS	Batch ID:	35433	R	lunNo: 4	7696				
Prep Date:	12/11/2017	Analysis Date:	12/12/2017	S	SeqNo: 1	524953	Units: %Red	<b>c</b>		
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		9.2	10.00		91.9	70	130			
Sample ID	LCS-35429	SampType:	LCS	Test	Code: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	LCSS	Batch ID:	35429	R	RunNo: 4	7697				
Prep Date:	12/11/2017	Analysis Date:	12/12/2017	S	eqNo: 1	525049	Units: %Red			
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.7	5.000		93.3	70	130			
Sample ID	MB-35429	SampType:	MBLK	Test	tCode: El	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	PBS	Batch ID:	35429	R	RunNo: 4	7697				
Prep Date:	12/11/2017	Analysis Date:	12/12/2017	S	SeqNo: 1	525050	Units: %Red			
Analyte		Result PC	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		11	10.00		106	70	130			

#### 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
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range

- Analyte detected below quantitation limits
- Page 8 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.

WO#:

1712616

14-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter

Sample ID 1712616-001AMS TestCode: EPA Method 8015M/D: Diesel Range Organics SampType: MS Client ID: Batch ID: 35454 S-32 RunNo: 47696 Prep Date: 12/12/2017 Analysis Date: 12/12/2017 SeqNo: 1525784 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Analyte Diesel Range Organics (DRO) 220 9.2 46.13 190.9 71.2 55.8 125 Surr: DNOP 4.7 4.613 102 70 130

Sample ID 1712616-001AMS	SD SampT	/pe: <b>MS</b>	SD	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: S-32	Batch	ID: 35	454	R	RunNo: 4	7696				
Prep Date: 12/12/2017	Analysis Date: 12/12/2017			SeqNo: <b>1525785</b>			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	220	9.8	48.88	190.9	62.8	55.8	125	0.970	20	
Surr: DNOP	5.1		4 888		105	70	130	0	0	

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 9 of 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#: 1712616 14-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter

Sample ID RB	SampT	ype: ME	BLK	Test	Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: PBS	Batch	ID: <b>G4</b>	7704	R	tunNo: 4	7704				
Prep Date:	Analysis D	ate: 12	2/12/2017	S	eqNo: 1	525332	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		84.1	15	316			

Sample ID 2.5UG GRO LCS	SampT	ype: LC	S	Tes	Code: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: LCSS	Batch	Batch ID: <b>G47704</b> RunNo: <b>47704</b>								
Prep Date:	Analysis D	ate: 12	2/12/2017	S	SeqNo: 1	525333	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	96.8	75.9	131			
Surr: BFB	980		1000		97.6	15	316			

Sample ID 1712616-001AMS	SampT	SampType: MS TestCode: EPA Method 8						line Rang	е	
Client ID: S-32	Batch	ID: <b>G4</b>	7704	R	RunNo: 4	7704				
Prep Date:	Analysis D	ate: 12	2/12/2017	S	SeqNo: 1	525334	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.8	19.19	1.911	94.4	77.8	128			
Surr: BFB	910		767.5		119	15	316			

Sample ID 1712616-001AMSI	SampTy	be: M	SD	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: S-32	Batch	D: <b>G</b> 4	47704	F	RunNo: 4	7704				
Prep Date:	Analysis Da	te: 1	2/12/2017	S	SeqNo: 1	525335	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	20	3.8	19.19	1.911	95.6	77.8	128	1.10	20	
Surr: BFB	940		767.5		122	15	316	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 10 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#: 14-Dec-17

1712616

Client:

Souder, Miller and Associates

Project:

Potter

Sample ID RB	SampT	ype: ME	BLK	Test	tCode: E	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batch	n ID: <b>B4</b>	7704	R	RunNo: 4	7704				
Prep Date:	Analysis D	ate: 12	2/12/2017	S	SeqNo: 1	525365	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1 000		104	80	120			

Sample ID 100NG BTEX LO	Samp	Type: LC	S	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	h ID: <b>B4</b>	7704	F	RunNo: 4	7704				
Prep Date:	Analysis [	Date: 12	2/12/2017	8	SeqNo: 1	525366	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.8	77.3	128			
Toluene	0.94	0.050	1.000	0	94.1	79.2	125			
Ethylbenzene	0.93	0.050	1.000	0	93.3	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	95.8	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID 1712616-003AMS	SampType: MS TestCode: EPA Method 8021B: Volatiles									
Client ID: S-34	Batch	ID: <b>B4</b>	7704	F						
Prep Date:	Analysis D	ate: 12	2/12/2017	S	SeqNo: 1	525367	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.80	0.021	0.8347	0	96.2	80.9	132			
Toluene	0.82	0.042	0.8347	0	98.2	79.8	136			
Ethylbenzene	0.81	0.042	0.8347	0	97.5	79.4	140			
Xylenes, Total	2.5	0.083	2.504	0	99.2	78.5	142			
Surr: 4-Bromofluorobenzene	0.87		0.8347		104	80	120			

Sample ID 1712616-003AMSL	Samply	be: MS	SD	Test	(Code: El	A Method	8021B: Volat	tiles		
Client ID: S-34	Batch I	D: <b>B4</b>	7704	R	RunNo: 4	7704				
Prep Date:	Analysis Dat	te: 12	2/12/2017	S	SeqNo: 1	525368	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.79	0.021	0.8347	0	94.3	80.9	132	2.00	20	
Toluene	0.80	0.042	0.8347	0	95.9	79.8	136	2.37	20	
Ethylbenzene	0.80	0.042	0.8347	0	95.4	79.4	140	2.27	20	
Xylenes, Total	2.5	0.083	2.504	0	97.9	78.5	142	1.33	20	
Surr: 4-Bromofluorobenzene	0.84		0.8347		101	80	120	0	0	

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

- 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

# Sample Log-In Check List

LABORATORY	Website: www.	hallenvironmenta	l.com		
Client Name: SMA-FARM	Work Order Number	er: 1712616		RcptNo:	1
Received By: Anne Thom	e 12/12/2017 7:10:00 /	AM	anne Ham	_	
Completed By: Anne Thorn	e 12/12/2017 7:25:19 /	AM	anne Am		
Reviewed By: DS	12/12/17		Carre Jim		
Chain of Custody					
1. Custody seals intact on sar	mple bottles?	Yes _	No 🗌	Not Present	
2. Is Chain of Custody comple	ete?	Yes 🗹	No 🗌	Not Present	
3. How was the sample delive	red?	Courier			
Log In					
4. Was an attempt made to c	ool the samples?	Yes 🗸	No 🗌	NA 🗌	
5. Were all samples received	at a temperature of >0° C to 6.0°C	Yes 🗸	No 🗌	NA 🗌	
6. Sample(s) in proper contain	ner(s)?	Yes 🗹	No 🗌		
7. Sufficient sample volume for	or indicated test(s)?	Yes 🗹	No 🗌		
8. Are samples (except VOA	and ONG) properly preserved?	Yes 🗸	No 🗌		
9. Was preservative added to	bottles?	Yes	No 🗸	ŅA 🗌	
10.VOA vials have zero heads	pace?	Yes	No 🗌	No VOA Vials	
11. Were any sample containe	rs received broken?	Yes	No 🗸	# of preserved	
12. Does paperwork match both (Note discrepancies on cha		Yes 🗸	No 🗔	bottles checked for pH:	r >12 unless noted
3. Are matrices correctly ident	ified on Chain of Custody?	Yes 🗸	No 🗔	Adjusted?	
4. Is it clear what analyses we	re requested?	Yes 🗸	No 🗌		
<ol><li>Were all holding times able (If no, notify customer for a</li></ol>		Yes 🗸	No 🗌	Checked by:	
pecial Handling (if appl	licable)				
6. Was client notified of all dis	crepancies with this order?	Yes	No 🗌	NA 🗸	
Person Notified:	Date		The contradiction of the contr		
By Whom:	Via:	eMail	Phone Fax	n Person	
Regarding:	nem menten er			er energies es a metalle la colonida de la colonida	
Client Instructions:	Management (Control of the Control o	TOLONE POSITION AND AND AND AND AND AND AND AND AND AN		THE STATE OF THE S	
7. Additional remarks:					
8. Cooler Information					
Cooler No Temp °C	Condition   Seal Intact   Seal No	Seal Date	Signed By		

C	Chain	of-Cu	stody Record	Turn-Around	Time:								_			_					
Client:	SMP	†		☐ Standard	Rush	SAME DAY		沙路		A	N	AL	YS	<b>SI</b> 5		A	30		NT		•
Mailing	Address	101	West Broadway	POH	er			10	01 H	lawki								7100			
Far	Ming	don.	NM 87401	Project #:			1			)5-34					505-						
Phone	#: 50	5-37	NM 87401 25-7535						JI. 00			PARTIE DE	NAME AND ADDRESS OF	and the last of	Req	-	ALC: NAME OF TAXABLE PARTY.				
email o	r Fax#:	Ashi	y maxuel	Project Mana	ger:		_	(ýlu	MRO)					04)							
QA/QC	Package:		S	A	shlegn	Taxwell	(8021)	as or				SIMS)		PO4, SO4)	PCB's			2			
Accredi			☐ Level 4 (Full Validation)	Campley (	7M		\$ 0	D) H	DRO			SII		D <sub>2</sub> ,P	8082 F			de			
□ NEL		□ Othe	r	Sampler: (		Ĝ₋No	TAME	+ TP	0 /	18.1)	04.1)	8270		)3,NC	-		A)	Chlora			or N)
	(Type)			Sample Tem		1.0	4	BE	(GF	4 b	od 5(	o or	tals	NC,	ides	7	.00	5		·	>
Date	Time	Matrix	Sample Request ID	Container Type and #  Mouth Lit	Preservative Type	HEAL NO.	ETEX) MATBE	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO /	TPH (Method 418.1)	EDB (Method 504.	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)	300.1			Air Bubbles (Y
12-11-17	10:03	Soil	5.32	403	Cool	-001	X		+									X			
	10:10	1	5-33			702	1		1									1			
	10:14		5-34			-703															
	10:20		5-35			704										,					
	10:24	- Indiana	5-36			705															
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Date: Time: Relingaished by:				Received by:	nt 2	Date Time  12/11/1- 1810  Date Time  12/12/11	Ren	narks	s: C	10	To	om	in	on	g	25	2				
13/1/17	1924 necessary,	samples subr	mitted to Hall Environmental may be subc	ontracted to other ac	n Ma	0716	possit	oility.	Any su	ıb-cont	racted	d data	will be	e clear	ly nota	ted or	the a	nalytic	al report.		



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

December 15, 2017

Stephanie Hinds Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401 TEL: FAX

RE: Potter CS OrderNo.: 1712833

#### Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/14/2017 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 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Potter CS

Lab ID: 1712833-001

Client Sample ID: S-50

**Collection Date:** 12/13/2017 11:16:00 AM

Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS					Analys	t: TOM
Diesel Range Organics (DRO)	270	9.1		mg/Kg	1	12/14/2017 9:05:12 AM	35505
Motor Oil Range Organics (MRO)	92	46		mg/Kg	1	12/14/2017 9:05:12 AN	1 35505
Surr: DNOP	99.8	70-130		%Rec	1	12/14/2017 9:05:12 AM	1 35505
EPA METHOD 8015D: GASOLINE RANG	GE					Analys	t: NSB
Gasoline Range Organics (GRO)	500	22		mg/Kg	5	12/14/2017 10:09:07 A	M G47788
Surr: BFB	722	15-316	S	%Rec	5	12/14/2017 10:09:07 A	M G47788
EPA METHOD 8021B: VOLATILES						Analys	t: NSB
Benzene	ND	0.11		mg/Kg	5	12/14/2017 10:09:07 A	M B47788
Toluene	3.2	0.22		mg/Kg	5	12/14/2017 10:09:07 A	M B47788
Ethylbenzene	2.2	0.22		mg/Kg	5	12/14/2017 10:09:07 A	M B47788
Xylenes, Total	27	0.45		mg/Kg	5	12/14/2017 10:09:07 A	M B47788
Surr: 4-Bromofluorobenzene	148	80-120	S	%Rec	5	12/14/2017 10:09:07 A	M B47788

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712833

Date Reported: 12/15/2017

12/14/2017 10:32:55 AM B47788

12/14/2017 10:32:55 AM B47788

12/14/2017 10:32:55 AM B47788

12/14/2017 10:32:55 AM B47788

# Hall Environmental Analysis Laboratory, Inc.

**EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** 

CLIENT: Souder, Miller and Associates

Client Sample ID: S-51

Potter CS Project:

Surr: DNOP

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Analyses

Collection Date: 12/13/2017 11:20:00 AM Received Date: 12/14/2017 6:55:00 AM

Lab ID: 1712833-002

Diesel Range Organics (DRO)

Motor Oil Range Organics (MRO)

Gasoline Range Organics (GRO)

**EPA METHOD 8021B: VOLATILES** 

Surr: 4-Bromofluorobenzene

**EPA METHOD 8015D: GASOLINE RANGE** 

Matrix: SOIL

Result

ND

ND

ND

133

ND

ND

ND

ND

114

96.5

9.5

47

22

70-130

15-316

0.11

0.22

0.22

0.43

80-120

mg/Kg

mg/Kg

mg/Kg

%Rec

PQL Qual Units **DF** Date Analyzed Batch Analyst: TOM 12/14/2017 9:27:19 AM 35505 mg/Kg mg/Kg 12/14/2017 9:27:19 AM 35505 %Rec 12/14/2017 9:27:19 AM 35505 Analyst: NSB mg/Kg 5 12/14/2017 10:32:55 AM G47788 12/14/2017 10:32:55 AM G47788 %Rec Analyst: NSB mg/Kg 12/14/2017 10:32:55 AM B47788

5

5

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

#### Lab Order 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

1712833-003

Client Sample ID: S-52

Project: Potter CS

Lab ID:

Collection Date: 12/13/2017 11:23:00 AM Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS				Analys	: TOM
Diesel Range Organics (DRO)	16	9.8	mg/Kg	1	12/14/2017 9:49:20 AM	35505
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/14/2017 9:49:20 AM	35505
Surr: DNOP	93.5	70-130	%Rec	1	12/14/2017 9:49:20 AM	35505
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	19	mg/Kg	5	12/14/2017 10:56:54 A	M G47788
Surr: BFB	131	15-316	%Rec	5	12/14/2017 10:56:54 A	M G47788
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.096	mg/Kg	5	12/14/2017 10:56:54 A	M B47788
Toluene	ND	0.19	mg/Kg	5	12/14/2017 10:56:54 A	M B47788
Ethylbenzene	ND	0.19	mg/Kg	5	12/14/2017 10:56:54 A	M B47788
Xylenes, Total	ND	0.39	mg/Kg	5	12/14/2017 10:56:54 A	M B47788
Surr: 4-Bromofluorobenzene	112	80-120	%Rec	5	12/14/2017 10:56:54 A	M B47788

Matrix: SOIL

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-53

**Project:** Potter CS

Collection Date: 12/13/2017 11:26:00 AM

Lab ID: 1712833-004

Matrix: SOIL

Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF 1	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/14/2017 10:11:35	AM 35505
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	12/14/2017 10:11:35	AM 35505
Surr: DNOP	98.5	70-130	%Rec	1	12/14/2017 10:11:35	AM 35505
EPA METHOD 8015D: GASOLINE RAN	IGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	12/14/2017 11:20:50	AM G47788
Surr: BFB	127	15-316	%Rec	1	12/14/2017 11:20:50	AM G47788
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.020	mg/Kg	1	12/14/2017 11:20:50	AM B47788
Toluene	ND	0.041	mg/Kg	1	12/14/2017 11:20:50	AM B47788
Ethylbenzene	ND	0.041	mg/Kg	1	12/14/2017 11:20:50	AM B47788
Xylenes, Total	ND	0.081	mg/Kg	1	12/14/2017 11:20:50	AM B47788
Surr: 4-Bromofluorobenzene	113	80-120	%Rec	1	12/14/2017 11:20:50	AM B47788

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 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-54

**Project:** Potter CS

**Collection Date:** 12/13/2017 11:29:00 AM

Lab ID: 1712833-005

Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3			Anal	yst: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/14/2017 10:33:31	AM 35505
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/14/2017 10:33:31	AM 35505
Surr: DNOP	99.0	70-130	%Rec	1	12/14/2017 10:33:31	AM 35505
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	yst: NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	12/14/2017 11:44:47	AM G47788
Surr: BFB	116	15-316	%Rec	1	12/14/2017 11:44:47	AM G47788
EPA METHOD 8021B: VOLATILES					Anal	yst: NSB
Benzene	ND	0.019	mg/Kg	1	12/14/2017 11:44:47	AM B47788
Toluene	ND	0.038	mg/Kg	1	12/14/2017 11:44:47	AM B47788
Ethylbenzene	ND	0.038	mg/Kg	1	12/14/2017 11:44:47	AM B47788
Xylenes, Total	ND	0.076	mg/Kg	1	12/14/2017 11:44:47	AM B47788
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	12/14/2017 11:44:47	AM B47788

Matrix: SOIL

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Potter CS

Lab ID: 1712833-006

Client Sample ID: S-55

Collection Date: 12/13/2017 11:32:00 AM Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	12/14/2017 10:55:36	AM 35505
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	12/14/2017 10:55:36	AM 35505
Surr: DNOP	102	70-130	%Rec	1	12/14/2017 10:55:36	AM 35505
EPA METHOD 8015D: GASOLINE RAI	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	4.7	3.7	mg/Kg	1	12/14/2017 12:08:34	PM G47788
Surr: BFB	146	15-316	%Rec	1	12/14/2017 12:08:34	PM G47788
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.019	mg/Kg	1	12/14/2017 12:08:34	PM B47788
Toluene	ND	0.037	mg/Kg	1	12/14/2017 12:08:34	PM B47788
Ethylbenzene	ND	0.037	mg/Kg	1	12/14/2017 12:08:34	PM B47788
Xylenes, Total	0.074	0.074	mg/Kg	1	12/14/2017 12:08:34	PM B47788
Surr: 4-Bromofluorobenzene	114	80-120	%Rec	1	12/14/2017 12:08:34	PM B47788

Matrix: SOIL

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S-56

Project: Potter CS

Collection Date: 12/13/2017 11:35:00 AM

Lab ID: 1712833-007

Matrix: SOIL

Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF Date Analyzed Ba	itch
EPA METHOD 8015M/D: DIESEL RAN-	GE ORGANICS	1		Analyst: TC	DM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1 12/14/2017 11:17:34 AM 35	505
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1 12/14/2017 11:17:34 AM 35	505
Surr: DNOP	94.3	70-130	%Rec	1 12/14/2017 11:17:34 AM 35	505
EPA METHOD 8015D: GASOLINE RAM	NGE			Analyst: NS	SB
Gasoline Range Organics (GRO)	6.3	4.1	mg/Kg	1 12/14/2017 12:32:28 PM G4	47788
Surr: BFB	148	15-316	%Rec	1 12/14/2017 12:32:28 PM G4	47788
EPA METHOD 8021B: VOLATILES				Analyst: NS	SB
Benzene	ND	0.020	mg/Kg	1 12/14/2017 12:32:28 PM B4	7788
Toluene	ND	0.041	mg/Kg	1 12/14/2017 12:32:28 PM B4	17788
Ethylbenzene	ND	0.041	mg/Kg	1 12/14/2017 12:32:28 PM B4	17788
Xylenes, Total	0.15	0.082	mg/Kg	1 12/14/2017 12:32:28 PM B4	17788
Surr: 4-Bromofluorobenzene	114	80-120	%Rec	1 12/14/2017 12:32:28 PM B4	17788

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 17
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-57

Project: Potter CS

Collection Date: 12/13/2017 11:38:00 AM

Lab ID: 1712833-008

Matrix: SOIL

Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	3			Analys	: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	12/14/2017 9:26:48 AM	35505
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/14/2017 9:26:48 AM	35505
Surr: DNOP	93.1	70-130	%Rec	1	12/14/2017 9:26:48 AM	35505
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	5.2	mg/Kg	1	12/14/2017 12:56:24 P	M G47788
Surr: BFB	120	15-316	%Rec	1	12/14/2017 12:56:24 P	M G47788
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.026	mg/Kg	1	12/14/2017 12:56:24 P	M B47788
Toluene	ND	0.052	mg/Kg	1	12/14/2017 12:56:24 P	M B47788
Ethylbenzene	ND	0.052	mg/Kg	1	12/14/2017 12:56:24 P	M B47788
Xylenes, Total	ND	0.10	mg/Kg	1	12/14/2017 12:56:24 P	M B47788
Surr: 4-Bromofluorobenzene	111	80-120	%Rec	1	12/14/2017 12:56:24 P	M B47788

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
- Analyte detected below quantitation limits Page 8 of 17 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Lab Order 1712833

Date Reported: 12/15/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-58

Project: Potter CS

Collection Date: 12/13/2017 11:40:00 AM

Lab ID: 1712833-009

Matrix: SOIL

Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	3			Analyst	том
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	12/14/2017 9:02:21 AM	35505
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	12/14/2017 9:02:21 AM	35505
Surr: DNOP	92.6	70-130	%Rec	1	12/14/2017 9:02:21 AM	35505
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	12/14/2017 9:51:46 AM	G47787
Surr: BFB	108	15-316	%Rec	1	12/14/2017 9:51:46 AM	G47787
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.020	mg/Kg	1	12/14/2017 9:51:46 AM	B47787
Toluene	ND	0.041	mg/Kg	1	12/14/2017 9:51:46 AM	B47787
Ethylbenzene	ND	0.041	mg/Kg	1	12/14/2017 9:51:46 AM	B47787
Xylenes, Total	0.096	0.082	mg/Kg	1	12/14/2017 9:51:46 AM	B47787
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	12/14/2017 9:51:46 AM	B47787

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
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 17 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

#### Lab Order 1712833

Date Reported: 12/15/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Potter CS

**Lab ID:** 1712833-010

Client Sample ID: S-59

Collection Date: 12/13/2017 11:42:00 AM Received Date: 12/14/2017 6:55:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst:	том
Diesel Range Organics (DRO)	50	9.6	mg/Kg	1	12/14/2017 11:39:34 AM	35505
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	12/14/2017 11:39:34 AM	35505
Surr: DNOP	95.0	70-130	%Rec	1	12/14/2017 11:39:34 AM	35505
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	21	mg/Kg	5	12/14/2017 10:15:12 AM	G47787
Surr: BFB	96.6	15-316	%Rec	5	12/14/2017 10:15:12 AM	G47787
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.10	mg/Kg	5	12/14/2017 10:15:12 AM	B47787
Toluene	ND	0.21	mg/Kg	5	12/14/2017 10:15:12 AM	B47787
Ethylbenzene	ND	0.21	mg/Kg	5	12/14/2017 10:15:12 AM	B47787
Xylenes, Total	0.68	0.42	mg/Kg	5	12/14/2017 10:15:12 AM	B47787
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	5	12/14/2017 10:15:12 AM	B47787

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 10 of 17
- 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#: 15-Dec-17

1712833

Client:

Souder, Miller and Associates

Project:	Potter CS	;									
Sample ID	LCS-35505	SampType	: LCS	S	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch ID	355	05	F	RunNo: 4	17769				
Prep Date:	12/14/2017	Analysis Date	: 12/	/14/2017	8	SeqNo: 1	1527674	Units: mg/F	(g		
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	47	10	50.00	0	94.9	73.2	114			
Surr: DNOP		4.6		5.000		92.9	70	130			
Sample ID	MB-35505	SampType	e: MBI	LK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch ID	355	05	F	RunNo: 4	17769				
Prep Date:	12/14/2017	Analysis Date	: 12/	/14/2017	5	SeqNo: 1	1527675	Units: mg/k	(g		
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	ND	10								
	ge Organics (MRO)	ND	50								
Surr: DNOP		9.6		10.00		95.8	70	130			
Sample ID	1712833-001AMS	SampType	: MS		Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	S-50	Batch ID	355	05	F	RunNo: 4	17769				
Prep Date:	12/14/2017	Analysis Date	: 12/	14/2017	S	SeqNo: 1	1528059	Units: mg/F	(g		
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	190	9.5	47.44	266.7	-157	55.8	125			S
Surr: DNOP		4.7		4.744		98.5	70	130			
Sample ID	1712833-001AMS	SampType	: MSI	D	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	S-50	Batch ID	355	05	F	RunNo: 4	17769				
Prep Date:	12/14/2017	Analysis Date	12/	14/2017	S	SeqNo: 1	1528060	Units: mg/F	(g		
Analyte				SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Organics (DRO)	190	9.5	47.48	266.7	-167	55.8	125	2.63	20	S
Surr: DNOP		4.7		4.748		99.3	70	130	0	0	
Sample ID	LCS-35492	SampType	: LCS	3	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	LCSS	Batch ID	354	92	F	RunNo: 4	17770				
Prep Date:	12/13/2017	Analysis Date	12/	14/2017	S	SeqNo: 1	528786	Units: %Re	С		
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Surr: DNOP		4.5		5.000		90.0	70	130			
Sample ID	MB-35492	SampType	: MBI	LK	Tes	Code: E	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	PBS	Batch ID	3549	92	R	RunNo: 4	7770				
Prep Date:	12/13/2017	Analysis Date	12/	14/2017	S	SeqNo: 1	528787	Units: %Re	С		
Analyte		Result P	QL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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

J Analyte detected below quantitation limits Page 11 of 17

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#:

1712833

15-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter CS

Sample ID MB-35492

SampType: MBLK

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

Client ID:

PBS

Batch ID: 35492

RunNo: 47770

Prep Date: 12/13/2017 Analysis Date: 12/14/2017

SeqNo: 1528787

Units: %Rec

Analyte

Result **PQL** 

SPK value SPK Ref Val

%REC

LowLimit HighLimit **RPDLimit** 

Surr: DNOP

130

Qual

10

10.00

99.7

%RPD

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

POL 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 J

Page 12 of 17

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#: 1712833

15-Dec-17

Client:

Souder, Miller and Associates

Project: Potter CS	S								
Sample ID RB	SampType: M	IBLK	Tes	Code: E	PA Method	8015D: Gaso	oline Rang	e	
Client ID: PBS	Batch ID: G	47787	F	RunNo: 47787					
Prep Date:	Analysis Date: 1	2/14/2017	S	eqNo: 1	528357	Units: mg/h	<b>(</b> g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 850	1000		84.8	15	316			
Sample ID 2.5UG GRO LCS	SampType: L	cs	Tes	Code: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batch ID: G	47787	F	lunNo: 4	7787				
Prep Date:	Analysis Date: 1	2/14/2017	S	SeqNo: 1	528358	Units: mg/h	<b>C</b> g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24 5.0		0	94.4	75.9	131			
Surr: BFB	920	1000		91.5	15	316			
Sample ID 1712833-009AMS	SampType: M	IS	Tes	Code: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: S-58	Batch ID: G	47787	F	lunNo: 4	7787				
Prep Date:	Analysis Date: 1	2/14/2017	S	eqNo: 1	528359	Units: mg/h	<b>(</b> g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19 4.1		3.975	73.0	77.8	128			S
Surr: BFB	1000	816.3		123	15	316			
Sample ID 1712833-009AMS	D SampType: M	ISD	Tes	Code: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: S-58	Batch ID: G	47787	R	unNo: 4	7787				
Prep Date:	Analysis Date: 1	2/14/2017	S	eqNo: 1	528360	Units: mg/h	ζg		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29 4.1		3.975	124	77.8	128	43.5	20	R
Surr: BFB	1000	816.3		125	15	316	0	0	
Sample ID RB	SampType: M	BLK	Tes	Code: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: PBS	Batch ID: G	47788	R	lunNo: 4	7788				
Prep Date:	Analysis Date: 1	2/14/2017	S	eqNo: 1	528538	Units: mg/h	<b>⟨</b> g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND 5.0			44=	4.5	0.15			
Surr: BFB	1200	1000		117	15	316			
Sample ID 2.5UG GRO LCS	SampType: Lo	cs	Test	Code: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batch ID: G	47788	R	tunNo: 4	7788				
Prep Date:	Analysis Date: 1	2/14/2017	S	eqNo: 1	528539	Units: mg/k	(g		
							•		

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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 J

Page 13 of 17

Sample pH Not In Range

Reporting Detection Limit RL

Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1712833

15-Dec-17

Client:

Souder, Miller and Associates

SampType: LCS

Result

1300

Batch ID: 35496

Analysis Date: 12/14/2017

PQL

SPK value SPK Ref Val

1000

Project:

Potter CS

rroject.	rotter CS										
Sample ID	2.5UG GRO LCS	SampTy	pe: Lo	cs	Tes	Code: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	LCSS	Batch	ID: G	47788	F	unNo: 4	7788				
Prep Date:		Analysis Da	ate: 1	2/14/2017	S	eqNo: 1	528539	Units: mg/k	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	24	5.0	25.00	0	94.5	75.9	131			
Surr: BFB		1300		1000		126	15	316			
Sample ID	1712833-002AMS	SampTy	SampType: MS TestCode: EPA Method 8015D: Gasoline Range								
Client ID:	S-51	Batch	ID: G	47788	F	RunNo: 4	7788				
Prep Date:		Analysis Da	ate: 1	2/14/2017	S	SeqNo: 1	528540	Units: mg/l	<b>K</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	150	22	107.6	9.639	133	77.8	128			S
Surr: BFB		6700		4303		156	15	316			
Sample ID	1712833-002AMSE	SampTy	/pe: <b>M</b>	SD	Tes	Code: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	S-51	Batch	ID: G	47788	F	RunNo: 4	7788				
Prep Date:		Analysis Da	ate: 1	2/14/2017	S	SeqNo: 1	528541	Units: mg/k	⟨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Gasoline Rang	e Organics (GRO)	120	22	107.6	9.639	101	77.8	128	25.9	20	R
Surr: BFB		5800		4303		134	15	316	0	0	
Sample ID	MB-35496	SampTy	/ре: М	BLK	Tes	Code: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	PBS	Batch	ID: 35	5496	F	unNo: 4	7788				
Prep Date:	12/13/2017	Analysis Da	ate: 1	2/14/2017	S	SeqNo: 1	528542	Units: %Re	С		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qua	lif	iers
-----	-----	------

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Sample ID LCS-35496

12/13/2017

Client ID: LCSS

Prep Date:

Analyte

Surr: BFB

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

RunNo: 47788

%REC

135

SeqNo: 1528543

LowLimit

J Analyte detected below quantitation limits

Page 14 of 17

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

TestCode: EPA Method 8015D: Gasoline Range

Units: %Rec

HighLimit

%RPD

**RPDLimit** 

Qual

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1712833

15-Dec-17

Client:

Souder, Miller and Associates

Project.

Potter CS

Project:	Potter CS										
Sample ID	RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PBS	Batch	1D: <b>B4</b>	7787	F	RunNo: 4	7787				
Prep Date:		Analysis D	ate: 12	2/14/2017	S	SeqNo: 1	528509	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	0.025								
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Brom	ofluorobenzene	1.0		1.000		101	80	120			
Sample ID	RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	PBS	Batch	1D: <b>B4</b>	7788	F	RunNo: 4	7788				
Prep Date:		Analysis D	ate: 12	2/14/2017	S	SeqNo: 1	528566	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND	0.025								
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Brom	ofluorobenzene	1.1		1.000		110	80	120			
Sample ID	100NG BTEX LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	LCSS	Batch	n ID: <b>B4</b>	7788	F	RunNo: 4	7788				
Prep Date:		Analysis D	ate: 12	2/14/2017	S	SeqNo: 1	528569	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.92	0.025	1.000	0	91.8	77.3	128			
Toluene		0.95	0.050	1.000	0	95.0	79.2	125			
Ethylbenzene		0.94	0.050	1.000	0	94.0	80.7	127			
Xylenes, Total		2.8	0.10	3.000	0	94.1	81.6	129			
Surr: 4-Brom	ofluorobenzene	1.1		1.000		114	80	120			
Sample ID	1712833-003AMS	SampT	ype: MS	S	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID:	S-52	Batch	1D: <b>B4</b>	7788	F	RunNo: 4	7788				
Prep Date:		Analysis D	ate: 12	2/14/2017	8	SeqNo: 1	528570	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		4.0	0.096	3.852	0	105	80.9	132			
Toluene		4.1	0.19	3.852	0	108	79.8	136			
Ethylbenzene		3.8	0.19	3.852	0.06710	97.8	79.4	140			
Xylenes, Total		11	0.39	11.56	0.2144	97.4	78.5	142			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

4.6

3.852

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

Surr: 4-Bromofluorobenzene

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

118

J Analyte detected below quantitation limits

Page 15 of 17

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

120

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1712833

15-Dec-17

Client:

Souder, Miller and Associates

Project:	Potter CS										
Sample ID	1712833-003AMSD	SampTy	pe: MS	SD	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	S-52	Batch	ID: <b>B4</b>	7788	F	RunNo: 4	7788				
Prep Date:		Analysis Da	ite: 12	2/14/2017	S	SeqNo: 1	528571	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		3.7	0.096	3.852	0	96.9	80.9	132	7.65	20	
Toluene		3.8	0.19	3.852	0	99.5	79.8	136	7.86	20	
Ethylbenzene		3.7	0.19	3.852	0.06710	93.8	79.4	140	4.04	20	
Xylenes, Total		11	0.39	11.56	0.2144	95.7	78.5	142	1.77	20	
Surr: 4-Brom	nofluorobenzene	4.5		3.852		117	80	120	0	0	
Sample ID	MB-35496	SampTy	pe: M	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batch	ID: 35	496	F	RunNo: 4	7788				
Prep Date:	12/13/2017	Analysis Da	ite: 1:	2/14/2017	5	SeqNo: 1	528572	Units: %Re	С		
Analyte		Result	PQL		SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Brom	nofluorobenzene	1.1		1.000		112	80	120			
Sample ID	LCS-35496	SampTy	pe: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batch	ID: 35	496	F	RunNo: 4	7788				
Prep Date:	12/13/2017	Analysis Da	ite: 1	2/14/2017	5	SeqNo: 1	528573	Units: %Re	С		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Brom	nofluorobenzene	1.1		1.000		110	80	120			
Sample ID	100NG BTEX LCS	SampTy	pe: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batch	ID: <b>B4</b>	17787	F	RunNo: 4	7787				
Prep Date:		Analysis Da	ite: 1	2/14/2017	5	SeqNo: 1	528597	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.93	0.025	1.000	0	92.8	77.3	128			
Toluene		0.94	0.050	1.000	0	93.9	79.2	125			
Ethylbenzene		0.95	0.050	1.000	0	94.9	80.7	127			
Xylenes, Total		2.9	0.10	3.000	0	95.7	81.6	129			
Surr: 4-Brom	nofluorobenzene	1.0		1.000		105	80	120			
Sample ID	1712833-010AMS	SampTy	pe: MS	S	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	S-59	Batch	ID: B4	7787	F	RunNo: 4	7787				
Prep Date:		Analysis Da	ite: 1	2/14/2017	5	SeqNo: 1	528598	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		3.8	0.10	4.180	0	89.7	80.9	132			
Taluana		3.9	0.21	4.180	0.1104	90.8	79.8	136			
Toluene											
Ethylbenzene		3.8	0.21	4.180	0.08194	90.0	79.4	140			

#### 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
- % 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 J

Page 16 of 17

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1712833

15-Dec-17

Client:

Souder, Miller and Associates

Project:

Potter CS

Sample ID 1712833-010AMS

SampType: MS

TestCode: EPA Method 8021B: Volatiles

LowLimit

Client ID:

Batch ID: **B47787** 

RunNo: 47787

%REC

Prep Date:

Analysis Date: 12/14/2017

Units: mg/Kg

Analyte

Result

SeqNo: 1528598

120

%RPD

HighLimit

**RPDLimit** Qual

Surr: 4-Bromofluorobenzene

4.5

4.180

SPK value SPK Ref Val

107

20

20

20

20

0

Qual

Sample ID 1712833-010AMSD

SampType: MSD

TestCode: EPA Method 8021B: Volatiles

80

Client ID: S-59

Batch ID: **B47787** 

RunNo: 47787

Analysis Date: 12/14/2017

SeqNo: 1528599

Units: mg/Kg

Analyte
Benzene
Toluene
Cib. dhaaraa

Prep Date:

PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** 4.4 0.10 4.180 0 106 80.9 132 16.3 4.5 0.21 4.180 0.1104 106 79.8 136 15.2 Ethylbenzene 4.6 0.21 4.180 0.08194 107 79.4 140 17.3 78.5 Xylenes, Total 15 12.54 0.6827 111 142 16.3 Surr: 4-Bromofluorobenzene 4.3 4.180 104 80 120 0

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- POL 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 J
- P Sample pH Not In Range

RL

Reporting Detection Limit Sample container temperature is out of limit as specified W

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

# Sample Log-In Check List

Client Name:	SMA-FARM	Work Order Number:	1712833		RcptNo:	1
Received By:	Anne Thorne	12/14/2017 6:55:00 AM	1	aone Am	_	
Completed By:	Anne Thorne	12/14/2017 7:05:54 AN	1	anne Am		
Reviewed By:	DIDS	12/(4/17		Clothe Strom		
	,					
Chain of Cus	todv					
	Is intact on sample bottles?		Yes _	No 🗌	Not Present ✓	
	Sustody complete?		Yes 🗸	No 🗌	Not Present	
	sample delivered?		Courier			
Log In						
4. Was an atte	mpt made to cool the samp	les?	Yes 🗹	No 🗆	NA 🗆	
5. Were all san	nples received at a tempera	ture 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 indicated to	est(s)?	Yes 🗸	No 🗌		
8. Are samples	(except VOA and ONG) pro	pperly preserved?	Yes 🗸	No _		
9. Was preserv	ative added to bottles?		Yes	No 🗸	NA .	
10. VOA vials ha	ve zero headspace?		Yes	No 🗌	No VOA Vials	
11. Were any sa	ample containers received b	roken?	Yes	No 🗸	# - 5	
					# of preserved bottles checked	
	york match bottle labels? pancies on chain of custody		Yes 🗸	No 🗔	for pH: (<2 o	r >12 unless noted)
	correctly identified on Chair		Yes 🗸	No 🗌	Adjusted?	r = 12 dilloss flotday
	at analyses were requested		Yes 🗸	No 🗌		
	ling times able to be met?		Yes 🗸	No 🗌	Checked by:	
(If no, notify	customer for authorization.)					
Conneigh Hand	lian (if and limb la)					
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16. Was client no	otified of all discrepancies w	ith this order?	Yes	No	NA 🗹	1
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18. Cooler Info	1					
Cooler No			Seal Date	Signed By		
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# Appendix C Executed C-138 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 strict IV 20 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-138 Revised 08/01/11 \*Surface Waste Management Facility Operator

and Generator shall maintain and make this documentation available for Division inspection.

# REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401	
2. Originating Site:	
Potter Compressor Station	
	Loca
	200
OL A Section 19 Township 30 North Range 10 West: 36 803020 107 02222	200
UL A Section 19 Township 30 North Range 10 West; 36.803020, -107.921590, San Juan County, NM 2017 - 15	SCU
Source: Soil from remediation of Waste:	200
Source: Soil from remediation activities associated with a condensate release.  Description: Exempt material remediation activities associated with a condensate release.	Ces
Description: Exempt material remediation activities associated with a condensate release.  Estimated Volume 50 (yd) bbls Known Volume (to be seen to be se	CH
Totalic (to be entered by the operator at the and a size in the si	
GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	ls .
74-1	
I. Thomas Long	
Generator Signature  Generator Signature  Generator Signature	
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and the US Environmental Protection Agency's June 2012 Act (RCRA) and Act (RCRA) are act (RCRA) are act (RCRA) and Act (RCRA) are act (RCRA) are act (RCRA) and Act (RCRA) are a	
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regulatory determination, the above described waste is: (Check the appropriate classification)  RCRA Exempt: Oil field waste is: (Check the appropriate classification)	1ly 1988
The first wastes deposit 10	
waste Acceptance France France of the production operations and are not mixed with	non-
characteristics established in RCRA regulations, 40 CFR 2012 and that does not exceed the minimum standards for	
characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part the appropriate items)  MSDS Information To BCRA is the second and the second accordance of the s	rdous by
MSDS Information Decreated and	. (Check
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	4)
CENTIFICATION STATEMENT FOR LANGE	
Thomas Long  12-1-17, representative for Enterprise Products Operating authorizes IEI, Inc. to complete e required testing/sign the Generator Waste Testing Certification.	
Generator Signature 12-1-17, representative for Enterprise Products Operating authorizes IFL Inc. to complete	
e required testing/sign the Generated W	
e required testing/sign the Generator Waste Testing Certification.	
representative for IEI, Inc.	
we been found to conform to the specific reason waste nave been subjected to the paint filter test and tested for chloride	
representative for IEI, Inc. do hereby certify that we been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19 15 36. NM 16. The same the representative samples are attached to demonstrate the conformal pursuant to Section 15 of 19 15 36. NM 16. The same the representative samples are attached to demonstrate the conformal pursuant to Section 15 of 19 15 36. NM 16. The same the representative samples are attached to demonstrate the conformal pursuant to Section 15 of 19 15 36. NM 16. The same the same that the	mples
15.36 NMAC. The res	sults
Transporter: OFT or subcontract	
CD Permitted Surface Wash 25	
	-
ddress of Facility: #49 CR 2150 Aztec, New Mexico	
ethod of Treatment and/or Disposal:	
Evaporation Disposal:	
Evaporation   Injection   Treating Plant   Landfarm   Landfill   Other	
aste Acceptance Status:	
APPROVED DENIED AT	
NT NAME: DENIED (Must Be Maintained As Permanent Red	
INT NAME: hrustle Welling TITLE: Clock	cord)
NATURE: DATE: 12-1-1	
Surface Wall Management TELEPHONE NO. 505 (22 17)	1
Surface Wante Management Facility Authorized Agent TELEPHONE NO.: 505-632-1782	

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

Name of Company Enterprise Field Services, LLC

Address 614 Reilly Ave, Farmington, NM 87401

## State of New Mexico Energy Minerals and Natural Resources

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

Final Report

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

M Initial Report

# **Release Notification and Corrective Action**

**OPERATOR** 

Contact Thomas Long

Telephone No. 505-599-2286

Facility Na	me <b>Blanc</b> e	Plant D-T	urbine		F	acility Typ	e Natural Ga	s Com	pressor	Station		
Surface Ov	vner <b>BLM</b>			Mineral (	Owner <b>B</b>	LM			Serial N	umber: <b>NM 0 014706</b>		
				LOCA	NOITA	OF REL	EASE					
Unit Letter O	Section 11	Township 29N	Range 11W	Feet from the 620	Nort S Line	South	Feet from the 152	Ea <b>t</b> / Line	West	County San Juan		
		La	atitude <u>36</u>	6.803020 L	ongitud	e_107.92	1590 NAD83					
				NAT	URE C	F RELI						
Type of Rele	ease Natura	al Gas				Volume MCF Ga	of Release <b>481.</b> <b>s</b>	9	Volume	Recovered None		
Source of R	elease Fac	ility Blowdow	n Vent Pip	е		Date and	Hour of Occur 8 @ 1:40 p.m.	rence		d Hour of Discovery 8 @ 1:40 p.m.		
Was Immed	iate Notice	Given?	□ Yes	□ No ⊠ 1	lot		o Whom?			IMOCD		
Required			□ 168		VOL				APF	2 6 2018		
By Whom?	Thomas Lo	ng				Date and	Hour April 17	2018 @	0.4837	HCT III		
Was a Wate						Date and Hour April 17, 2018 @ 9:49 a.m. If YES, Volume Impacting the Watercourse.						
			Yes	⊠ No								
released to	atmosphere	9.					ESD event a ca		d amount	of 481.9 MČF gás was		
rules and re which may e relieve the o ground water	gulations all endanger pu perator of l er, surface v	ll operators a ublic health o iability should vater, humar	re required or the envired their ope on health or	d to report and conment. The trations have the environm	d/or file contains acceptared acceptared acceptared acceptared acceptared acceptanced acce	ertain releance of a Condequately adequately ddition, NN	ase notifications 141 report by the investigate and MOCD acceptants aws and/or regu	and per ne NMC I remed nce of a lations.	erform cor OCD marke iate conta C-141 rep	nd that pursuant to NMOCD rective actions for releases ed as "Final Report" does not mination that pose a threat to port does not relieve the		
		6	6				OIL CON	SERI	ATION	DIVISION		
	Signature:  Printed Name: Jon E. Fields  Approved by Environmental Specialist:											
Title: Directo					A	pproval Da	nte: 4 26119		Expiration	Date:		
E-mail Addr	ess: jefields	@eprod.con	n				of Approval:			Attached		
Date: 4	120/2018			e: (713) 381-6	6684			•				
Attach Addi	tional She	ets If Neces	ssary			N	1817V	163	28 P.	3		

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
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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

FEBT 2-2018

OIL COMO, DIV DIST, 3

Form C-141 Revised April 3, 2017

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

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

# **Release Notification and Corrective Action**

					OP	ERATO	3		] Initial F	Report   Final Report
Name of Company Enterprise Field Services, LLC Contact Thomas L										
Address 61					٦	Telephone	No. <b>505-599-</b>	2286		
Facility Nar	Facility Name Potter Canyon Compressor Station Facility Type Natural Gas Compressor Station							Station		
Surface Ov	vner <b>BLM</b>			Mineral (	Owner E	3LM			API No	
						OF REL	EASE			
Unit Letter	Section	Township	Range		North/		Feet from	East	Vest	County
Α	19	30N	10W	the 470	Line		the <b>1522</b>	Line		San Juan
		La	atitude_36	6.803020 L	ongitud	de_107.92	1590 NAD83			
				NAT	URE (	OF RELI	EASE			
Type of Rele	ease Natura	I Gas Liquid	S			in the contract of the contrac	f Release <b>Estin</b> Ls Condensate	17.000	Volume F	Recovered None
Source of R	elease Exte	rnal Corrosio	on				Hour of Occurre (a) 1:30 p.m.	ence		Hour of Discovery 7 @ 1:30 p.m.
Was Immed	iate Notice							rtesy No		Cory Smith – NMOCD;
Required			Yes	□ No ⊠ N	tot	Whitney S	Smith - BLM			
By Whom?	Thomas Lor	na				Date and	Hour August 21	2017	@ 2:25 p.n	n.
Was a Wate		ached?					olume Impacting			
			Yes	⊠ No						
	use of Prob echnicians o	lem and Rer	medial Act	ion Taken.*O						ecommissioning activities, n. The BGT was removed
measured a soil was exc	pproximatel avated and	y 72 feet long transported	g by 39 fee to a New I	et ranging from Mexico Oil Co	m 4 to 1 nservati	5 feet deep on Division	<ul> <li>Approximately approved land</li> </ul>	1,000 c farm fac	cubic yards	tion. The final excavation s of hydrocarbon impacted ird party corrective action s also included with this C-
rules and re- which may e relieve the o ground water	gulations all endanger pu perator of li er, surface w	l operators a oblic health o ability should ater, human	re required r the envired their ope health or	to report and onment. The rations have the environment	d/or file of accepta failed to ent. In a	certain releance of a Cadequately addition, NN	ase notifications 141 report by the investigate and	and pe ne NMO d remedi nce of a	rform corre CD marke ate contar	d that pursuant to NMOCD ective actions for releases d as "Final Report" does not nination that pose a threat to ort does not relieve the
	//	1-1					OIL CON	SERV	<b>ATION</b>	DIVISION //
Signature:	/W/	tous	4						/	
Printed Nam	ne: Jon E. F	ields			P	Approved by	y Environmenta	l Specia	list:	The state of the s
Title: Directo	or, Environm	nental			F	Approval Da	ate: 2/27/	18 1	Expiration	Dete:
E-mail Addr	ess: jefields	@eprod.com	1			Conditions of	of Approval:			Attached
Date: 2/8	12018		Phone	e: (713) 381-6	6684					

\* Attach Additional Sheets If Necessary

#NVF1726326264

(73)

#### **Enterprise Products**

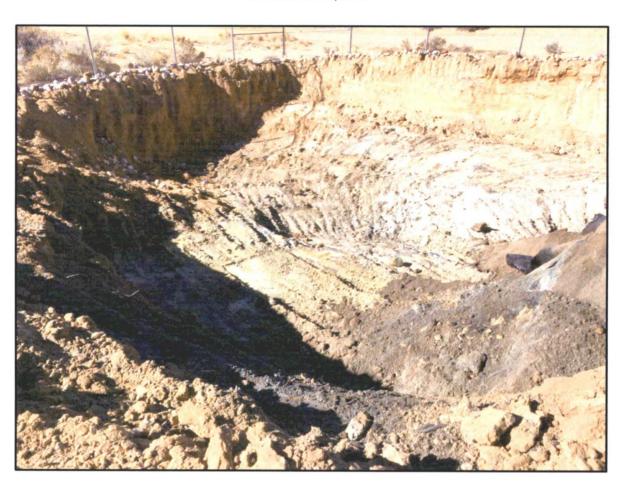
## Potter Canyon Compressor Station Release: Release Assessment and Final Remediation for Tank 5 (T509) and Tank 1 (T505)

Latitude 36.80281°, Longitude -107.92204° NW 1/4 of NE 1/4 of Section 19, T30N, R10W San Juan County, New Mexico

OIL COMO, DIV DIST, 3



December 21, 2017



#### Submitted To:

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



## Submitted By:

Souder, Miller & Associates 401 West Broadway Farmington, NM 87401 (505) 325-7535



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3.0	Site Ranking and Land Jurisdiction	2
4.0	Remediation Activities	3
5.0	Summary of Field Activities	5
6.0	Conclusions and Recommendations	5
7.0	Closure and Limitations	6

## Figures:

Figure 1: Vicinity Map Figure 2: Site Map

Figure 3: Soil Sample Location Map

## Tables:

Table 1: Release Information

Table 2: Site Ranking

Table 3: Summary of Laboratory Analysis

# Appendices:

Appendix A: Site Photography Appendix B: Laboratory Analytical Reports Appendix C: Executed C-138 Form

#### 1.0 Executive Summary

On August 17, 2017, Souder, Miller & Associates (SMA) was contacted by an Enterprise field representative regarding the closure of the 100-barrel (bbl) below grade drain tank (Tank 5/T509) at the Potter Canyon Compressor Station. Subsurface soil samples were collected by SMA on August 18 and 21, 2017, upon which field screening confirmed a release around the below grade tank. Further investigation also showed a release had occurred around the 1,000-bbl condensate tank (Tank 1/T505), located immediately south of the BGT.

From November 6 through November 11, 2017, SMA oversaw excavation of contaminated soils from the hydrocarbon impacted areas. The New Mexico Oil Conservation Division (NMOCD) witnessed confirmation sampling of the walls and base of the final excavation, which measured approximately 39 feet by 72 feet, and ranged from 4 to 15 deep. Final laboratory results for the walls and base demonstrated hydrocarbon concentrations below NMOCD regulatory standards for releases and spills. The excavation was approved for backfill with clean soil.

The table below summarizes information about the remediation activities.

	TABLE 1	RELEASE INFOR	RMATION			
Name	Potter Can	yon Compressor S	Station, Tank 5 and T	ank 1 Release		
	Latitude	Longitude	Section, Towr	nship, Range		
Location	36.80281	-107.92204	NW¼ of NE ¼ Section 19	T 30N, R 10W		
Date Reported	August 21, 20	17				
Enterprise Contact	Thomas Long					
Land Owner	Bureau of Land Management (BLM)					
Reported To	New Mexico C	il Conservation Di	vision (NMOCD) and	BLM		
Source(s) of Release	, , ,	Below Grade Drai Condensate Tank	n Tank (BGT), and			
Volume of Tank(s)	Tank 5 - 100 bbl					
Release Contents	Produced water and condensate					
Release Volume: Liquids/Condensate	Unknown					

Nearest Waterway	Unnamed arroyo ~715 feet southeast and downgradient of location
Depth to Groundwater	113 feet
Nearest Domestic Water Source	2,600 feet to southeast
NMOCD Ranking	10
SMA Response Dates	August 18 and 21, 2017, and November 6 to November 11, 2017
Subcontractors	OFT Construction Inc.
Disposal Facility	Industrial Ecosystems Inc. (IEI) landfarm
Yd³ Contaminated Soil Excavated and Disposed	~1,000

#### 2.0 Introduction

On behalf of Enterprise Products Operating, LLC. (Enterprise), SMA has prepared this report that describes excavation and final closure of a hydrocarbon release associated with Tank 5 / T509 (below grade drain tank), and Tank 1 / T505 (1,000-bbl condensate tank), at the Potter Canyon Compressor Station. The release was likely due to internal corrosion of the tanks, resulting in an unknown amount of produced water and condensate released to the subsurface. The release location is in the NW ¼ of NE ¼ of Section 19, Township 30 North, Range 10 West, N36.80281°, W107.92204°, San Juan County, New Mexico.

Figure 1, Vicinity Map, illustrates the location of the release.

#### 3.0 Site Ranking and Land Jurisdiction

A site ranking score for the release site was determined using the 1993 NMOCD Guidelines for Remediation of Leaks, Spills and Releases. According to the NMOCD C-144 Form for Tank 5, depth to groundwater is estimated to be at 113 feet below ground surface (bgs) (sub-site rank score = 0).

Using the New Mexico Tech Petroleum Recovery Research Center (PRRC) online mapping tool, Google Earth Pro, and the 1985 USGS Aztec Quadrangle (7.5-minute series), the nearest surface water is an unnamed arroyo located approximately 715 feet to the southeast (sub-site rank score = 10).

The nearest known water source for wellhead protection is located approximately 2,600 feet to the southeast (sub-site rank score = 0), according to the New Mexico Office of the State Engineer (NMOSE) online water well database.

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

#### 4.0 Remediation Activities

#### Initial Screening, August 18, 2017

On August 18, 2017, SMA performed BGT closure activities by collecting subsurface soil samples around Tank 5. Soil samples were collected north, east, and west of the BGT using a hand-auger. A south sample was not collected due to the proximity to the condensate tank and the instability of the soil around the exposed BGT. Surface staining was observed around the condensate tank, so additional soil boring samples were collected on the south, east, and west sides of the condensate tank. Sample depths ranged from 6 inches to 2 feet, with instruction from Enterprise to not auger any deeper due to risk of damaging the liner below the tanks. Field screening using a calibrated MiniRAE 3000 photoionization detector (PID) indicated hydrocarbon impacted soils around the BGT and condensate tank.

### BGT Closure Sampling and Additional Screening, August 21, 2017

On August 21, 2017, the BGT was removed from location. BGT closure samples were collected from the base and field screened using a calibrated PID. Results of the field screening indicated PID readings greater than 15,000 parts per million (ppm). Per instruction from Enterprise, BGT closure samples were not submitted for laboratory analysis due to the known release.

SMA also collected additional soil samples east of the condensate tank via hand augering and potholing in order to determine the extent of the hydrocarbon contamination to the east. Potholing was executed using a backhoe bucket operated by OFT Construction, Inc. (OFT) personnel. Sample depths ranged from 3 to 8 feet in depth. Soil boring sample SB-2 and potholing samples PH-2 and PH-3 were submitted to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico for laboratory analysis. Samples were analyzed utilizing United States Environmental Protection Agency (EPA) Methods 8021 for BTEX, and 8015 for diesel, gasoline, and motor oil range organics (DRO/GRO/MRO). Laboratory results for SB-2, PH-2, and PH-3 confirmed that the release had not migrated

•

east, providing Enterprise the ability to relocate bulk storage tanks and secondary containment equipment to that location.

The Hall laboratory report (1708C11) is included in the attachments and are summarized in Table 3.

#### Excavation Activities, November 6-10, 2017

From November 6 through 10, 2017, SMA oversaw excavation activities associated with the Tank 5 and Tank 1 releases. Prior to beginning excavation activities, both tanks were removed from the location. Excavation was performed by OFT, including hauling the hydrocarbon impacted soil to Industrial Ecosystems, Inc. (IEI) for landfarm treatment. During the excavation, soil samples were collected for field screening to determine the extent of the release. Field screening was performed using a calibrated MiniRAE 3000 PID and a Dexsil® PetroFLAG TPH Analyzer. The excavation extended west and south to the perimeter of the Potter Canyon Compressor Station facility fence-line, at which point field screening confirmed the western and southern extent of the release. Excavation continued to the east and north until field screening indicated clean soils. The final lateral extent of the excavation measured approximately 39 feet by 72 feet. Vertical excavation ceased when sandstone was encountered at the base of the excavation, which ranged in depth from 4 feet in the southwest section of the excavation to 15 feet in the northeast section of the excavation.

On November 8 and 9, 2017, a NMOCD representative was onsite to witness sampling of the walls and base. A representative from the BLM was not present to witness sampling. Due to the size of the excavation, two composite samples each were collected from the north and south walls, three composite samples each were collected from the east and west walls, and five total composite samples were collected from the base, for a total of 15 samples for confirmation analysis. Due to three base samples reporting values exceeding NMOCD remediation standards (samples S-35, S-38, and S-43), additional excavation occurred on November 10, 2017, and new samples were submitted for laboratory analysis (S-47 through S-49). Neither NMOCD or BLM representatives were present to witness sampling of S-47 through S-49. Samples submitted for laboratory analysis were analyzed using EPA Methods 8021 BTEX, 8015 GRO/DRO/MRO, and 300.0 chlorides.

Laboratory samples confirmed contamination below NMOCD regulatory standards, and the excavation was approved for backfill with clean material. In total, approximately 1,000 cubic yards of soil was removed from the site and replaced with clean backfill material.

A summary of the laboratory results is displayed in Table 3. Copies of the laboratory reports (1711462, 1711592, and 1711643) are included in the attachments.

#### 5.0 Summary of Field Activities

On August 18 and 21, 2017, SMA performed BGT closure sampling and initial field screening on hydrocarbon impacted soils from near Tank 5 and Tank 1 at the Potter Canyon Compressor Station. Field screening and laboratory results confirmed a release from both tanks. From November 6 to 10, 2017, SMA oversaw excavation activities until the extent of the release was determined. NMOCD witnessed confirmation sampling of the walls and base of the excavation, which measured approximately 39 feet by 72 feet, and ranged from 4 to 15 feet deep.

Final laboratory results for the walls and base demonstrated hydrocarbon concentrations below NMOCD regulatory standards for releases and spills. The excavation was approved for backfill with clean soil.

#### 6.0 Conclusions and Recommendations

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

Laboratory analytical results for all final samples collected during the November 2017 excavation activities indicate concentrations below NMOCD Guidelines

A summary of all laboratory analyses is included in Table 3. Soil contaminant concentrations from the final confirmation sample locations are illustrated in Figure 3, site photographs are included in Appendix A, Hall analytical laboratory reports are included in Appendix B, and an executed C-138 Form is included in Appendix C.

SMA recommends no further actions related to the hydrocarbon impacted soils from Tank 5 and Tank 1 at the Potter Canyon Compressor Station.

#### 7.0 Closure and Limitations

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

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

Submitted by:

SOUDER, MILLER & ASSOCIATES

Reviewed by:

Shanna Chubbuck

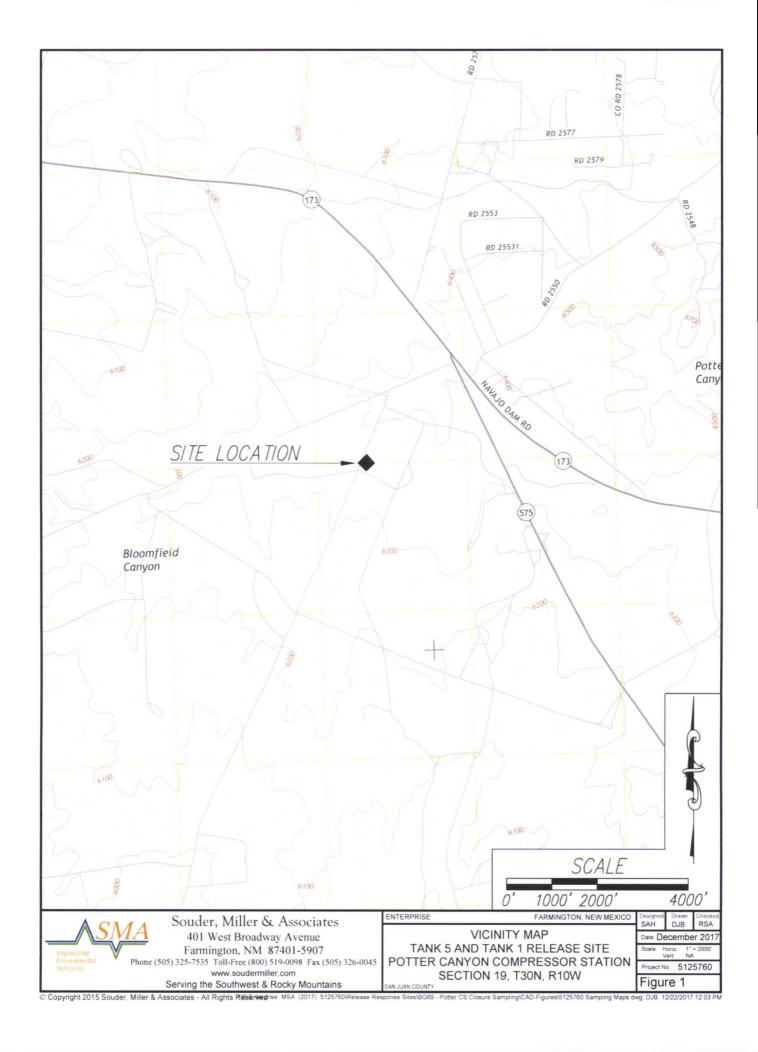
Stephanie Hinds

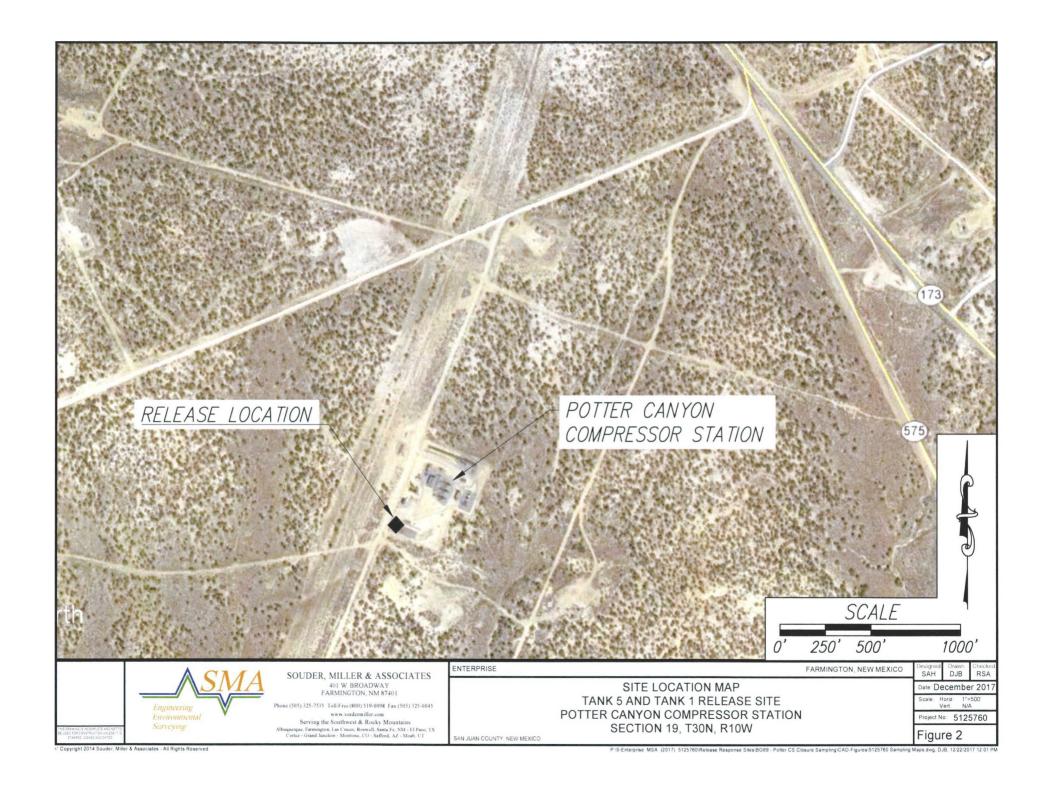
Atylune Alveds

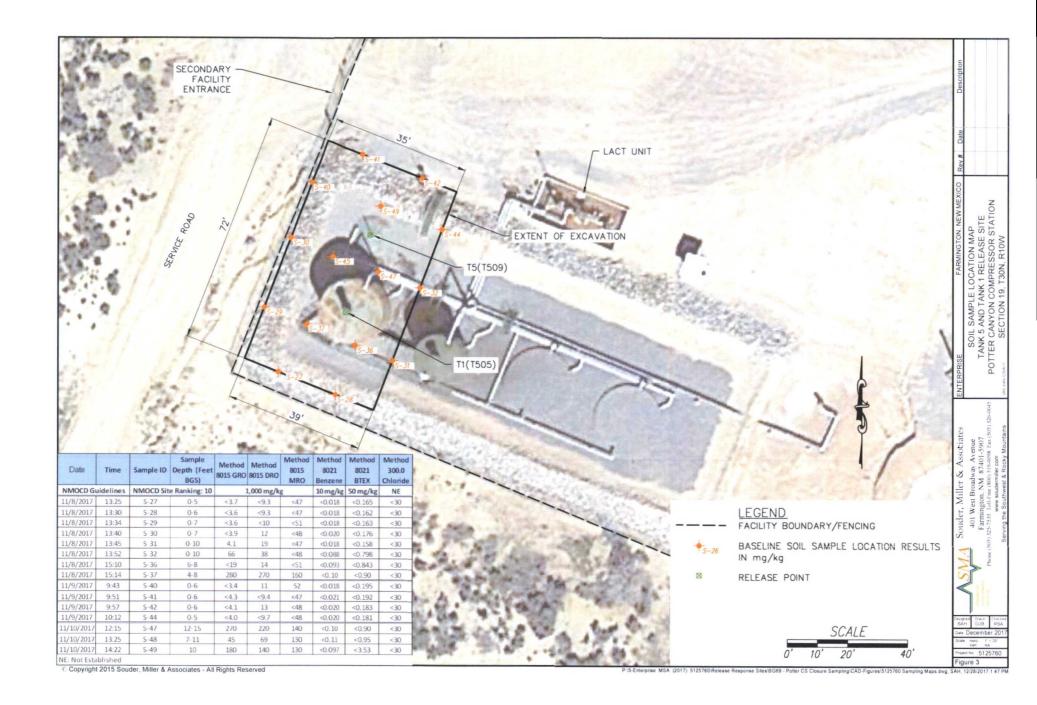
Staff EIT II

Shawna Chubbuck Senior Scientist











Depth to Groundwater	NMOCD Numeric Rank for this Site	Source for Ranking	Notes				
< 50 BGS = 20			Nearby NMOCD- permitted well API				
50' to 99' = 10		C-144 BGT registration.	#3004526459 (Schumacher #10A)				
>100' = 0	0		estimates groundwater at 113'				
Ranking Criteria for Horizontal Distance to Nearest Surface Water	NMOCD Numeric Rank for this Site	Source for Ranking	Notes				
< 200' = 20		PRRC mapping tool.	Nearest surface				
200' - 1000' = 10	10	Verified using Google Earth and USGS topo	water is unnamed arroyo located ~715 feet to southeast.				
>1000' = 0		maps.	Field verified.				
Ranking Criteria for Horizintal Distance to a Water Well or Water Source	NMOCD Numeric Rank for this Site	Source for Ranking	Notes				
<1000' from a water source? <200' from a private domestic water source? YES OR		NMOSE online water	Nearest water source located ~2,600 feet				
NO to BOTH. YES = 20, NO = 0	0	well data base.	to southeast.				
Total Site Ranking	10						
Soil Remediation Standards	0	10	20+				
Benzene	10 PPM	10 PPM	10 PPM				
BTEX	50 PPM	50 PPM	50 PPM				
ТРН	5000 PPM	1000 PPM	100 PPM				



## **Table 3: Summary of Laboratory Analysis**

Date	Time	Sample ID	Sample Location	Sample Depth (Feet BGS)	Method 8015 GRO	Method 8015 DRO	Method 8015 MRO	Method 8021 Benzene	Method 8021 BTEX	Method 300.0 Chloride
NMOCD G	iuidelines	NMOCD Si	te Ranking: 10			1,000 mg/kg		10 mg/kg	50 mg/kg	NE
8/21/2017	11:40	SB-2	69' east of Tank 5	3	<3.6	<9.6	<48	<0.018	<0.161	NA
8/21/2017	12:12	PH-2	36' east of Tank 5	4	<18	42	<48	<0.091	<0.821	NA
8/21/2017	12:18	PH-3	59' east of Tank 5	4	<3.7	14	<47	<0.018	<0.166	NA
11/8/2017	13:25	S-27*	South wall, west side	0-5	<3.7	<9.3	<47	<0.018	<0.165	<30
11/8/2017	13:30	S-28*	South wall, east side	0-6	<3.6	<9.3	<47	<0.018	<0.162	<30
11/8/2017	13:34	S-29*	West wall, south side	0-7	<3.6	<10	<51	<0.018	< 0.163	<30
11/8/2017	13:40	S-30*	West wall, north side	0-7	<3.9	12	<48	<0.020	<0.176	<30
11/8/2017	13:45	S-31*	East wall, south side	0-10	4.1	19	<47	<0.018	<0.158	<30
11/8/2017	13:52	S-32*	East wall, north side	0-10	66	38	<48	<0.088	<0.798	<30
11/8/2017	15:05	S-35	Base, northeast quad	8-10	660	230	130	0.11	55.5	<30
11/8/2017	15:10	S-36*	Base, southeast quad	6-8	<19	14	<51	<0.093	<0.843	<30
11/8/2017	15:14	S-37*	Base, southwest quad	4-8	280	270	160	<0.10	<0.90	<30
11/8/2017	15:18	S-38	Base, northwest quad	6-10	3,000	1,000	490	0.95	214	<30
11/9/2017	9:43	S-40*	West wall, north side	0-6	<3.4	11	52	<0.018	<0.195	<30
11/9/2017	9:51	S-41*	North wall, west side	0-6	<4.3	<9.4	<47	<0.021	<0.192	<30
11/9/2017	9:57	S-42*	North wall, east side	0-6	<4.1	13	<48	<0.020	<0.183	<30
11/9/2017	10:05	S-43	Base, north north quad	6	1,100	310	170	0.25	68.5	<30
11/9/2017	10:12	S-44*	East wall, north side	0-5	<4.0	<9.7	<48	<0.020	<0.181	<30
11/10/2017	12:15	S-47*	Base, northeast quad	12-15	270	220	140	<0.10	<0.90	<30
11/10/201	13:25	S-48*	Base, northwest quad	7-11	45	69	130	<0.11	< 0.95	<30
11/10/2017	14:22	S-49*	Base, north north quad	10	180	140	130	<0.097	<3.53	<30

NE: Not Established NA: Not Analyzed

\* Final confirmation sample



# Appendix A Site Photography

#### Site Photographs

## Potter Canyon Compressor Station Release: Release Assessment and Final Remediation for Tank 5 (T509) and Tank 1 (T505)



Figure 1. Beginning excavation activities from former location of BGT Tank 5 (T509).



Figure 2. Excavation extending to west and southwest for removal of hydrocarbon impacted soils.



Figure 3. The western portion of the excavation down to sandstone.

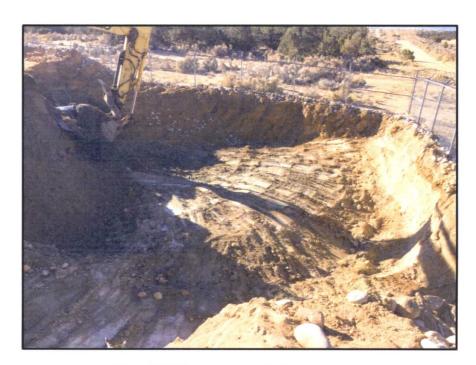


Figure 4. Southwestern extents of the excavation.



Figure 5. Southern extents of the excavation. Depth at sandstone ranged from 4-8 feet in the southern portion of the excavation.



Figure 6. Excavation activities to the east.



Figure 7. View to south of the eastern boundary of the excavation. Distance between the excavation and the bulk storage tank containment area was approximately 10 feet.



Figure 8. Excavation activities along the northern portion of the release location.



Figure 9. Northern extents of the excavation. Depth at sandstone ranged from 6-15 feet in the northern sections of the excavation.



Figure 10. View to southwest of the final excavation. Size of excavation was approximately 72 feet by 37 feet, and ranged from 4 - 15 feet depth.

# Appendix B Laboratory Analytical Reports



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

August 25, 2017

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

FAX

RE: Potter CS OrderNo.: 1708C11

#### Dear Shawna Chubbuck:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/22/2017 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

Only

4901 Hawkins NE

Albuquerque, NM 87109

## Lab Order 1708C11

Date Reported: 8/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: SB-2 @ 3'

Project: Potter CS

Collection Date: 8/21/2017 11:40:00 AM

**Lab ID:** 1708C11-001

Matrix: SOIL Received Date: 8/22/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	6			Analys	t: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	8/22/2017 12:10:50 PM	1 33482
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/22/2017 12:10:50 PM	1 33482
Surr: DNOP	102	70-130	%Rec	1	8/22/2017 12:10:50 PM	1 33482
EPA METHOD 8015D: GASOLINE RANG	GE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	8/22/2017 10:19:44 AM	1 33464
Surr: BFB	87.7	54-150	%Rec	1	8/22/2017 10:19:44 AM	1 33464
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.018	mg/Kg	1	8/22/2017 10:19:44 AM	1 33464
Toluene	ND	0.036	mg/Kg	1	8/22/2017 10:19:44 AM	1 33464
Ethylbenzene	ND	0.036	mg/Kg	1	8/22/2017 10:19:44 AM	1 33464
Xylenes, Total	ND	0.071	mg/Kg	1	8/22/2017 10:19:44 AM	1 33464
Surr: 4-Bromofluorobenzene	126	66.6-132	%Rec	1	8/22/2017 10:19:44 AM	1 33464

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

Lab Order 1708C11 Date Reported: 8/25/2017

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: PH-2 @ 4'

CLIENT: Souder, Miller and Associates Collection Date: 8/21/2017 12:12:00 PM Project: Potter CS

Received Date: 8/22/2017 7:00:00 AM Lab ID: 1708C11-002 Matrix: SOIL

Analyses	Result PQL Qual Units		DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	S			Analyst:	том
Diesel Range Organics (DRO)	42	9.7	mg/Kg	1	8/22/2017 12:35:40 PM	33482
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	8/22/2017 12:35:40 PM	33482
Surr: DNOP	109	70-130	%Rec	1	8/22/2017 12:35:40 PM	33482
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	18	mg/Kg	5	8/22/2017 10:43:37 AM	33464
Surr: BFB	84.2	54-150	%Rec	5	8/22/2017 10:43:37 AM	33464
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.091	mg/Kg	5	8/22/2017 10:43:37 AM	33464
Toluene	ND	0.18	mg/Kg	5	8/22/2017 10:43:37 AM	33464
Ethylbenzene	ND	0.18	mg/Kg	5	8/22/2017 10:43:37 AM	33464
Xylenes, Total	ND	0.37	mg/Kg	5	8/22/2017 10:43:37 AM	33464
Surr: 4-Bromofluorobenzene	118	66.6-132	%Rec	5	8/22/2017 10:43:37 AM	33464

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

#### Lab Order 1708C11

Date Reported: 8/25/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: PH-3 @ 4'

Project: Potter CS

Collection Date: 8/21/2017 12:18:00 PM

1708C11-003 Lab ID:

Matrix: SOIL

Received Date: 8/22/2017 7:00:00 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)	14	9.5	mg/Kg	1	8/22/2017 1:00:38 PM	33482
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	8/22/2017 1:00:38 PM	33482
Surr: DNOP	106	70-130	%Rec	1	8/22/2017 1:00:38 PM	33482
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	8/22/2017 11:07:33 AM	33464
Surr: BFB	89.6	54-150	%Rec	1	8/22/2017 11:07:33 AM	33464
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	8/22/2017 11:07:33 AM	33464
Toluene	ND	0.037	mg/Kg	1	8/22/2017 11:07:33 AM	33464
Ethylbenzene	ND	0.037	mg/Kg	1	8/22/2017 11:07:33 AM	33464
Xylenes, Total	ND	0.074	mg/Kg	1	8/22/2017 11:07:33 AM	33464
Surr: 4-Bromofluorobenzene	121	66.6-132	%Rec	1	8/22/2017 11:07:33 AM	33464

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
- 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#: 1708C11

25-Aug-17

Client:

Souder, Miller and Associates

CS									
SampT	ype: LC	S	Test	tCode: El	A Method	8015M/D: Die	esel Rang	e Organics	
Batch	ID: 33	482	R	RunNo: 4	5119				
Analysis D	ate: 8/	22/2017	S	SeqNo: 14	128873	Units: mg/K	(g		
Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
45	10	50.00	0	90.0	73.2	114			
4.7		5.000		93.9	70	130			
SampT	ype: ME	BLK	Test	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics	
Batch	ID: 33	482	R	RunNo: 4	5119				
Analysis D	ate: 8/	22/2017	S	SeqNo: 1	128874	Units: mg/K	(g		
	DOL	CDK value	SDK Dof Val	%REC	Lowl imit	Highl imit	%RPD	RPDLimit	Qual
Result	PQL	SPK value	SEK KEI Val	MINLO	LOWLIIIII	riigiiLiiiiit	70111 0	IXI DEIIIII	Quai
ND	10	SPR value	SFK Rei Vai	MINEO	LOWLITTIC	riigiiLiiiit	701(1 15	N DEIIII	Quai
		SPK value	SFR Rei Val	MINEO	LOWLINIIL	riigitziiiit	70111111	N DEIIII	Quai
	SampT Batch Analysis D Result 45 4.7  SampT Batch Analysis D	SampType: LC  Batch ID: 334  Analysis Date: 8/  Result PQL  45 10  4.7  SampType: ME  Batch ID: 334  Analysis Date: 8/	SampType: LCS         Batch ID: 33482         Analysis Date:       8/22/2017         Result       PQL       SPK value         45       10       50.00         4.7       5.000         SampType: MBLK         Batch ID:       33482         Analysis Date:       8/22/2017	SampType: LCS         Test           Batch ID:         33482         R           Analysis Date:         8/22/2017         S           Result         PQL         SPK value         SPK Ref Val           45         10         50.00         0           4.7         5.000         0           SampType: MBLK         Test           Batch ID:         33482         R           Analysis Date:         8/22/2017         S	SampType: LCS         TestCode: ER           Batch ID: 33482         RunNo: 48           Analysis Date: 8/22/2017         SeqNo: 14           Result         PQL         SPK value         SPK Ref Val         %REC           45         10         50.00         0         90.0           4.7         5.000         93.9           SampType: MBLK         TestCode: ER           Batch ID: 33482         RunNo: 48           Analysis Date: 8/22/2017         SeqNo: 14	SampType: LCS         TestCode: EPA Method           Batch ID:         33482         RunNo:         45119           Analysis Date:         8/22/2017         SeqNo:         1428873           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit           45         10         50.00         0         90.0         73.2           4.7         5.000         93.9         70           SampType: MBLK         TestCode: EPA Method           Batch ID:         33482         RunNo:         45119           Analysis Date:         8/22/2017         SeqNo:         1428874	SampType: LCS         TestCode: EPA Method 8015M/D: Die Batch ID: 33482           RunNo: 45119         Analysis Date: 8/22/2017         SeqNo: 1428873         Units: mg/K           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           45         10         50.00         0         90.0         73.2         114           4.7         5.000         93.9         70         130           SampType: MBLK         TestCode: EPA Method 8015M/D: Die Batch ID: 33482	SampType: LCS         TestCode: EPA Method 8015M/D: Diesel Range           Batch ID:         33482         RunNo:         45119           Analysis Date:         8/22/2017         SeqNo:         1428873         Units: mg/Kg           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD           45         10         50.00         0         90.0         73.2         114           4.7         5.000         93.9         70         130           SampType: MBLK         TestCode: EPA Method 8015M/D: Diesel Range           Batch ID:         33482         RunNo:         45119           Analysis Date:         8/22/2017         SeqNo:         1428874         Units: mg/Kg	SampType: LCS         TestCode: EPA Method 8015M/D: Diesel Range Organics           Batch ID: 33482         RunNo: 45119           Analysis Date:         8/22/2017         SeqNo: 1428873         Units: mg/Kg           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           45         10         50.00         0         90.0         73.2         114         4.7         5.000         93.9         70         130         70         130<

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

WO#:

1708C11

25-Aug-17

Client:

Souder, Miller and Associates

Project:

Potter CS

Sample ID MB-33464	SampT	SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS		h ID: 33			RunNo: 4					
Prep Date: 8/21/2017	Analysis D	Date: 8/	22/2017	S	SeqNo: 1	429028	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val %REC LowLimit			HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.8	54	150			
Sample ID LCS-33464	SampT	ype: LC	S	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batcl	h ID: 33	464	RunNo: <b>45126</b>						

Sample ID LCS-33464	Sampry	restCode: EPA Met					8015D: Gaso	line Rang	е				
Client ID: LCSS	Batch	D: 33	464	F	RunNo: 4	5126							
Prep Date: 8/21/2017	Analysis Date: 8/22/2017			S	SeqNo: 1	429029	Units: mg/Kg						
Analyte	Result PQL SPK value SI		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.3	76.4	125						
Surr: BFB	980		1000		98.4	54	150						

#### Qualifiers:

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

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## Hall Environmental Analysis Laboratory, Inc.

WO#: 170

1708C11 25-Aug-17

Client:

Souder, Miller and Associates

Project:

Potter CS

Sample ID MB-33464	SampT	ype: ME	BLK	Test	Code: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batch	ID: 33	464	R	RunNo: 4	5126				
Prep Date: 8/21/2017	Analysis D	Analysis Date: 8/22/2017			SeqNo: 1	429043	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.3		1.000		127	66.6	132			

Sample ID LCS-33464	SampT	S	Tes	Code: El	PA Method	tiles				
Client ID: LCSS	Batch	ID: 33	464	F	RunNo: 4	5126				
Prep Date: 8/21/2017	Analysis D	ate: 8/	22/2017	S	SeqNo: 1	429044	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	109	80	120			
Toluene	1.1	0.050	1.000	0	108	80	120			
Ethylbenzene	1.1	0.050	1.000	0	107	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 4-Bromofluorobenzene	1.3		1.000		131	66.6	132			

#### Qualifiers:

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

Page 7 of 9



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

Website: www.hallenvironmental.com

# Sample Log-In Check List

Client Name: SMA-FARM	Work Order Number:	1708C11		RcptNo:	1
Received By: Anne Thorne	8/22/2017 7:00:00 AM		anne Am	_	
Completed By: Anne Thorne	8/22/2017 7:24:32 AM		anne Am	_	
Reviewed By: DDS 6-27	-17				
Chain of Custody					
1. Custody seals intact on sample b	oottles?	Yes	No	Not Present 🗸	
2. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was the sample delivered?		Courier			
<u>Log In</u>					
4. Was an attempt made to cool the	e samples?	Yes 🗸	No 🗌	NA 🗆	
5. Were all samples received at a te	emperature of >0° C to 6.0°C	Yes 🗸	No 🗌	NA 🗆	
6. Sample(s) in proper container(s)	?	Yes 🗸	No 🗌		
7. Sufficient sample volume for indi	cated test(s)?	Yes 🗸	No 🗌		
8. Are samples (except VOA and O	NG) properly preserved?	Yes 🗸	No 🗌		
9. Was preservative added to bottle	s?	Yes	No 🗸	NA 🗆	
10. VOA vials have zero headspace?		Yes	No 🗌	No VOA Vials	
11. Were any sample containers rec	eived broken?	Yes	No 🗹	# of preserved	
12. Does paperwork match bottle lab		Yes 🗸	No 🗆	bottles checked for pH:	>12 unless noted)
(Note discrepancies on chain of of 13. Are matrices correctly identified of		Yes 🗸	No _	Adjusted?	12 silloss flotody
14. Is it clear what analyses were req		Yes 🗸	No .		
15. Were all holding times able to be	met?	Yes 🗹	No 🗆	Checked by:	
(If no, notify customer for authorize	zation.)				
Special Handling (if applicab	le)				
16. Was client notified of all discrepa	ncies with this order?	Yes	No 🗆	NA 🗸	1
Person Notified:	Date	lationalitimatic tealumic colonic metrico berlate etc 19, 1900	ana na na manananananananananananananana		
By Whom:	Via:	eMail 🗍	Phone Fax	In Person	
Regarding:		THE WEST AND A TRANSPORT AND THE PARKS.		tanis albert de la respectación describación de la constitue de la constitue de la constitue de la constitue d	
Client Instructions:					
17. Additional remarks:			*		
18. Cooler Information					
		Seal Date	Signed By		
1 1.0 Good	Yes				

Client:	Chain-of-Custody Record			Turn-Around  ☐ Standard	Same MEXT DAY													NT			
	10173	_		Project Name	e: X Rush	DIN DIN	99									.A.E		RA	ТО	RY	
Mailing	Address	401 U	1. Broadway	Potte:	CS			49	01 H								M 87	109			
			0	Project #:					el. 50								-4107				
Phone	#: 505	- 325	-7535	5/257	00							THE REAL PROPERTY.	ALC: UNKNOWN STREET	and the latest designation of the latest des		uest	-				
			Chulbuck @	Project Mana	ger:			(ýlu	0				CONTRACTOR NO.	(4)							
QA/QC	Package:		Soudermiller.com  Level 4 (Full Validation)	Shaw	wa Chull	suck	<b>学MB's</b> (8021)	(Gas or	RO / MF			SIMS)		PO4, SO4)	PCB's						
Accredi				Sampler: \$1	1		MB	F	10	-	7	20 2		02,	082						11
□ NEL	AP	□ Othe	r	On Ice:		□ No ≥	\$\frac{1}{2}	+	18	18.	504	8270	(0	03,7	8/8		(A)			2	5
	ate Time Matrix Sample Request II			Sample Tem	perature:	1.0	MIBE	BE	0	po 4	po p	0 0	etals	Z	side	(A	J			>	-
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.*	BTEX + WE	BTEX + MTBE + TPH (Gas only)	TPH 8015B GRO / DRO / MRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,	8081 Pesticides / 8082	8260B (VOA)	8270 (Semi-VOA)			Air Rubbles (V	All DUDDIC
8/21/17	11:40	Sosi	58-20 3'	(2) 402	LODI	7001	X		X												
1	12112		PH-20 41		1	-002	X		X												
1	12:18	1	PH-3041	1	1	703	×		×												
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Date:	Date: Time: Relinquished by:    State   1710   Statement   1710     Date: Time: Relinquished by:   State   1832   Must Walt			Received by:  Date Time    North Local   State   1710     Received by   Date Time   17				CC.		ny	Lo	ng	at	E	nte	1pr	De				
12/17	1832 f necessary,	gamples subi	mitted to Hall Environmental may be sub-	contracted to other ad	ccredited laboratorie	Lu 0700.	s possit	oility.	Any st	ıb-con	tracted	d data	will be	e clear	ly nota	ited or	the ar	nalytica	report.		



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

November 10, 2017

Stephanie Hinds Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401

TEL: (505) 325-7535

FAX

RE: Potter OrderNo.: 1711462

#### Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 10 sample(s) on 11/9/2017 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

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-27

Project: Potter

Collection Date: 11/8/2017 1:25:00 PM

Lab ID: 1711462-001

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN		Analyst: TOM			
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	11/9/2017 10:55:44 AM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	11/9/2017 10:55:44 AM
Surr: DNOP	103	70-130	%Rec	1	11/9/2017 10:55:44 AM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	11/9/2017 9:56:09 AM
Surr: BFB	105	15-316	%Rec	1	11/9/2017 9:56:09 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.018	mg/Kg	1	11/9/2017 9:56:09 AM
Toluene	ND	0.037	mg/Kg	1	11/9/2017 9:56:09 AM
Ethylbenzene	ND	0.037	mg/Kg	1	11/9/2017 9:56:09 AM
Xylenes, Total	ND	0.073	mg/Kg	1	11/9/2017 9:56:09 AM
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	11/9/2017 9:56:09 AM
<b>EPA METHOD 300.0: ANIONS</b>					Analyst: MRA
Chloride	ND	30	mg/Kg	20	11/9/2017 10:41:02 AM

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- 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
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-28

Project: Potter

**Collection Date:** 11/8/2017 1:30:00 PM

**Lab ID:** 1711462-002

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN		Analyst: TOM			
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	11/9/2017 11:19:53 AM
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	11/9/2017 11:19:53 AM
Surr: DNOP	104	70-130	%Rec	1	11/9/2017 11:19:53 AM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	11/9/2017 10:19:52 AM
Surr: BFB	107	15-316	%Rec	1	11/9/2017 10:19:52 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.018	mg/Kg	1	11/9/2017 10:19:52 AM
Toluene	ND	0.036	mg/Kg	1	11/9/2017 10:19:52 AM
Ethylbenzene	ND	0.036	mg/Kg	1	11/9/2017 10:19:52 AM
Xylenes, Total	ND	0.072	mg/Kg	1	11/9/2017 10:19:52 AM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	11/9/2017 10:19:52 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	11/9/2017 10:53:27 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-29

Project: Potter

Collection Date: 11/8/2017 1:34:00 PM

Lab ID: 1711462-003

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Result	PQL Qu	al Units	DF	Date Analyzed	
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					
ND	10	mg/Kg	1	11/9/2017 11:44:12 AM	
ND	51	mg/Kg	1	11/9/2017 11:44:12 AM	
103	70-130	%Rec	1	11/9/2017 11:44:12 AM	
GE .				Analyst: NSB	
ND	3.6	mg/Kg	1	11/9/2017 10:43:34 AM	
106	15-316	%Rec	1	11/9/2017 10:43:34 AM	
				Analyst: NSB	
ND	0.018	mg/Kg	1	11/9/2017 10:43:34 AM	
ND	0.036	mg/Kg	1	11/9/2017 10:43:34 AM	
ND	0.036	mg/Kg	1	11/9/2017 10:43:34 AM	
ND	0.073	mg/Kg	1	11/9/2017 10:43:34 AM	
104	80-120	%Rec	1	11/9/2017 10:43:34 AM	
				Analyst: MRA	
ND	30	mg/Kg	20	11/9/2017 11:05:51 AM	
	E ORGANICS ND ND 103 GE ND 106 ND ND ND ND ND ND ND ND 104	ND 10 ND 51 103 70-130  SE  ND 3.6 106 15-316  ND 0.018 ND 0.036 ND 0.036 ND 0.036 ND 0.073 104 80-120	ND	ND	

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
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 14 J
- Sample pH Not In Range P
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

### Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-30

Project: Potter

Collection Date: 11/8/2017 1:40:00 PM

Lab ID: 1711462-004

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN			Analyst: TOM		
Diesel Range Organics (DRO)	12	9.6	mg/Kg	1	11/9/2017 12:08:20 PM
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	11/9/2017 12:08:20 PM
Surr: DNOP	106	70-130	%Rec	1	11/9/2017 12:08:20 PM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	11/9/2017 11:07:23 AM
Surr: BFB	107	15-316	%Rec	1	11/9/2017 11:07:23 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.020	mg/Kg	1	11/9/2017 11:07:23 AM
Toluene	ND	0.039	mg/Kg	1	11/9/2017 11:07:23 AM
Ethylbenzene	ND	0.039	mg/Kg	1	11/9/2017 11:07:23 AM
Xylenes, Total	ND	0.078	mg/Kg	1	11/9/2017 11:07:23 AM
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	11/9/2017 11:07:23 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	11/9/2017 11:18:15 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

ssociates Client Sample ID: S-31

Project: Potter

**Lab ID:** 1711462-005

Collection Date: 11/8/2017 1:45:00 PM

Matrix: SOIL Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	
EPA METHOD 8015M/D: DIESEL RAM	EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					
Diesel Range Organics (DRO)	19	9.4	mg/Kg	1	11/9/2017 12:32:42 PM	
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	11/9/2017 12:32:42 PM	
Surr: DNOP	107	70-130	%Rec	1	11/9/2017 12:32:42 PM	
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB	
Gasoline Range Organics (GRO)	4.1	3.5	mg/Kg	1	11/9/2017 11:31:13 AM	
Surr: BFB	145	15-316	%Rec	1	11/9/2017 11:31:13 AM	
EPA METHOD 8021B: VOLATILES					Analyst: NSB	
Benzene	ND	0.018	mg/Kg	1	11/9/2017 11:31:13 AM	
Toluene	ND	0.035	mg/Kg	1	11/9/2017 11:31:13 AM	
Ethylbenzene	ND	0.035	mg/Kg	1	11/9/2017 11:31:13 AM	
Xylenes, Total	ND	0.070	mg/Kg	1	11/9/2017 11:31:13 AM	
Surr: 4-Bromofluorobenzene	111	80-120	%Rec	1	11/9/2017 11:31:13 AM	
EPA METHOD 300.0: ANIONS					Analyst: MRA	
Chloride	ND	30	mg/Kg	20	11/9/2017 11:30:40 AM	

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-32

Project: Potter

Collection Date: 11/8/2017 1:52:00 PM

Lab ID: 1711462-006 Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL (	Qual U	Inits	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	3				Analyst: TOM
Diesel Range Organics (DRO)	38	9.6		mg/Kg	1	11/9/2017 12:57:00 PM
Motor Oil Range Organics (MRO)	ND	48	1	mg/Kg	1	11/9/2017 12:57:00 PM
Surr: DNOP	106	70-130	(	%Rec	1	11/9/2017 12:57:00 PM
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst: NSB
Gasoline Range Organics (GRO)	66	18		mg/Kg	5	11/9/2017 12:42:48 PM
Surr: BFB	174	15-316	(	%Rec	5	11/9/2017 12:42:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.088		mg/Kg	5	11/9/2017 12:42:48 PM
Toluene	ND	0.18	1	mg/Kg	5	11/9/2017 12:42:48 PM
Ethylbenzene	0.23	0.18	1	mg/Kg	5	11/9/2017 12:42:48 PM
Xylenes, Total	3.6	0.35	1	mg/Kg	5	11/9/2017 12:42:48 PM
Surr: 4-Bromofluorobenzene	124	80-120	S	%Rec	5	11/9/2017 12:42:48 PM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30	1	mg/Kg	20	11/9/2017 11:43:04 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S-35

Project: Potter

Collection Date: 11/8/2017 3:05:00 PM

Lab ID: 1711462-007

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL (	Qual U	nits	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3				Analyst: TOM
Diesel Range Organics (DRO)	230	9.5	n	ng/Kg	1	11/9/2017 1:21:23 PM
Motor Oil Range Organics (MRO)	130	47	n	ng/Kg	1	11/9/2017 1:21:23 PM
Surr: DNOP	108	70-130	9	%Rec	1	11/9/2017 1:21:23 PM
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst: NSB
Gasoline Range Organics (GRO)	660	18	n	ng/Kg	5	11/9/2017 1:06:33 PM
Surr: BFB	905	15-316	S %	%Rec	5	11/9/2017 1:06:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	0.11	0.092	n	ng/Kg	5	11/9/2017 1:06:33 PM
Toluene	1.2	0.18	n	ng/Kg	5	11/9/2017 1:06:33 PM
Ethylbenzene	4.2	0.18	n	ng/Kg	5	11/9/2017 1:06:33 PM
Xylenes, Total	50	3.7	n	ng/Kg	50	11/9/2017 5:27:42 PM
Surr: 4-Bromofluorobenzene	176	80-120	S %	%Rec	5	11/9/2017 1:06:33 PM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: MRA
Chloride	ND	30	n	ng/Kg	20	11/9/2017 11:55:29 AM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- 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
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 14 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S-36

Project: Potter

Collection Date: 11/8/2017 3:10:00 PM

**Lab ID:** 1711462-008

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	14	10	mg/Kg	1	11/9/2017 1:45:52 PM
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1	11/9/2017 1:45:52 PM
Surr: DNOP	104	70-130	%Rec	1	11/9/2017 1:45:52 PM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	19	mg/Kg	5	11/9/2017 1:30:19 PM
Surr: BFB	135	15-316	%Rec	5	11/9/2017 1:30:19 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.093	mg/Kg	5	11/9/2017 1:30:19 PM
Toluene	ND	0.19	mg/Kg	5	11/9/2017 1:30:19 PM
Ethylbenzene	ND	0.19	mg/Kg	5	11/9/2017 1:30:19 PM
Xylenes, Total	0.55	0.37	mg/Kg	5	11/9/2017 1:30:19 PM
Surr: 4-Bromofluorobenzene	115	80-120	%Rec	5	11/9/2017 1:30:19 PM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	11/9/2017 12:07:54 PM

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 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-37

Project: Potter

Collection Date: 11/8/2017 3:14:00 PM

**Lab ID:** 1711462-009

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3				Analyst: TOM
Diesel Range Organics (DRO)	270	9.6		mg/Kg	1	11/9/2017 2:10:33 PM
Motor Oil Range Organics (MRO)	160	48		mg/Kg	1	11/9/2017 2:10:33 PM
Surr: DNOP	112	70-130		%Rec	1	11/9/2017 2:10:33 PM
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst: NSB
Gasoline Range Organics (GRO)	280	20		mg/Kg	5	11/9/2017 11:55:05 AM
Surr: BFB	502	15-316	S	%Rec	5	11/9/2017 11:55:05 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	11/9/2017 11:55:05 AM
Toluene	ND	0.20		mg/Kg	5	11/9/2017 11:55:05 AM
Ethylbenzene	1.3	0.20		mg/Kg	5	11/9/2017 11:55:05 AM
Xylenes, Total	15	0.40		mg/Kg	5	11/9/2017 11:55:05 AM
Surr: 4-Bromofluorobenzene	137	80-120	S	%Rec	5	11/9/2017 11:55:05 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	11/9/2017 12:45:08 PM

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 14
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1711462

Date Reported: 11/10/2017

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S-38

Project: Potter

Collection Date: 11/8/2017 3:18:00 PM

Lab ID: 1711462-010

Matrix: SOIL

Received Date: 11/9/2017 7:00:00 AM

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3			Analyst: TOM
Diesel Range Organics (DRO)	1000	20	mg/Kg	2	11/9/2017 3:24:25 PM
Motor Oil Range Organics (MRO)	490	99	mg/Kg	2	11/9/2017 3:24:25 PM
Surr: DNOP	111	70-130	%Rec	2	11/9/2017 3:24:25 PM
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	3000	370	mg/Kg	100	11/9/2017 6:15:03 PM
Surr: BFB	255	15-316	%Rec	100	11/9/2017 6:15:03 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	0.95	0.092	mg/Kg	5	11/9/2017 12:19:02 PM
Toluene	6.7	0.18	mg/Kg	5	11/9/2017 12:19:02 PM
Ethylbenzene	16	0.18	mg/Kg	5	11/9/2017 12:19:02 PM
Xylenes, Total	190	7.4	mg/Kg	100	11/9/2017 6:15:03 PM
Surr: 4-Bromofluorobenzene	309	80-120	S %Rec	5	11/9/2017 12:19:02 PM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	11/9/2017 12:57:32 PM

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
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limit Page 10 of 14 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#:

1711462

10-Nov-17

Client:

Souder, Miller and Associates

Project:

Potter

Sample ID MB-34913

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID:

**PBS** 

Batch ID: 34913

RunNo: 47011

Prep Date: 11/9/2017

Units: mg/Kg

Analyte

Analysis Date: 11/9/2017

SeqNo: 1500991

HighLimit

**RPDLimit** 

Qual

Chloride

Result PQL ND 1.5

SampType: Ics

TestCode: EPA Method 300.0: Anions

Sample ID LCS-34913

**LCSS** 

Batch ID: 34913

RunNo: 47011

Prep Date: 11/9/2017

Analysis Date: 11/9/2017

SeqNo: 1500992

Units: mg/Kg

Analyte

Client ID:

**PQL** 

1.5

SPK value SPK Ref Val %REC

SPK value SPK Ref Val %REC LowLimit

HighLimit %RPD

%RPD

**RPDLimit** Qual

Chloride

15

15.00

96.7

110

- 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
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Page 11 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#: 1711462

10-Nov-17

Client:

Souder, Miller and Associates

4.6

4.651

Project:	Potter										
Sample ID	LCS-34912	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	n ID: 34	912	F	RunNo: 4	7004				
Prep Date:	11/9/2017	Analysis D	Date: 11	1/9/2017	S	SeqNo: 1	499481	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
iesel Range (	Organics (DRO)	48	10	50.00	0	97.0	73.2	114			
Surr: DNOP		4.7		5.000		93.8	70	130			
Sample ID	MB-34912	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	n ID: 34	912	F	RunNo: 4	7004				
Prep Date:	11/9/2017	Analysis D	Date: 11	1/9/2017	8	SeqNo: 1	499482	Units: mg/l	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
iesel Range (	Organics (DRO)	ND	10								
lotor Oil Rang	e Organics (MRO)	ND	50								
Surr: DNOP		10		10.00		100	70	130			
Sample ID	1711462-001AMS	SampT	ype: MS	3	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	S-27	Batch	n ID: 34	912	F	RunNo: 4	7004				
Prep Date:	11/9/2017	Analysis D	Date: 11	1/9/2017	8	SeqNo: 1	500408	Units: mg/h	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
iesel Range (	Organics (DRO)	49	9.7	48.54	2.146	96.0	55.8	122			
Surr: DNOP		5.0		4.854		103	70	130			
Sample ID	1711462-001AMSI	<b>S</b> ampT	ype: MS	SD	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	S-27	Batch	n ID: 34	912	F	RunNo: 4	7004				
Prep Date:	11/9/2017	Analysis D	Date: 11	1/9/2017	8	SeqNo: 1	500409	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
iesel Range (	Organics (DRO)	45	9.3	46.51	2.146	91.9	55.8	122	8.17	20	

### Qualifiers:

Surr: DNOP

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

98.3

70

130

0

0

- 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 12 of 14

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1711462

10-Nov-17

Client:

Souder, Miller and Associates

26

1200

5.0

25.00

1000

Project:

Gasoline Range Organics (GRO)

Surr: BFB

Potter

Project: Potter		
Sample ID MB-34900	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 34900	RunNo: 47012
Prep Date: 11/8/2017	Analysis Date: 11/9/2017	SeqNo: 1500356 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND 5.0	
Surr: BFB	1100 1000	108 15 316
Sample ID LCS-34900	SampType: <b>LCS</b>	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 34900	RunNo: 47012
Prep Date: 11/8/2017	Analysis Date: 11/9/2017	SeqNo: 1500357 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

0

103

117

75.9

15

131

316

### 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 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.

WO#: 1711462

10-Nov-17

Client:

Souder, Miller and Associates

Project:

Potter

Sample ID MB-34900	SampT	уре: МЕ	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 34900		RunNo: 47012							
Prep Date: 11/8/2017	Analysis D	ate: 11	/9/2017	S	SeqNo: 1	500375	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID LCS-34900	ID LCS-34900 SampType: LCS				TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch	Batch ID: 34900			RunNo: 4	7012					
Prep Date: 11/8/2017	Analysis D	)ate: 11	1/9/2017	S	SeqNo: 1	500376	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.94	0.025	1.000	0	94.0	77.3	128				
Toluene	0.98	0.050	1.000	0	98.3	79.2	125				
Ethylbenzene	0.98	0.050	1.000	0	98.4	80.7	127				
Xylenes, Total	2.9	0.10	3.000	0	97.8	81.6	129				
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120				

### Qualifiers:

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

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

# Sample Log-In Check List

Website: www.hallenvironmental.com Client Name: SMA-FARM Work Order Number: 1711462 RcptNo: 1 anne Ham Received By: Anne Thorne 11/9/2017 7:00:00 AM anne Am Completed By: Anne Thorne 11/9/2017 7:33:19 AM 11/9/17 Reviewed By: Chain of Custody Yes No 🗌 Not Present ✓ 1. Custody seals intact on sample bottles? Yes 🗸 No 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? 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗌 NA No [ Yes 🗸 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? Yes 🗸 9. Was preservative added to bottles? Yes No V NA No 🗌 No VOA Vials 10. VOA vials have zero headspace? Yes Yes No V 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: 12. Does paperwork match bottle labels? Yes V (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No I Yes V 13. Are matrices correctly identified on Chain of Custody? Yes V No \_ 14. Is it clear what analyses were requested? Checked by: No 15. Were all holding times able to be met? Yes V (If no, notify customer for authorization.) Special Handling (if applicable) No 🗌 16. Was client notified of all discrepancies with this order? NA V Person Notified: Date By Whom: eMail Phone Fax Via: In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Good

Client: Enterprise   SM   Standard   Rush Science day   Project Name:   Projec	C	hain	of-Cu	stody Record	Turn-Around	Time:									RKN					817	
Mailing Address:   Wo   W   Braadway   Project #: 505-345-375   Fax 505-345-4107						Rush	Same day				A	N	AL	YS	<b>SI</b> S	5 L	AE	30			•
Project Manager:   Stephanic   Invade   Invade   Stephanic   Invade   Inv	Mailing	Address	4011	V. Broadway	Potter				49	01 H									109		
Project Manager:   Stephanic   Invade   Invade   Stephanic   Invade   Inv	_		Form	naton, NM 87401		^															
Date   Time   Matrix   Sample Request ID   Container   Type and #   Preservative   Type   HEAL No.	Phone	#: 505-	325-7	535	5125	760 BE	569						SHALL WAS	Total Control	THE OWNER WHEN	CONTRACTOR OF THE PARTY OF	NO SOLE	MINE SCHOOL			
Date   Time   Matrix   Sample Request ID   Container   Type and #   Preservative   Type   HEAL No.	email o	r Fax#: 5	itephani	e. honels @ sondermiller	Project Mana	iger:		_	(ylu	2					04)						Γ
Date   Time   Matrix   Sample Request ID   Container   Type and #   Preservative   Type   HEAL No.			·	•	Stephan	ie Honds		\$ (8021	(Gas or	SOUTH			SIMS)		,PO4,S(	PCB's					
Date   Time   Matrix   Sample Request ID   Container   Type and #   Preservative   Type   HEAL No.	Accredi	tation			Sampler: 5	1		1	F	0	=	<del>-</del> -			NO <sub>2</sub>	808			ide		1 2
Date   Time   Matrix   Sample Request ID   Container   Type and #   Preservative   Type   HEAL No.			☐ Othe	r	On Ice:	Yes	□ No		+	3.RO	418	504	or 82	S	δ 3,	es/		OA)	410		or
13:30   5-28   CCO   X   X   X   X   X   X   X   X   X			Matrix	Sample Request ID	Container Type and #	Preservative Type		BTEX + MTB	BTEX + MTB!	TPH 8015B	TPH (Method	EDB (Method	PAH's (8310 (	RCRA 8 Meta	Anions (F,CI,	8081 Pesticid	8260B (VOA)	8270 (Semi-V			Air Bubbles ()
13:30	1/08/17	13:25	Soil	5-27	MEON KIT	meon	,	X		X									X		
13:34   5-29	1		*****	5-28				X		X									X		
13:40		13:34		5-29				X		X									X		
13:45   5-31   705   X   X   X   X   X   X   X   X   X				5-30						X									X		
13:52   5-32   -\tilde{\ti}}}}}}}}}}} \ttilde{\tilde{\tilde{\tilde{\tilde{\tilde{\ti		13:45		5-31				X		X									X		
15:05   5-35   767   X   X   X   X   X   X   X   X   X		13:52		5-32				X		X									X		
15:19  S-36  COB X X X  I5:19  S-37  S-37  COB X X X  I5:19  S-38  COD X X  IS:18  Date: Time: Relinquished by:  Received by: Date Time  Remarks:  Bill to Enterprise. Non AFE #N31693  Date: Time: Relinquished by:  Received by: Date Time  Remarks:  Bill to Enterprise. Non AFE #N31693  CC: Tom Long  Received by: One of the control of th		15:05		5-35			707	X		X									X		
Date: Time: Relinquished by:    Sing   Stylen		15:10		5-36				X		X									χ		
Date: Time: Relinquished by:    State		15:14		5-38 5-37				X		X									X		
Date: Time: Relinquished by:  Received by:	V	15:18	<b>V</b>	5-38			010	X		X									X		
Date: Time: Relinquished by:  Received by:																					
1/8/11/854 MT WW (An COO)	18/7	1750	Styp	In Alud	Mh	John 1	Date Time	Ren	nark	s: to	ŧn	iter	pri:	se.	No	m A	FE	t ,	W31	693	_
	1/8/17	necessary.	samples subr	mitted to Hall Environmental may be sub-	contracted to other a	ccredited laboratorie	6700														



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

November 14, 2017

Stephanie Hinds Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: Potter CS OrderNo.: 1711592

### Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/10/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

anded

4901 Hawkins NE

Albuquerque, NM 87109

# Lab Order 1711592

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-40

Project: Potter CS

Collection Date: 11/9/2017 9:43:00 AM

Lab ID: 1711592-001 Matrix: MEOH (SOIL) Received Date: 11/10/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Anal	/st: MRA
Chloride	ND	30	mg/Kg	20	11/10/2017 11:16:55	AM 34942
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analy	st: TOM
Diesel Range Organics (DRO)	11	9.7	mg/Kg	1	11/10/2017 9:40:06	AM 34939
Motor Oil Range Organics (MRO)	52	49	mg/Kg	1	11/10/2017 9:40:06	AM 34939
Surr: DNOP	100	70-130	%Rec	1	11/10/2017 9:40:06	AM 34939
EPA METHOD 8015D: GASOLINE RAN	IGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	11/10/2017 10:11:16	AM 34930
Surr: BFB	114	15-316	%Rec	1	11/10/2017 10:11:16	AM 34930
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.017	mg/Kg	1	11/10/2017 10:11:16	AM 34930
Toluene	ND	0.034	mg/Kg	1	11/10/2017 10:11:16	AM 34930
Ethylbenzene	ND	0.034	mg/Kg	1	11/10/2017 10:11:16	AM 34930
Xylenes, Total	0.11	0.067	mg/Kg	1	11/10/2017 10:11:16	AM 34930
Surr: 4-Bromofluorobenzene	112	80-120	%Rec	1	11/10/2017 10:11:16	AM 34930

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
- B 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
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

# Lab Order 1711592

Client Sample ID: S-41

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Project: Potter CS Collection Date: 11/9/2017 9:51:00 AM

**Lab ID:** 1711592-002 Matrix: MEOH (SOIL) Received Date: 11/10/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: MRA
Chloride	ND	30	mg/Kg	20	11/10/2017 11:29:19	AM 34942
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	11/10/2017 10:02:00	AM 34939
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	11/10/2017 10:02:00	AM 34939
Surr: DNOP	99.7	70-130	%Rec	1	11/10/2017 10:02:00	AM 34939
EPA METHOD 8015D: GASOLINE RAN	IGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	11/10/2017 10:35:07	AM 34930
Surr: BFB	112	15-316	%Rec	1	11/10/2017 10:35:07	AM 34930
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.021	mg/Kg	1	11/10/2017 10:35:07	AM 34930
Toluene	ND	0.043	mg/Kg	1	11/10/2017 10:35:07	AM 34930
Ethylbenzene	ND	0.043	mg/Kg	1	11/10/2017 10:35:07	AM 34930
Xylenes, Total	ND	0.085	mg/Kg	1	11/10/2017 10:35:07	AM 34930
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	11/10/2017 10:35:07	AM 34930

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
- Analyte detected below quantitation limits Page 2 of 9 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

# Lab Order 1711592

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates Client Sample ID: S-42

 Project:
 Potter CS
 Collection Date: 11/9/2017 9:57:00 AM

 Lab ID:
 1711592-003
 Matrix: MEOH (SOIL)
 Received Date: 11/10/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Anal	yst: MRA
Chloride	ND	30	mg/Kg	20	11/10/2017 11:41:44	AM 34942
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Anal	yst: TOM
Diesel Range Organics (DRO)	13	9.7	mg/Kg	1	11/10/2017 10:24:07	'AM 34939
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	11/10/2017 10:24:07	AM 34939
Surr: DNOP	97.6	70-130	%Rec	1	11/10/2017 10:24:07	'AM 34939
EPA METHOD 8015D: GASOLINE RAM	NGE				Anal	yst: NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	11/10/2017 10:59:04	AM 34930
Surr: BFB	146	15-316	%Rec	1	11/10/2017 10:59:04	AM 34930
EPA METHOD 8021B: VOLATILES					Anal	yst: NSB
Benzene	ND	0.020	mg/Kg	1	11/10/2017 10:59:04	AM 34930
Toluene	ND	0.041	mg/Kg	1	11/10/2017 10:59:04	AM 34930
Ethylbenzene	ND	0.041	mg/Kg	1	11/10/2017 10:59:04	AM 34930
Xylenes, Total	ND	0.081	mg/Kg	1	11/10/2017 10:59:04	AM 34930
Surr: 4-Bromofluorobenzene	112	80-120	%Rec	1	11/10/2017 10:59:04	AM 34930

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Lab Order 1711592

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates

Client Sample ID: S-43

Project: Potter CS

Collection Date: 11/9/2017 10:05:00 AM

**Lab ID:** 1711592-004

Matrix: MEOH (SOIL) Received Date: 11/10/2017 7:30:00 AM

Analyses	Result	PQL (	Qual U	J <b>nits</b>	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Anal	yst: MRA
Chloride	ND	30	)	mg/Kg	20	11/10/2017 11:54:08	3 AM 34942
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS					Anal	yst: TOM
Diesel Range Organics (DRO)	310	9.9		mg/Kg	1	11/10/2017 10:46:10	O AM 34939
Motor Oil Range Organics (MRO)	170	49	1	mg/Kg	1	11/10/2017 10:46:10	O AM 34939
Surr: DNOP	108	70-130		%Rec	1	11/10/2017 10:46:10	O AM 34939
EPA METHOD 8015D: GASOLINE RA	NGE					Anal	yst: NSB
Gasoline Range Organics (GRO)	1100	39	1	mg/Kg	10	11/10/2017 11:22:55	5 AM 34930
Surr: BFB	716	15-316	S	%Rec	10	11/10/2017 11:22:55	5 AM 34930
EPA METHOD 8021B: VOLATILES						Anal	yst: NSB
Benzene	0.25	0.19		mg/Kg	10	11/10/2017 11:22:55	5 AM 34930
Toluene	0.33	0.19	)	mg/Kg	10	11/10/2017 11:22:55	5 AM 34930
Ethylbenzene	5.9	0.39		mg/Kg	10	11/10/2017 11:22:55	5 AM 34930
Xylenes, Total	62	0.77		mg/Kg	10	11/10/2017 11:22:55	5 AM 34930
Surr: 4-Bromofluorobenzene	156	80-120	S	%Rec	10	11/10/2017 11:22:55	5 AM 34930

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

# Lab Order 1711592

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates Client Sample ID: S-44

 Project:
 Potter CS
 Collection Date: 11/9/2017 10:12:00 AM

 Lab ID:
 1711592-005
 Matrix: MEOH (SOIL)
 Received Date: 11/10/2017 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: MRA
Chloride	ND	30	mg/Kg	20	11/10/2017 12:06:33 F	M 34942
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	11/10/2017 11:30:19 A	M 34939
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	11/10/2017 11:30:19 A	M 34939
Surr: DNOP	99.3	70-130	%Rec	1	11/10/2017 11:30:19 A	M 34939
EPA METHOD 8015D: GASOLINE RAM	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	11/10/2017 11:46:42 A	M 34930
Surr: BFB	144	15-316	%Rec	1	11/10/2017 11:46:42 A	M 34930
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.020	mg/Kg	1	11/10/2017 11:46:42 A	M 34930
Toluene	ND	0.040	mg/Kg	1	11/10/2017 11:46:42 A	M 34930
Ethylbenzene	ND	0.040	mg/Kg	1	11/10/2017 11:46:42 A	M 34930
Xylenes, Total	ND	0.081	mg/Kg	1	11/10/2017 11:46:42 A	M 34930
Surr: 4-Bromofluorobenzene	112	80-120	%Rec	1	11/10/2017 11:46:42 A	M 34930

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 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#: 1711592

14-Nov-17

Client:

Souder, Miller and Associates

Project:

Potter CS

Sample ID MB-34942

SampType: mblk

TestCode: EPA Method 300.0: Anions

LowLimit

Client ID:

Batch ID: 34942

RunNo: 47043

Prep Date: 11/10/2017

Sample ID LCS-34942

Prep Date: 11/10/2017

LCSS

Analysis Date: 11/10/2017

SeqNo: 1501826

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Qual

Analyte Chloride

Result PQL ND

SampType: Ics Batch ID: 34942 TestCode: EPA Method 300.0: Anions

%REC

RunNo: 47043

Analysis Date: 11/10/2017

SeqNo: 1501827

Units: mg/Kg

Analyte

Client ID:

SPK value SPK Ref Val

15.00

%REC 97.6

90

HighLimit %RPD **RPDLimit** 

Chloride

15

1.5

0

SPK value SPK Ref Val

110

Qualifiers:

Value exceeds Maximum Contaminant Level

Sample Diluted Due to Matrix D

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

В Analyte detected in the associated Method Blank

E Value above quantitation range

Reporting Detection Limit

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL

Sample container temperature is out of limit as specified

Page 6 of 9

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1711592

14-Nov-17

Client:

Souder, Miller and Associates

Project: Potter C	CS		
Sample ID LCS-34939	SampType: LCS	TestCode: EPA Method 8015M/D: Die	sel Range Organics
Client ID: LCSS	Batch ID: 34939	RunNo: 47029	
Prep Date: 11/10/2017	Analysis Date: 11/10/2017	SeqNo: 1500662 Units: mg/Kg	9
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	49 10 50.00	0 98.7 73.2 114	
Surr: DNOP	4.8 5.000	96.0 70 130	
Sample ID MB-34939	SampType: MBLK	TestCode: EPA Method 8015M/D: Die	sel Range Organics
Client ID: PBS	Batch ID: 34939	RunNo: 47029	
Prep Date: 11/10/2017	Analysis Date: 11/10/2017	SeqNo: 1500664 Units: mg/Kg	9
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10		
Motor Oil Range Organics (MRO)	ND 50		
Surr: DNOP	10 10.00	101 70 130	
Sample ID LCS-34925	SampType: LCS	TestCode: EPA Method 8015M/D: Die	sel Range Organics
Client ID: LCSS	Batch ID: 34925	RunNo: 47029	
Prep Date: 11/9/2017	Analysis Date: 11/10/2017	SeqNo: 1502323 Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Surr: DNOP	4.6 5.000	92.6 70 130	
Sample ID MB-34925	SampType: MBLK	TestCode: EPA Method 8015M/D: Die	sel Range Organics
Client ID: PBS	Batch ID: 34925	RunNo: 47029	
Prep Date: 11/9/2017	Analysis Date: 11/10/2017	SeqNo: <b>1502324</b> Units: <b>%Rec</b>	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit	%RPD RPDLimit Qual
Surr: DNOP	9.9 10.00	99.2 70 130	

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- Practical Quanitative Limit
- % 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
- Page 7 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, Inc.

WO#: 1711592

14-Nov-17

Client:

Souder, Miller and Associates

1200

Project:

Surr: BFB

Potter CS

Sample ID MB-34930	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range	
Client ID: PBS	Batch ID: 34930	RunNo: 47044	
Prep Date: 11/9/2017	Analysis Date: 11/10/2017	SeqNo: 1501473 Units: mg/Kg	
Analyte	Result PQL SPK value	ue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua	ıal
Gasoline Range Organics (GRO)	ND 5.0		
Surr: BFB	1100 100	00 108 15 316	
Sample ID LCS-34930	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range	
Client ID: LCSS	Batch ID: 34930	RunNo: 47044	
Prep Date: 11/9/2017	Analysis Date: 11/10/2017	SeqNo: 1501474 Units: mg/Kg	
Analyte	Result PQL SPK value	ue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua	ıal
Gasoline Range Organics (GRO)	26 5.0 25.0	00 0 105 75.9 131	

118

316

15

1000

### 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 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#: 1711592

14-Nov-17

Client: Souder, Miller and Associates

Project: Potter CS

Sample ID MB-34930	SampT	SampType: MBLK			Code: El	iles				
Client ID: PBS	Batch	1D: 34	930	R	RunNo: 4	7044				
Prep Date: 11/9/2017	Analysis D	ate: 11	1/10/2017	S	501482	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		109	80	120			

Sample ID LCS-34930	SampT	ype: LC	s	Tes						
Client ID: LCSS	Batcl	h ID: 34	930	F	RunNo: 4	7044				
Prep Date: 11/9/2017	Analysis D	Date: 11	1/10/2017	5	SeqNo: 1501483 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	1.000	0	97.8	77.3	128			
Toluene	1.0	0.050	1.000	0	101	79.2	125			
Ethylbenzene	1.0	0.050	1.000	0	101	80.7	127			
Xylenes, Total	3.0	0.10	3.000	0	98.9	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

### Qualifiers:

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

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

# Sample Log-In Check List

Client Name:	SMA-FARM	Work Order N	lumber. 1711	592		RcptNo:	1
Descined D.	Bioble Salesha	444400047.7.0			2		
Received By:	Richie Eriacho	11/10/2017 7:3			1 11 1		
Completed By:	Erin Melendrez	11/10/2017 8:1	8:05 AM		unas	J*	
Reviewed By	111	11/0/17					
Chain of Cus	tody						
	ls intact on sample bottles	?	Yes		No 🗌	Not Present ✔	
2. Is Chain of C	Sustody complete?		Yes	<b>V</b>	No 🗌	Not Present	
3. How was the	sample delivered?		Cou	rer			
Log In							
4. Was an atte	mpt made to cool the sam	ples?	Yes	<b>v</b>	No 🗌	NA 🗆	
5. Were all san	nples received at a temper	rature 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 indicated	test(s)?	Yes	<b>V</b>	No 🗌		
8, Are samples	(except VOA and CNG) p	roperly preserved?	Yes	~	No 🗌		
9. Was preserv	rative added to bottles?		Yes		No 🗸	NA .	
10 VOA vials ha	ave zero headspace?		Yes		No 🗌	No VOA Viais 🗹	
11. Were any sa	ample containers received	broken?	Yes		No 🗸	# of preserved	
10.0				C 2		bottles checked	
	vork match bottle labels? pancies on chain of custod	VI	Yes	~	No	for pH:	or >12 unless noted)
	correctly identified on Cha		Yes	~	No L	Adjusted?	or TE oricos notedy
	at analyses were requeste			~	No 🗌		
	ding times able to be met?	)	Yes	<b>v</b>	No L	Checked by:	
Special Hand	ling (if applicable)						
16. Was client no	otified of all discrepancies	with this order?	Yes		No	NA 🗸	
Person	Notified:		Date:				
By Who	om:		via: eM	ail _	Phone Fax	In Person	
Regard							
Client	nstructions:						
17. Additional re	marks.						
18. Cooler Infor							
Cooler No	Temp °C Condition 3.9 Good	Seal Intact   Seal I	No Seal D	ate	Signed By	-	
1.	5.5 G000	162					

C	hain	-of-Cu	stody Record	Turn-Around	Time:		1		3						,					
Client:	SMA			☐ Standard		Same day		5.00											NTAI	
				Project Name	9:		1								ment					
Mailing	Address	401 1	N. Brondway	Potter	CS			49	01 H						erqu			109		
				Project #:				Τe	el. 50	)5-34	15-39	975	F	ax	505-	345-	410	7		
Phone	# 505-	325 - 75	tm. NM 87701	512576	0 BG 69							of the latest designation of the latest desi	naly	ysis	Req	uest				
			ninds G sondermiler	Project Mana	iger:		_	(ýlr	00					(4)						
QA/QC I			· CCM		in the l		(8021)	15 01	(3)			ŝ		, S(	SB's					
X Stan	dard		☐ Level 4 (Full Validation)	Stepha	mie Hund	<u> </u>	3) 5,	(G2	8			SIMS		PO.	2 P(					
Accredi				Sampler: 5			TAMB's	TPH (Gas only)	0	=	<u>, , , , , , , , , , , , , , , , , , , </u>	5/0		ON	808			Herido		Ê
□ NEL		□ Othe	Γ	On Ice:	X Yes	□ No	+		SRO	418	504	87	S	03,	Se		OA)	2		(Z)
= EDD	(Type)	T		Sample Tem	perature: 3,	8+0.1=3.9	WIBE	TBE	B	DCL	pou	100	leta	CLA	icide	(AC	)-ic	4		S (Y
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + 14	BTEX + MTBE +	TPH 8015B (CRO) (ORO) (MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAHs (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VCA)	300.1		Air Bubbles (Y
1/09/17	9:43	50.1	5-40	MEDH KIT	W60.4	-001	X		X									X		
	9:51		5-41			-002	×		X									X		
	9:57		5-42			-003	X		X									X		
	10.05		5-43			-004	X		X									X		
$\downarrow$	10:12	4	5-44	1	1	-005	X		X									X		
							-													_
							-													+
							+													+
Date:	Time:	Rei nquishe	ed by.	Received by	1	Date Time		nark						-	1	-				
1/9/17	1510		lui Atrl		Walt	11/9/17 1510							2	± 1	1311	643	3			
Date	Time:	Rélinquiéhe	ed by:	Received by	,	Date Time	Č	C	Ta	~	Low	19								
19/17	2045	In t	- Walt	1/2		11/10/17 0730						0								



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

November 14, 2017

Stephanie Hinds Souder, Miller and Associates 401 W. Broadway Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: Potter CS OrderNo.: 1711643

### Dear Stephanie Hinds:

Hall Environmental Analysis Laboratory received 3 sample(s) on 11/11/2017 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 1711643

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-47

Project: Potter CS

**Collection Date:** 11/10/2017 12:15:00 PM

Lab ID: 1711643-001

Matrix: MEOH (SOIL) Received Date: 11/11/2017 10:45:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS	;				Analyst: MAB
Diesel Range Organics (DRO)	220	9.3		mg/Kg	1	11/13/2017 11:11:52 AM
Motor Oil Range Organics (MRO)	140	47		mg/Kg	1	11/13/2017 11:11:52 AM
Surr: DNOP	105	70-130		%Rec	1	11/13/2017 11:11:52 AM
EPA METHOD 8015D: GASOLINE RANG	E					Analyst: NSB
Gasoline Range Organics (GRO)	270	20		mg/Kg	5	11/13/2017 10:13:52 AM
Surr: BFB	557	15-316	S	%Rec	5	11/13/2017 10:13:52 AM
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst: NSB
Benzene	ND	0.10		mg/Kg	5	11/13/2017 10:13:52 AM
Toluene	ND	0.20		mg/Kg	5	11/13/2017 10:13:52 AM
Ethylbenzene	0.80	0.20		mg/Kg	5	11/13/2017 10:13:52 AM
Xylenes, Total	7.8	0.40		mg/Kg	5	11/13/2017 10:13:52 AM
Surr: 4-Bromofluorobenzene	144	80-120	S	%Rec	5	11/13/2017 10:13:52 AM
<b>EPA METHOD 300.0: ANIONS</b>						Analyst: MRA
Chloride	ND	30		mg/Kg	20	11/13/2017 12:28:24 PM

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

# Lab Order 1711643

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Souder, Miller and Associates Client Sample ID: S-48

Project: Potter CS Collection Date: 11/10/2017 1:25:00 PM Lab ID: Received Date: 11/11/2017 10:45:00 AM 1711643-002 Matrix: MEOH (SOIL)

Analyses	Result	PQL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst: MAB
Diesel Range Organics (DRO)	69	9.9	mg/Kg	1	11/13/2017 11:33:56 AM
Motor Oil Range Organics (MRO)	130	50	mg/Kg	1	11/13/2017 11:33:56 AM
Surr: DNOP	104	70-130	%Rec	1	11/13/2017 11:33:56 AM
EPA METHOD 8015D: GASOLINE RANG	E				Analyst: NSB
Gasoline Range Organics (GRO)	45	21	mg/Kg	5	11/13/2017 10:37:43 AM
Surr: BFB	196	15-316	%Rec	5	11/13/2017 10:37:43 AM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.11	mg/Kg	5	11/13/2017 10:37:43 AM
Toluene	ND	0.21	mg/Kg	5	11/13/2017 10:37:43 AM
Ethylbenzene	ND	0.21	mg/Kg	5	11/13/2017 10:37:43 AM
Xylenes, Total	0.71	0.42	mg/Kg	5	11/13/2017 10:37:43 AM
Surr: 4-Bromofluorobenzene	123	80-120	S %Rec	5	11/13/2017 10:37:43 AM
EPA METHOD 300.0: ANIONS					Analyst: MRA
Chloride	ND	30	mg/Kg	20	11/13/2017 12:40:48 PM

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
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 7 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Lab Order 1711643

Date Reported: 11/14/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: Souder, Miller and Associates

Client Sample ID: S-49

Project: Potter CS

Collection Date: 11/10/2017 2:22:00 PM

Lab ID: 1711643-003 Matrix: MEOH (SOIL) Received Date: 11/11/2017 10:45:00 AM

Analyses	Result	PQL (	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	3				Analyst: MAB
Diesel Range Organics (DRO)	140	9.3		mg/Kg	1	11/13/2017 11:56:04 AM
Motor Oil Range Organics (MRO)	130	46		mg/Kg	1	11/13/2017 11:56:04 AM
Surr: DNOP	107	70-130		%Rec	1	11/13/2017 11:56:04 AM
EPA METHOD 8015D: GASOLINE R.	ANGE					Analyst: NSB
Gasoline Range Organics (GRO)	180	19		mg/Kg	5	11/13/2017 11:01:31 AM
Surr: BFB	378	15-316	S	%Rec	5	11/13/2017 11:01:31 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.097		mg/Kg	5	11/13/2017 11:01:31 AM
Toluene	ND	0.19		mg/Kg	5	11/13/2017 11:01:31 AM
Ethylbenzene	0.46	0.19		mg/Kg	5	11/13/2017 11:01:31 AM
Xylenes, Total	3.8	0.39		mg/Kg	5	11/13/2017 11:01:31 AM
Surr: 4-Bromofluorobenzene	132	80-120	S	%Rec	5	11/13/2017 11:01:31 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	30		mg/Kg	20	11/13/2017 12:53:13 PM

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

# Hall Environmental Analysis Laboratory, Inc.

Souder, Miller and Associates Client:

Project: Potter CS

Sample ID MB-34962 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 34962 RunNo: 47079

Prep Date: 11/13/2017 Analysis Date: 11/13/2017 SeqNo: 1503057 Units: mg/Kg

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

Chloride ND 1.5

Sample ID LCS-34962 TestCode: EPA Method 300.0: Anions SampType: Ics

Client ID: LCSS RunNo: 47079 Batch ID: 34962

Prep Date: 11/13/2017 Analysis Date: 11/13/2017 SeqNo: 1503058 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.8 110

### **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

POL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

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

Page 4 of 7

WO#:

1711643

14-Nov-17

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1711643 14-Nov-17

%RPD

**RPDLimit** 

Qual

HighLimit

130

Client:

Souder, Miller and Associates

Result

46

4.6

10

Project:

Analyte

Surr: DNOP

Diesel Range Organics (DRO)

Potter CS

Sample ID MB-34954	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 34954	RunNo: 47072
Prep Date: 11/13/2017	Analysis Date: 11/13/2017	SeqNo: 1501804 Units: mg/Kg
Analyte	Result PQL SPK value	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	9.8 10.0	00 98.3 70 130
Sample ID LCS-34954	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 34954	RunNo: 47072
Prep Date: 11/13/2017	Analysis Date: 11/13/2017	SeqNo: 1501812 Units: mg/Kg

LowLimit

73.2

70

91.6

92.0

SPK value SPK Ref Val %REC

50.00

5.000

- \* 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 5 of 7

- 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#: 1711643

14-Nov-17

Client:

Souder, Miller and Associates

Project:	Potter CS										
Sample ID	RB	SampTy	pe: ME	BLK	Test	Code: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	PBS	Batch	ID: SG	47078	R	lunNo: 4	7078				
Prep Date:		Analysis Da	ate: 11	1/13/2017	S	SeqNo: 1	502245	Units: mg/h	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sasoline Rang	e Organics (GRO)	ND	5.0								
Surr: BFB		1100		1000		115	15	316			
Sample ID	2.5UG GRO LCS	SampTy	pe: LC	s	Test	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	LCSS	Batch	ID: SG	47078	R	RunNo: 4	7078				
Prep Date:		Analysis Da	ate: 11	1/13/2017	S	SeqNo: 1	502246	Units: mg/h	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	27	5.0	25.00	0	107	75.9	131			
Surr: BFB		1300		1000		126	15	316			
Sample ID	1711643-001AMS	SampTy	pe: <b>MS</b>	3	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	S-47	Batch	ID: SG	47078	F	RunNo: 4	7078				
Prep Date:		Analysis Da	ate: 11	1/13/2017	S	SeqNo: 1	502247	Units: mg/h	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	380	20	100.0	274.6	100	77.8	128			
Surr: BFB		22000		4000		545	15	316			S
Sample ID	1711643-001AMSI	SampTy	/pe: <b>M</b> \$	SD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	S-47	Batch	ID: SG	47078	F	RunNo: 4	7078				
Prep Date:		Analysis Da	ate: 11	1/13/2017	S	SeqNo: 1	502248	Units: mg/h	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	370	20	100.0	274.6	91.0	77.8	128	2.56	20	
Surr: BFB		21000		4000		536	15	316	0	0	S

# Qualifiers:

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

Page 6 of 7

- 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#: 1711643

14-Nov-17

Client:

Souder, Miller and Associates

Project:

Potter CS

Sample ID RB	SampT	SampType: MBLK			tCode: El	tiles					
Client ID: PBS	Batch	Batch ID: SB47078			RunNo: 47078						
Prep Date:	Analysis D	ate: 11	/13/2017	8	SeqNo: 1	502264	Units: mg/K	Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.025									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120				

Sample ID 100NG BTEX LC	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch	n ID: SB	47078	F	RunNo: 4	7078				
Prep Date:	Analysis D	Date: 11	1/13/2017	S	SeqNo: 1	502265	Units: mg/M	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	99.7	77.3	128			
Toluene	0.99	0.050	1.000	0	98.8	79.2	125			
Ethylbenzene	0.98	0.050	1.000	0	98.4	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	98.1	81.6	129			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

Sample ID 1711643-002AMS	SampT	уре: М	3	Tes	tCode: El	tiles				
Client ID: S-48	Batcl	h ID: SE	47078	F	RunNo: 4	7078				
Prep Date:	Analysis D	Date: 11	1/13/2017	8	SeqNo: 1	502266	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.1	0.11	4.205	0	97.5	80.9	132			
Toluene	4.1	0.21	4.205	0	98.4	79.8	136			
Ethylbenzene	4.2	0.21	4.205	0	99.9	79.4	140			
Xylenes, Total	13	0.42	12.62	0.7080	96.7	78.5	142			
Surr: 4-Bromofluorobenzene	5.0		4.205		120	80	120			

Sample ID 1711643-002AM	SD SampT	ype: <b>MS</b>	SD	Test	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: S-48	Batch	ID: SB	47078	R	RunNo: 4	7078				
Prep Date:	Analysis D	ate: 11	1/13/2017	S	SeqNo: 1	502267	Units: mg/k	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	4.2	0.11	4.205	0	101	80.9	132	3.27	20	
Toluene	4.2	0.21	4.205	0	98.9	79.8	136	0.458	20	
Ethylbenzene	4.2	0.21	4.205	0	101	79.4	140	0.975	20	
Xylenes, Total	13	0.42	12.62	0.7080	97.0	78.5	142	0.349	20	
Surr: 4-Bromofluorobenzene	5.0		4.205		119	80	120	0	0	

# Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 7 of 7

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:	SMA-FARM	Work Order Nu	ımber: 1711643		RcptNo:	1
Received By: Completed By: Reviewed By:	Anne Thorne Ashley Gallegos	11/11/2017 10:4: 11/13/2017 8:25: \\//3/\	09 AM	Am Am	-	
Chain of Cus	stody					
		=	Yes 🗌	No 🗌	Not Present ✓	
	als intact on sample bottles? Custody complete?		Yes 🗸	No 🗆	Not Present	
	e sample delivered?		Courier		Not regain a	
Log In						
4. Was an atte	empt made to cool the samp	les?	Yes 🗹	No 🗌	NA 🗌	
5. Were all sa	mples received at a tempera	ture of >0° C to 6.0°C	Yes 🗸	No 🗌	NA 🗌	
6. Sample(s)	in proper container(s)?		Yes 🗸	No 🗌		
7. Sufficient sa	ample volume for indicated to	est(s)?	Yes 🗸	No 🗆		
8. Are sample:	s (except VOA and ONG) pr	operly preserved?	Yes 🗸	No 🗌		
9. Was preser	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 received b	roken?	Yes	No 🗸	# of preserved	
	work match bottle labels?	'n	Yes 🗹	No 🗌	bottles checked for pH: (<2 or	>12 unless noted)
	s correctly identified on Chair		Yes 🗸	No 🗌	Adjusted?	,
	hat analyses were requested	11.5	Yes 🗸	No 🗌		
	lding times able to be met? customer for authorization.)		Yes 🗸	No	Checked by:	
Special Hang	dling (if applicable)					
	notified of all discrepancies v	vith this order?	Yes	No 🗌	NA 🗸	
Perso	n Notified:	Probabilitation and control or substitution of the substitution of	rate	Section 2017 along 1979 to the total operating	***	
By WI	hom:	CHAINGE DE STEIN DE SHOULE SERVICES	a .	hone Fax	In Person	
Regar	rding:	ter tekning in distributer in distributer distributer alla distributer in distrib	BENERAL PROPERTY OF THE PROPER	A RESPONDENCE OF THE PROPERTY	established, in the contribution to the contribution of the contri	
Client	Instructions:	and a contract of the second s	akutun direktua direktua keri direktua direktua direktua direktua direktua direktua direktua direktua direktua	artenharinerin situationia, respectiva distributa (la Pariferia distributa distributa di Arabina di Arabina di	The spirit ship which will be the spirit ship to th	
17. Additional	remarks:					
18. Cooler Info	The second second	Seal Intact   Seal N	lo   Seal Date	Signed By		
framework and a		F 1877 in the control Communication	manda um como um rescono de um		•	

C	hain	of-Cu	stody Record	Turn-Around	Time:								Marel		W -W- W-				B. E ***		
Client:	SMA			☐ Standard Project Name	Rush	same day				A	N.	AL	YS		S L	A	30		NT	AL ORY	r
Mailing	Address	401 W	Broadway	Potte	r CS			49	01 H									109			
	Furmi	ration, A	IM 87401	Project #:	W. W. L.				el. 50					ax	,						
Phone		-325-										A	nal	/sis	Req	uesi					
email o	r Fax#:	itephan	il . hards Q souder milker,	Project Mana	ger:		_	(ylu	0					04)							
QA/QC	Package: idard	,	∠ ડખ.  □ Level 4 (Full Validation)	Steph	ante Hiv	nd s	s (8021	(Gas or	30 AMF			SIMS)		PO <sub>4</sub> ,SC	PCB's						
Accred				Sampler: 51	1		#	H	Q	7	=	70 8		VO2	3082			4			9
□ NEL		□ Other		On Ice:	Yes	The Part of the Control of the Contr	+	+	RO	1100	504	r 82	(D	03,1	8 / 8		JA)	Ch lortal			or
	(Type)_			Sample Tem	perature: 4		#	TBE	8	po 7	po	0 0	etal	Z	cide	(A)	>-i	4			5
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + WTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (BROY ORG KNIRG	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO <sub>3</sub> ,NO <sub>2</sub> ,PO <sub>4</sub> ,SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	300,1			Air Bubbles (Y or N)
12:15	11/10/17	5011	5-47	WEOHEIT	MEDY COOL	-001	X		X									X			
13:25	Wholn		5-48	1	İ	-002	X		X									X			
	11/10/17		5-49		V	-003	X		X									X	$\top$		
	KJ V	`																	$\pm$		
																			+		
																			+		
																			-		
																			+		1
Date: 11/10/17			Ling Alias Al Cult	Received by:	Man-	Date Time 11/0/7/904  Date Time 11/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1	17	Bir CC	u +	o 1	Dute 1 L	er pi	जिंट	, /	V3	169	13				
1	f necessary,	samples subn	nitted to Hall Environmental may be subc	contracted to other a	ccredited laboratorie	es. This serves as notice of this	possi	bility.	Any su	ıb-con	tracted	d data	will be	e clear	ty nota	ated or	the a	nalytica	al report		

# Appendix C Executed C-138 Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

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 A Enterprise Field Services,	Address: LLC, 614 Reilly Ave, Farmington NN	M 87401		
2. Originating Site: Potter Compressor St	ation			
	(Street Address, City, State or ULSTI hip 30 North Range 10 West; 36.8030		an County, NM	
Description: Exempt mate	on of Waste: e from cleaning the 1,000 bbl condensate rial associated with cleaning the 1,000 b d <sup>3</sup> / bbls Known Volume (to be entere	bl condensate tank.	nd of the haul)yd³	/ bbls
5.	GENERATOR CERTIFICATIO	N STATEMENT OF W	ASTE STATUS	
Generator Signature certify that according to the	representative or authorized agent for E Resource Conservation and Recovery A ne above described waste is: (Check the	Act (RCRA) and the US E	nvironmental Protection Agenc	y's July 1988
	oil field wastes generated from oil and ga crator Use Only: Waste Acceptance Fra		tion operations and are not mixe  Weekly Per Load	ed with non-
characteristics establish	pt: Oil field waste which is non-hazardo hed in RCRA regulations, 40 CFR 261.2 . The following documentation is attach	21-261.24, or listed hazard	lous waste as defined in 40 CFR	R, part 261,
MSDS Information	RCRA Hazardous Waste Analysis	Process Knowledge	Other (Provide description	in Box 4)
GENERATOR	R 19.15.36.15 WASTE TESTING CER	RTIFICATION STATE	MENT FOR LANDFARMS	
	8-28-17, representative for Enterprise I	Products Operating author	izeIEI, Inc	to complete
Generator Signature the required testing/sign the	e Generator Waste Testing Certification.			
have been found to conform of the representative sample 19.15.36 NMAC.	, representative for ne oil field waste have been subjected to n to the specific requirements applicable es are attached to demonstrate the above	the paint filter test and test to landfarms pursuant to	Section 15 of 19.15.36 NMAC.	at the samples The results
5. Transporter: Triple S CD Permitted Surface Waste				
	Landfarm/Industrial Ecosystems, Inc. * Pe	rmit #: NM 01-0010B		
Method of Treatment and/or Disp  Evaporation		andfarm	Other	
Vaste Acceptance Status:	☐ APPROVED	DENIED (Must Be M	faintained As Permanent Record)	
RINT NAME:	TITLE:		DATE:	
IGNATURE:	TELEF	PHONE NO.:		
Surface Wast	e Management Facility Authorized Agent	50	5-632-1782	

District I
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811 S. First St., Artesia, NM 88210
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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

MMOOR	A MARINES
NMOCD	Form C-141
Adam	Revised April 3, 2017
Submit 1 Copy to apply in accordance	ropriate District Office with 19.15.29 NMAC.

Release Notification and Corrective Action

		-			OP	ERATOR	₹		Initial F	Report  Final Report				
Name of C							omas Long							
Address 61			gton, NI	/I 87401			No. <b>505-599-</b>							
Facility Nar	me <b>Val Ve</b>	rde Plant				Facility Type Natural Gas Metering Processing Plant								
Surface Ov	vner <b>Priva</b>	te		Mineral C	Owner I	BLM			Serial I	No.				
				LOCA	TION	OF REL	EASE							
Unit Letter	Section	Township	Range	Feet from	North/	outh	Feet from	East/	Vest	County				
Α	14	29N	11W	the 1030	Line		the <b>981</b>	Line		San Juan				
		La	ntitude_36	6.730065 L	.ongitu	de <u>-107.95</u>	55320 NAD83							
				NAT	URE	OF RELE	EASE							
Type of Rele 50% amine)		Amine (appr	oximately	50% water ar			Release <b>Estim</b>	nated	Volume F	Recovered None				
Source of R		pment Malfu	nction				Hour of Occurre @ 5:45 p.m.	ence		Hour of Discovery				
Was Immed	iate Notice	Given?					Whom? : Vane	essa Fie		8 @ 5:45 p.m.				
				□ No □ N	lot									
Required														
By Whom?	Thomas Lor	na				Date and	Hour May 1, 20	18 @ 2	20 n m					
Was a Wate							olume Impacting							
			Yes	⊠ No										
If a Waterco						1								
										mine (approximately 50%				
Water/Amine				om the knockt	out tank	vent stack	onto the ground	surface	e. An esum	nated 120 barrels of				
										of the knockout tank vent				
										stack by a mist of the dwith the "Final." C-141.				
wator/armiro	THIM COLOR	i ildido forna		itorprice prop	orty. 7	ama party n	Woodgatton Top	OTC WIII E	o molade.	a with the Timal. O 141.				
										nd that pursuant to NMOCD				
										ective actions for releases				
										ed as "Final Report" does not mination that pose a threat to				
ground water	er, surface w	ater, human	health or	the environme	ent. In a	addition, NN	<b>IOCD</b> acceptan	ce of a	C-141 rep	ort does not relieve the				
operator of r	esponsibility	y for compila	ince with a	iny other lede	rai, stat	e, or local la	aws and/or regu		/ATION	DIVISION				
Ciamatuma.	he (	4	10				OIL COIL	OLIV	7111011	Diviolott				
Signature:		· Mes				Approved by	y Environmenta	I Specia	hist:					
Printed Nam	ne: Jon E. F	ields					-/1-	-	-	2				
Title: Directo	or, Environm	nental			/	Approval Da	ate: 5 8 7	38 E	Expiration	Date:				
E-mail Address: jefields@eprod.com  Conditions of Approval:						Attached								
Date: 5	14/201	8		e: (713) 381-6	6684					,asoa 🗀				
Attach Addi	tional She	ets If Neces	sary		<	2	No Ara	35						
						Jam	pre mie							
						10th	FE Ce	2	ren					
						M	ple Are 4 & Ce 7 18138	5333	301	1				

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

State of New Mexico Energy Minerals and Natural Resources

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



Form C-141 Revised April 3, 2017

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

PROTEICT III

Santa Fe, NM 87505												
	Release Notification and Corrective Action											
					OF	PERATOR	?		] Initial F	Report	$\boxtimes$	Final Report
		nterprise F				Contact Thomas Long						
		ve, Farmir	ngton, NI	M 87401		Telephone No. 505-599-2286 Facility Type Natural Gas Metering Gathering Pipeline						
Facility Na	me <b>Payne</b>	A #1E				Facility Typ	e Natural Gas	s Mete	ering Gath	nering P	ipelin	е
Surface Ov	vner <b>Priva</b>	te		Mineral (	Owner	BLM			Serial N	No. N/A		
				LOCA		OF REL	EASE					
Unit Letter <b>D</b>	Section 30	Township 29N	Range 10W	Feet from the 935	North Line	outh	Feet from the 1115	East/ Line	West	County San Juan	n	
	Latitude 36.701549 Longitude -107.93045 NAD83											
				NAT	URE	OF RELE	EASE					
Type of Rele						Gas;	Release 2.68 N		Volume R			
		rnal Corrosio	n			1/18/2018	Hour of Occurre  @ 1:30 p.m.		Date and 1/18/2018	3 @ 1:30 p	o.m.	
Was Immed	iate Notice		□ v		1-4	If YES, To	Whom? : Cour	tesy No	otification V	anessa F	ields -	NMOCD
Required			∐ Yes	□ No ⊠ N	NOT							
By Whom?	Thomas Lor	ng					Hour January 19					
Was a Wate	rcourse Re		☐ Yes	⊠ No		If YES, Vo	lume Impacting	the Wa	atercourse.			
		npacted, Des										
Describe Ca A#1E well ti	ause of Prob e. Enterpris	olem and Re se confirmed	medial Act the releas	tion Taken.* C se and isolate	On Janu d, depre	ary 18, 2018 essurized, lo	Enterprise tech cked out and tag	nnicians gged o	s discovere ut the pipel	d and rele	ease o	n the Payne
were collect remediation included with	ed for labor standards. h this "Final	atory analysi The excava " C-141.	is. No che tion was b	emicals of con ackfilled with	laborate	ere identified ory-confirme	subsurface inves to exceed New d stockpiled soil	Mexico I. A th	o Oil Conse nird party in	ervation D vestigatio	ivision n repo	soil ort is
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.							r releases ort" does not se a threat to					
Signature: A. Fields  Printed Name: Jon E. Fields						OIL CONSERVATION DIVISION  Approved by Environmental Specialist:						
Title: Directo						Approval Da	te: 5/8/18	ζ [	Expiration4	Pate:		
E-mail Addre	ess: jefields	@eprod.com	1			Conditions of Approval:						

\* Attach Additional Sheets If Necessary

#NCS PAY 1803828754

Phone: (713) 381-6684





### **CORRECTIVE ACTION REPORT**

Property:

Payne A #1E Pipeline Release NW 1/4, S30 T29N R10W San Juan County, New Mexico

February 21, 2018 Apex Project No. 725040112379 NMOCD

MAR 1 2 2018

DISTRICT III

Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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### **CORRECTIVE ACTION REPORT**

Payne A #1E Pipeline Release NW 1/4, S30 T29N R10W San Juan County, New Mexico

Apex Project No. 725040112367

### 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Payne A #1E pipeline release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 30, Township 29 North, Range 10 West, in San Juan County, New Mexico (36.701546N,107.93045W). The Site is located on private land. The surrounding properties are private acreages, 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 January 18, 2018, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On January 24, 2018, Enterprise initiated excavation activities to facilitate removal of the pipeline from service, and to remediate potential petroleum hydrocarbon impact resulting from the release.

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

### 1.2 Project Objective

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

### 2.0 SITE RANKING

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



Rank	Ranking Criteria								
	<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	200 to 1,000 feet	10	20						
Body	>1,000 feet	0							
Total Ra	40								

Based on Apex's evaluation of the scoring criteria, the Site would earn a maximum Total Ranking Score of "40". The ranking is based on the following information:

- Six (6) water wells were identified within a mile of the Site on the OSE Water Right Reporting System (WRRS) database. The nearest water well (SJ 00303) is located 0.3 miles north of the Site with a depth to water of five (5) feet below grade surface (bgs). Based on this information, the depth to groundwater at the Site is anticipated to be less than 50 feet bgs. This information supports a ranking score of "20" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead/water source protection area ranking score of "0".
- The release point is located approximately 200 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 January 18, 2018, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On January 24, 2018, Enterprise initiated excavation activities to facilitate removal of the pipeline from service, and to remediate potential petroleum hydrocarbon impact resulting from the release. During the pipeline and earthwork activities, West States Energy Contactors Inc., provided heavy equipment and labor support, and Apex provided environmental consulting support.

Five (5) composite soil samples (CS-1 through CS-5) were collected from the sidewalls and floor of the excavation for laboratory analysis. In addition, one (1) composite soil sample (SP-1) was collected from stockpiled soils. Due to potentially shallow groundwater, the excavation was left open overnight and exhibited no groundwater accumulation by morning.

The final excavation measured approximately nine (9) feet long by six (6) feet wide. The maximum depth of the excavation measured approximately nine (9) feet bgs.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand, river rock, and clay.



The excavation was backfilled with laboratory-confirmed stockpiled soils and contoured to surrounding grade.

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

### 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.

Apex's soil sampling program included the collection of five (5) composite soil samples (CS-1 through CS-5) from the excavation and one (1) composite soil sample (SP-1) from stockpiled soils for laboratory analysis.

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

### 3.3 Laboratory Analytical Methods

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

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

### 4.0 DATA EVALUATION

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

# 4.1 Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory practical quantitation limits (PQLs) associated with the composite soil samples (CS-1 through CS-5) and composite stockpile soil sample (SP-1) to the New Mexico EMNRD OCD *RALs* for sites having a total ranking score of "40".

 The laboratory analyses of composite soil sample CS-4 (collected from soils remaining in place) indicates a benzene concentration of 0.047 milligrams per kilogram (mg/kg), which is below the New Mexico EMNRD OCD RAL of 10 mg/kg. The laboratory analyses of the remaining composite soil samples collected from soils remaining in place and the reused



stockpiled soils do not indicate benzene concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD *RAL* of 10 mg/kg.

- The laboratory analyses of composite soil sample CS-4 (collected from soils remaining in place) indicates a total BTEX concentration of 0.047 mg/kg, which is below the New Mexico EMNRD OCD RAL of 50 mg/kg. The laboratory analyses of the remaining composite soil samples collected from soils remaining in place and the reused stockpiled soils do not indicate total BTEX concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of composite soil sample CS-3 (collected from soils remaining in place) and composite soil sample SP-1 (collected from the reused stockpiled soils) indicate combined TPH GRO/DRO/MRO concentrations of 8.1 mg/kg and 6.5 mg/kg, respectively, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg. The laboratory analyses of the remaining composite soil samples collected from soils remaining in place do not indicate combined TPH GRO/DRO/MRO concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "40".
- The laboratory analyses of the composite soil samples collected from soils remaining in place and the reused stockpiled soils indicate chloride concentrations ranging from 69 mg/kg (CS-1) to 480 mg/kg (CS-4).

Laboratory analytical results are summarized in **Table 1** in **Appendix C**.

### 5.0 FINDINGS AND RECOMMENDATIONS

The Payne A #1E pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 30, Township 29 North, Range 10 West, in San Juan County, New Mexico. The Site is located on private land. The surrounding properties are private acreages, 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 January 18, 2018, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On January 24, 2018, Enterprise initiated excavation activities to facilitate removal of the pipeline from service, and to remediate potential petroleum hydrocarbon impact resulting from the release.

- The primary objective of the corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand, river rock, and clay.
- The final excavation measured approximately nine (9) feet long by six (6) feet wide. The maximum depth of the excavation measured approximately nine (9) feet bgs.
- Prior to backfilling, five (5) composite samples soil samples were collected from the excavation and one (1) composite soil samples was collected from stockpiled soils for laboratory analyses. Based on soil analytical results, soils remaining in place and reused stockpiled soils do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs for a Site ranking of "40".



The excavation was backfilled with laboratory-confirmed stockpiled soils and contoured to surrounding grade.

Based on field observations and laboratory analytical results, no additional investigative or corrective actions appear 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.

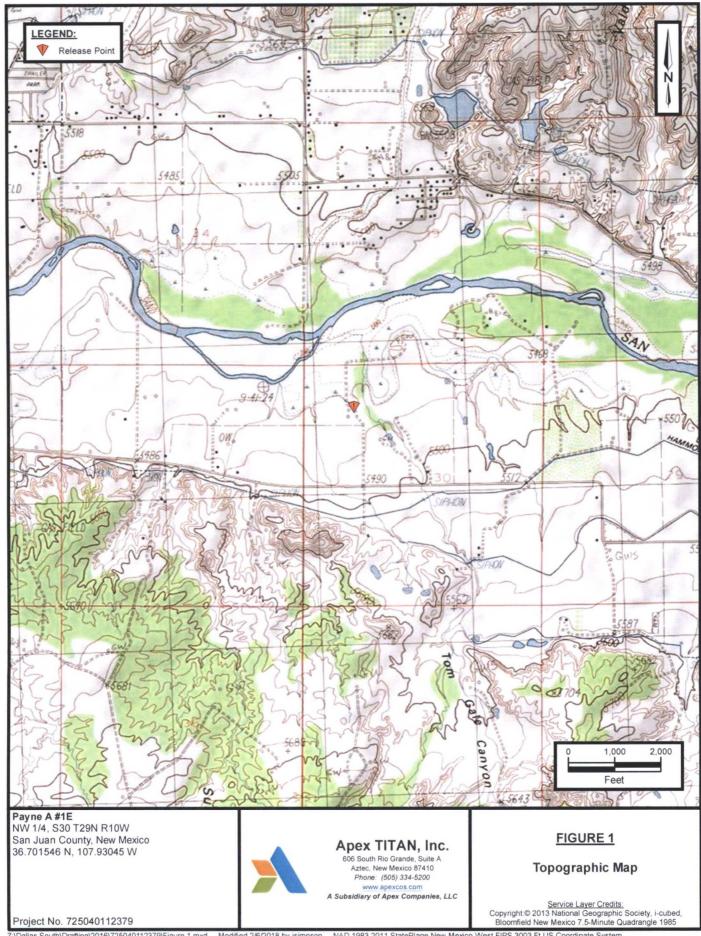
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

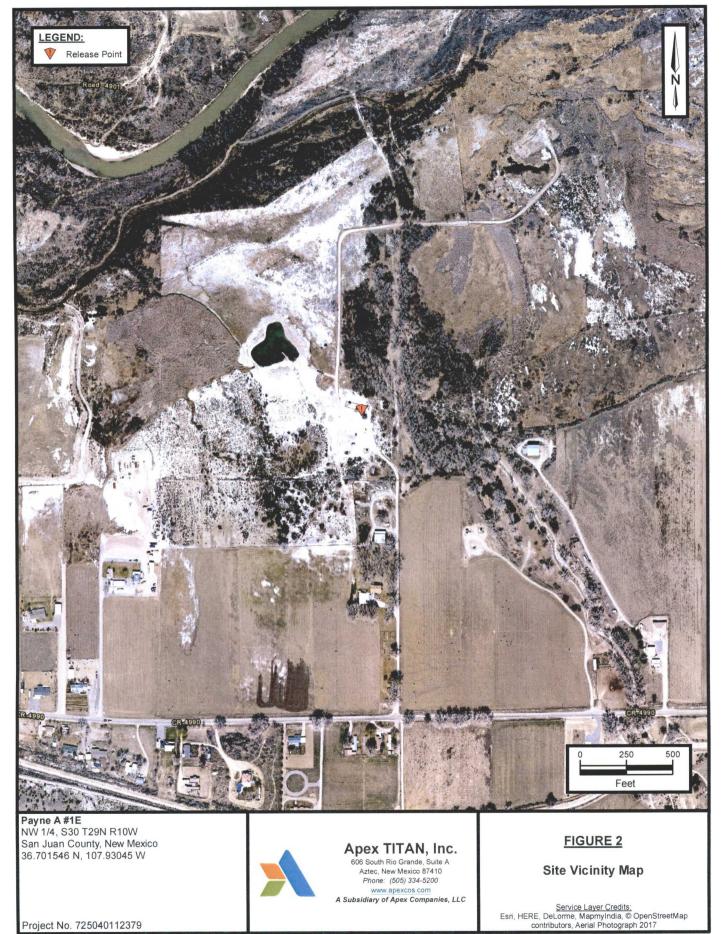
This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution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

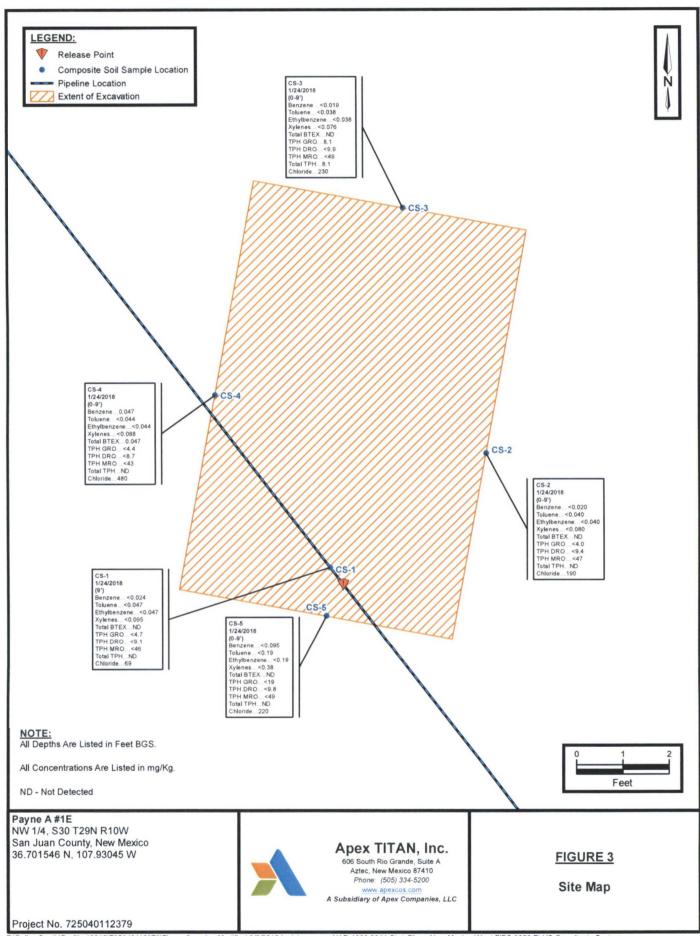


APPENDIX A

Figures









APPENDIX B

Photographic Documentation



# Photograph 1

View of the source area and excavation, facing east.



# Photograph 2

View of the excavation, facing southwest.





APPENDIX C

Table



# TABLE 1 Payne A #1E SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab		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)	Total Combined TPH (mg/kg)	Chloride (mg/kg)
		Natural Resources , Remediation Action		10	NE	NE	NE	50				100	NE
						Soil Sample Collect	ted from Stockpi	led Soils					
SP-1	01.24.18	С	Stockpile	< 0.015	< 0.031	<0.031	< 0.062	ND	6.5	<8.6	<43	6.5	360
	ATO MENERS			NA THE RES	<b>建設式建築</b>	Excavation Cor	nposite Soil San	ples		ESSENCE CHE	POST TO BE		MATERIAL
CS-1	01.24.18	С	9	<0.024	< 0.047	<0.047	< 0.095	ND	<4.7	<9.1	<46	ND	69
CS-2	01.24.18	С	0 to 9	<0.020	<0.040	<0.040	<0.080	ND	<4.0	<9.4	<47	ND	190
CS-3	01.24.18	С	0 to 9	< 0.019	<0.038	<0.038	<0.076	ND	8.1	<9.9	<49	8.1	230
CS-4	01.24.18	С	0 to 9	0.047	<0.044	<0.044	<0.088	0.047	<4.4	<8.7	<43	ND	480
CS-5	01.24.18	С	0 to 9	< 0.095	< 0.19	<0.19	<0.38	ND	<19	<9.8	<49	ND	220

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix D

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

January 26, 2018

**Kyle Summers** 

APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Payne A 1E OrderNo.: 1801B70

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/25/2018 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 1801B70

Date Reported: 1/26/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: CS-1

 Project:
 Payne A 1E
 Collection Date: 1/24/2018 1:50:00 PM

 Lab ID:
 1801B70-001
 Matrix: SOIL
 Received Date: 1/25/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	69	30	mg/Kg	20	1/25/2018 10:38:01 AM	36194
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/25/2018 12:01:59 PM	g48699
Surr: BFB	102	70-130	%Rec	1	1/25/2018 12:01:59 PM	g48699
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	1/25/2018 11:34:50 AM	36191
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/25/2018 11:34:50 AM	36191
Surr: DNOP	104	70-130	%Rec	1	1/25/2018 11:34:50 AM	36191
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst	AG
Benzene	ND	0.024	mg/Kg	1	1/25/2018 12:01:59 PM	R48699
Toluene	ND	0.047	mg/Kg	1	1/25/2018 12:01:59 PM	R48699
Ethylbenzene	ND	0.047	mg/Kg	1	1/25/2018 12:01:59 PM	R48699
Xylenes, Total	ND	0.095	mg/Kg	1	1/25/2018 12:01:59 PM	R48699
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	1	1/25/2018 12:01:59 PM	R48699
Surr: Toluene-d8	96.9	70-130	%Rec	1	1/25/2018 12:01:59 PM	R48699

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 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1801B70

Date Reported: 1/26/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: CS-2

 Project:
 Payne A 1E
 Collection Date: 1/24/2018 2:00:00 PM

 Lab ID:
 1801B70-002
 Matrix: SOIL
 Received Date: 1/25/2018 7:00:00 AM

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	190	30	mg/Kg	20	1/25/2018 10:50:26 AM	36194
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	1/25/2018 11:38:59 AM	g48699
Surr: BFB	105	70-130	%Rec	1	1/25/2018 11:38:59 AM	g48699
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	1/25/2018 11:56:49 AM	36191
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	1/25/2018 11:56:49 AM	36191
Surr: DNOP	105	70-130	%Rec	1	1/25/2018 11:56:49 AM	36191
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	AG
Benzene	ND	0.020	mg/Kg	1	1/25/2018 11:38:59 AM	R48699
Toluene	ND	0.040	mg/Kg	1	1/25/2018 11:38:59 AM	R48699
Ethylbenzene	ND	0.040	mg/Kg	1	1/25/2018 11:38:59 AM	R48699
Xylenes, Total	ND	0.080	mg/Kg	1	1/25/2018 11:38:59 AM	R48699
Surr: 4-Bromofluorobenzene	110	70-130	%Rec	1	1/25/2018 11:38:59 AM	R48699
Surr: Toluene-d8	95.1	70-130	%Rec	1	1/25/2018 11:38:59 AM	R48699

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 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1801B70

Date Reported: 1/26/2018

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: CS-3

Project:

Payne A 1E

Collection Date: 1/24/2018 2:10:00 PM

**Lab ID:** 1801B70-003

Matrix: SOIL

Received Date: 1/25/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	230	30	mg/Kg	20	1/25/2018 11:02:50 AM	36194
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst	AG
Gasoline Range Organics (GRO)	8.1	3.8	mg/Kg	1	1/25/2018 12:24:57 PM	g48699
Surr: BFB	113	70-130	%Rec	1	1/25/2018 12:24:57 PM	g48699
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/25/2018 12:18:50 PM	36191
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/25/2018 12:18:50 PM	36191
Surr: DNOP	106	70-130	%Rec	1	1/25/2018 12:18:50 PM	36191
EPA METHOD 8260B: VOLATILES S	SHORT LIST				Analyst	AG
Benzene	ND	0.019	mg/Kg	1	1/25/2018 12:24:57 PM	R48699
Toluene	ND	0.038	mg/Kg	1	1/25/2018 12:24:57 PM	R48699
Ethylbenzene	ND	0.038	mg/Kg	1	1/25/2018 12:24:57 PM	R48699
Xylenes, Total	ND	0.076	mg/Kg	1	1/25/2018 12:24:57 PM	R48699
Surr: 4-Bromofluorobenzene	119	70-130	%Rec	1	1/25/2018 12:24:57 PM	R48699
Surr: Toluene-d8	102	70-130	%Rec	1	1/25/2018 12:24:57 PM	R48699

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 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1801B70

Date Reported: 1/26/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: CS-4

 Project:
 Payne A 1E
 Collection Date: 1/24/2018 2:20:00 PM

 Lab ID:
 1801B70-004
 Matrix: SOIL
 Received Date: 1/25/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	480	30	mg/Kg	20	1/25/2018 11:15:14 AM	36194
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	1/25/2018 12:47:57 PM	g48699
Surr: BFB	104	70-130	%Rec	1	1/25/2018 12:47:57 PM	g48699
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	;			Analyst	TOM
Diesel Range Organics (DRO)	ND	8.7	mg/Kg	1	1/25/2018 12:40:47 PM	36191
Motor Oil Range Organics (MRO)	ND	43	mg/Kg	1	1/25/2018 12:40:47 PM	36191
Surr: DNOP	103	70-130	%Rec	1	1/25/2018 12:40:47 PM	36191
EPA METHOD 8260B: VOLATILES SHO	ORT LIST				Analyst	AG
Benzene	0.047	0.022	mg/Kg	1	1/25/2018 12:47:57 PM	R48699
Toluene	ND	0.044	mg/Kg	1	1/25/2018 12:47:57 PM	R48699
Ethylbenzene	ND	0.044	mg/Kg	1	1/25/2018 12:47:57 PM	R48699
Xylenes, Total	ND	0.088	mg/Kg	1	1/25/2018 12:47:57 PM	R48699
Surr: 4-Bromofluorobenzene	109	70-130	%Rec	1	1/25/2018 12:47:57 PM	R48699
Surr: Toluene-d8	95.5	70-130	%Rec	1	1/25/2018 12:47:57 PM	R48699

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 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Client Sample ID: CS-5

### Lab Order 1801B70

Date Reported: 1/26/2018

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Project: Payne A 1E Collection Date: 1/24/2018 2:30:00 PM

Lab ID: 1801B70-005 Matrix: SOIL Received Date: 1/25/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst:	MRA
Chloride	220	30	mg/Kg	20	1/25/2018 11:52:27 AM	36194
EPA METHOD 8015D MOD: GASOLINI	ERANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	19	mg/Kg	5	1/25/2018 1:11:02 PM	g48699
Surr: BFB	101	70-130	%Rec	5	1/25/2018 1:11:02 PM	g48699
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	6			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/25/2018 1:02:53 PM	36191
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/25/2018 1:02:53 PM	36191
Surr: DNOP	107	70-130	%Rec	1	1/25/2018 1:02:53 PM	36191
EPA METHOD 8260B: VOLATILES SH	ORT LIST				Analyst	AG
Benzene	ND	0.095	mg/Kg	5	1/25/2018 1:11:02 PM	R48699
Toluene	ND	0.19	mg/Kg	5	1/25/2018 1:11:02 PM	R48699
Ethylbenzene	ND	0.19	mg/Kg	5	1/25/2018 1:11:02 PM	R48699
Xylenes, Total	ND	0.38	mg/Kg	5	1/25/2018 1:11:02 PM	R48699
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	5	1/25/2018 1:11:02 PM	R48699
Surr: Toluene-d8	97.0	70-130	%Rec	5	1/25/2018 1:11:02 PM	R48699

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

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1801B70

26-Jan-18

Client:

APEX TITAN

Project:

Payne A 1E

Sample ID MB-36194

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 36194

RunNo: 48696 SeqNo: 1567091

Units: mg/Kg

Prep Date: Analyte

Analysis Date: 1/25/2018 Result PQL

SPK value SPK Ref Val %REC LowLimit

HighLimit

%RPD **RPDLimit**  Qual

Chloride

ND 1.5

Sample ID LCS-36194 LCSS

1/25/2018

1/25/2018

SampType: Ics

Batch ID: 36194

PQL

TestCode: EPA Method 300.0: Anions

RunNo: 48696

SeqNo: 1567092

Units: mg/Kg

Prep Date: Analyte

Client ID:

Analysis Date: 1/25/2018

SPK value SPK Ref Val

%REC LowLimit

HighLimit

110

**RPDLimit** Qual

Chloride

%RPD

14 1.5 15.00 0 93.3

### 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

% 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

P RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 6 of 10

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1

1801B70 26-Jan-18

Client:

APEX TITAN

Project:

Payne A 1E

Sample ID LCS-36191	SampTy	pe: LCS	3	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 361	91	RunNo: 48688						
Prep Date: 1/25/2018	Analysis Da	ite: 1/2	25/2018	SeqNo: <b>1566249</b> Units: <b>mg/Kg</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.2	70	130			
Surr: DNOP	4.6		5.000		91.1	70	130			
Sample ID MB-36191	SampTy	pe: MB	LK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	91	RunNo: 48688								
Prep Date: 1/25/2018	5	SeqNo: 1	566250	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	10		10.00		100	70	130			
Sample ID 1801B70-001AMS	SampTy	pe: MS		Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: CS-1	Batch	ID: <b>361</b>	91	F	RunNo: 4	8688				
Prep Date: 1/25/2018	Analysis Da	ate: 1/2	25/2018	5	SeqNo: 1566437 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	9.5	47.48	0	103	55.8	125			
Surr: DNOP	4.8		4.748		102	70	130			
Sample ID 1801B70-001AMS	D SampTy	pe: MS	D	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	

Sample ID	1801B70-001AMSD	SampTy	pe: <b>M</b> \$	SD	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID:	CS-1	Batch	D: 36	191	R	lunNo: 4	8688				
Prep Date:	1/25/2018	S	eqNo: 1	566438	Units: mg/k	(g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range (	Organics (DRO)	54	10	50.66	0	106	55.8	125	9.27	20	
Surr: DNOP		5.2		5.066		103	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 7 of 10

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1801B70

26-Jan-18

Client:	APEX TITAN
Project:	Payne A 1E

Project: Payne A	1E									
Sample ID 100ng btex Ics	SampT	ype: LC	S4	Test	Code: El	PA Method	8260B: Volat	iles Short	List	
Client ID: BatchQC	Batch	ID: R4	8699	R	tunNo: 4	8699				
Prep Date:	Analysis D	ate: 1/	25/2018	S	eqNo: 1	566460	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.5	80	120			
Toluene	0.99	0.050	1.000	0	99.2	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.4	80	120			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.2	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			
Sample ID rb	SampT	ype: ME	BLK	TestCode: EPA Method 8260B: Volatiles Short List						
Client ID: PBS	Batch	n ID: R4	8699	RunNo: 48699						
Prep Date:	Analysis Date: 1/25/2018			S	SeqNo: 1	566461	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.55		0.5000		110	70	130			
					110	70				
Surr: Toluene-d8	0.50		0.5000		101	70	130			
Surr: Toluene-d8  Sample ID 1801b70-002ams	0.50	ype: MS	0.5000	Tes	101	70		tiles Short	List	
	0.50 SampT	ype: M\$	0.5000		101	70 PA Method	130	tiles Short	List	
Sample ID 1801b70-002ams	0.50 SampT	n ID: R4	0.5000	F	101 tCode: E	70 PA Method 8699	130		List	
Sample ID 1801b70-002ams Client ID: CS-2	0.50 SampT Batch	n ID: R4	0.5000 64 8699 (25/2018	F	101 tCode: E	70 PA Method 8699 566690 LowLimit	130  8260B: Volate  Units: mg/k  HighLimit		: <b>List</b> RPDLimit	Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date:	0.50  SampT  Batch  Analysis E	n ID: <b>R4</b> Date: 1/	0.5000 64 8699 (25/2018	F	101 tCode: El RunNo: 4 SeqNo: 1 %REC 90.8	70 PA Method 8699 566690	8260B: Volati Units: mg/k HighLimit	(g		Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte	0.50  SampT  Batch  Analysis E  Result	n ID: R4 Date: 1/	0.5000 64 8699 25/2018 SPK value	SPK Ref Val	101 tCode: El RunNo: 4 SeqNo: 1 %REC	70 PA Method 8699 566690 LowLimit	130  8260B: Volate  Units: mg/k  HighLimit	(g		Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene	0.50  SampT  Batch  Analysis E  Result  0.73	PQL 0.020	0.5000 64 8699 (25/2018 SPK value 0.8006	SPK Ref Val 0.007622	101 tCode: El RunNo: 4 SeqNo: 1 %REC 90.8	70 PA Method 8699 566690 LowLimit 80	130  8260B: Volate  Units: mg/k  HighLimit  120  120  120	(g		Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	0.50  SampT  Batch  Analysis E  Result  0.73  0.77  0.77  2.2	PQL 0.040	0.5000 64 8699 25/2018 SPK value 0.8006 0.8006 0.8006 2.402	SPK Ref Val 0.007622 0	101 tCode: ERUNO: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7	70  PA Method 8699  566690  LowLimit 80 80 80 80	130  8260B: Volati  Units: mg/k  HighLimit  120  120  120  120	(g		Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	0.50  SampT  Batch  Analysis E  Result  0.73  0.77  0.77  2.2  0.39	PQL 0.020 0.040 0.040	0.5000 64 8699 25/2018 SPK value 0.8006 0.8006 0.8006 2.402 0.4003	SPK Ref Val 0.007622 0	101 tCode: ERUNO: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0	70  PA Method 8699  566690  LowLimit 80 80 80 80 70	130  8260B: Volate  Units: mg/k  HighLimit  120 120 120 120 130	(g		Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	0.50  SampT  Batch  Analysis E  Result  0.73  0.77  0.77  2.2	PQL 0.020 0.040 0.040	0.5000 64 8699 25/2018 SPK value 0.8006 0.8006 0.8006 2.402	SPK Ref Val 0.007622 0	101 tCode: ERUNO: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7	70  PA Method 8699  566690  LowLimit 80 80 80 80	130  8260B: Volati  Units: mg/k  HighLimit  120  120  120  120	(g		Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	0.50  SampT  Batch  Analysis D  Result  0.73  0.77  0.77  2.2  0.39  0.38	PQL 0.020 0.040 0.040	0.5000 64 8699 25/2018 SPK value 0.8006 0.8006 0.8006 2.402 0.4003 0.4003	SPK Ref Val 0.007622 0 0 0.01830	101 tCode: ERUNO: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0 96.1	70  PA Method 8699  566690  LowLimit 80 80 80 70 70	130  8260B: Volate  Units: mg/k  HighLimit  120 120 120 120 130	<b>%</b> RPD	RPDLimit	Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Surr: Toluene-d8	0.50  SampT  Batch  Analysis D  Result  0.73  0.77  0.77  2.2  0.39  0.38  ad SampT	PQL 0.020 0.040 0.040 0.080	0.5000 64 8699 25/2018 SPK value 0.8006 0.8006 0.8006 2.402 0.4003 0.4003	SPK Ref Val 0.007622 0 0 0.01830	101 tCode: ERUNO: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0 96.1	70 PA Method 8699 566690  LowLimit 80 80 80 70 70 PA Method	130  8260B: Volate  Units: mg/k  HighLimit  120 120 120 120 130 130	<b>%</b> RPD	RPDLimit	Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Surr: Toluene-d8  Sample ID 1801b70-002ams	0.50  SampT  Batch  Analysis D  Result  0.73  0.77  0.77  2.2  0.39  0.38  ad SampT	PQL 0.020 0.040 0.040 0.080 Fype: MS	0.5000  64  8699  25/2018  SPK value  0.8006  0.8006  2.402  0.4003  0.4003	SPK Ref Val 0.007622 0 0 0.01830	101 tCode: E RunNo: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0 96.1 tCode: E	70 PA Method 8699 566690 LowLimit 80 80 70 70 PA Method 8699	130  8260B: Volate  Units: mg/k  HighLimit  120 120 120 120 130 130	%RPD	RPDLimit	Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Surr: Toluene-d8  Sample ID 1801b70-002ams Client ID: CS-2	0.50  SampT  Batch  Analysis E  Result  0.73  0.77  0.77  2.2  0.39  0.38  sd SampT  Batch	PQL 0.020 0.040 0.040 0.080 Fype: MS	0.5000  64  8699  25/2018  SPK value  0.8006  0.8006  2.402  0.4003  0.4003	SPK Ref Val 0.007622 0 0 0.01830	101 tCode: E RunNo: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0 96.1 tCode: E RunNo: 4	70 PA Method 8699 566690 LowLimit 80 80 70 70 PA Method 8699	130  8260B: Volate Units: mg/k HighLimit 120 120 120 130 130 8260B: Volate Units: mg/k HighLimit	%RPD tilles Short  %RPD	RPDLimit	Qual
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Surr: Toluene-d8  Sample ID 1801b70-002ams Client ID: CS-2 Prep Date:	O.50  SampT Batch Analysis D Result 0.73 0.77 0.77 2.2 0.39 0.38  d SampT Batch Analysis D	PQL 0.020 0.040 0.080 0.	0.5000  64  8699  25/2018  SPK value  0.8006  0.8006  2.402  0.4003  0.4003	SPK Ref Val 0.007622 0 0 0.01830 Tes	101 tCode: ERUNO: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0 96.1 tCode: ERUNO: 4 SeqNo: 1	70 PA Method 8699 566690  LowLimit 80 80 80 70 70 PA Method 8699 566691	130  8260B: Volate Units: mg/k HighLimit 120 120 120 130 130 130  8260B: Volate Units: mg/k	%RPD	RPDLimit	
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Surr: Toluene-d8  Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte	O.50  SampT Batch Analysis D Result 0.73 0.77 0.77 2.2 0.39 0.38  d SampT Batch Analysis D Result	PQL 0.020 0.040 0.080 0.	0.5000  64  8699  25/2018  SPK value  0.8006  0.8006  2.402  0.4003  0.4003  6D4  8699  25/2018  SPK value	SPK Ref Val 0.007622 0 0 0.01830 Tes F	101 tCode: E RunNo: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0 96.1 tCode: E RunNo: 4 %REC 85.3 92.7	70 PA Method 8699 566690  LowLimit 80 80 70 70 PA Method 8699 566691  LowLimit	130  8260B: Volati  Units: mg/k  HighLimit  120 120 120 130 130  8260B: Volati  Units: mg/k  HighLimit  120 120	%RPD  %RPD  6.14  3.82	RPDLimit  List  RPDLimit	
Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Surr: Toluene-d8  Sample ID 1801b70-002ams Client ID: CS-2 Prep Date: Analyte Benzene	O.50  SampT Batch Analysis D Result 0.73 0.77 0.77 2.2 0.39 0.38  ad SampT Batch Analysis D Result 0.69	PQL 0.020 0.040 0.080 0.	0.5000  64  8699  25/2018  SPK value  0.8006  0.8006  2.402  0.4003  0.4003  6D4  8699  25/2018  SPK value  0.8006	SPK Ref Val 0.007622 0 0.01830 Tes F SPK Ref Val 0.007622	101 tCode: E RunNo: 4 SeqNo: 1 %REC 90.8 96.3 96.7 90.7 98.0 96.1 tCode: E RunNo: 4 SeqNo: 1 %REC 85.3	70 PA Method 8699 566690  LowLimit 80 80 70 70 PA Method 8699 566691  LowLimit 80	130  8260B: Volate  Units: mg/k  HighLimit  120 120 120 130 130  8260B: Volate  Units: mg/k  HighLimit  120	%RPD tiles Short  (g %RPD 6.14	RPDLimit t List  RPDLimit 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 8 of 10

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

# Hall Environmental Analysis Laboratory, Inc.

0.39

WO#: 1801B70

26-Jan-18

APEX TITAN Client: Payne A 1E **Project:** 

Surr: Toluene-d8

Sample ID 1801b70-002amsd SampType: MSD4 TestCode: EPA Method 8260B: Volatiles Short List Client ID: CS-2 Batch ID: R48699 RunNo: 48699 Prep Date: Analysis Date: 1/25/2018 SeqNo: 1566691 Units: mg/Kg %RPD SPK value SPK Ref Val %REC HighLimit **RPDLimit** Qual Analyte Result PQL LowLimit Surr: 4-Bromofluorobenzene 0.39 0.4003 96.3 70 130 0 0 0

97.6

70

130

0

0.4003

### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

**PQL** Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1801B70

26-Jan-18

Client: Project: APEX TITAN

Payne A 1E

Sample ID 2.5ug gro lcs2						TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: LCSS	Batch	ID: g4	8699	R	RunNo: 4	8699						
Prep Date: Analysis Date: 1/25/2018			S	SeqNo: 1	566444	Units: mg/K	(g					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	70	130					
Surr: BFB	460		500.0		92.2	70	130					

Sample ID rb	SampT	ype: ME	BLK	TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: PBS	Batch	Batch ID: g48699			RunNo: 48699					
Prep Date:	Analysis Date: 1/25/2018				SeqNo: 1566445 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	530		500.0		105	70	130			

Sample ID 1801b70-001ams	SampT	pe: MS	6	Test	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: CS-1	Batch	ID: g4	8699	R	RunNo: 4	8699				
Prep Date:	Analysis Da	ate: 1/	25/2018	S	SeqNo: 1	566913	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Gasoline Range Organics (GRO)	27	4.7	23.74	2.631	101	64.7	142			
Surr: BFB	470		474.8		98.3	70	130			

Sample ID 18	01b70-001amsd	SampTy	SampType: MSD			TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: CS	5-1	Batch	D: <b>g4</b>	8699	R	tunNo: 4	8699					
Prep Date:		Analysis Da	te: 1/	25/2018	S	eqNo: 1	566914	Units: mg/K	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Or	rganics (GRO)	25	4.7	23.74	2.631	95.3	64.7	142	4.81	20		
Surr: BFB		460		474.8		97.1	70	130	0	0		

### Qualifiers:

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

Page 10 of 10

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



### Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

# Sample Log-In Check List

Client Name: A	APEX AZTE	C	Work	Order Numb	er: 180	B70			RcptNo:	1
Pagained Pur	Anne Thor	na	1/05/004	8 7:00:00 A	М		1	1		
Received By:							Cline	An-		
Completed By:	Anne Thor			8 7:19:16 A	M		an	the	_	
Reviewed By:	ENH	(	1/25	SIK						
Chain of Custo	ody									
1. Is Chain of Cus		ete?			Yes	$\checkmark$	No		Not Present	
2. How was the sa	ample delive	ered?			Clie	<u>nt</u>				
Log In			,		V		No		NA 🗆	
3. Was an attemp	t made to c	ool the sampl	es?		Yes	V	NO		NA L	
4. Were all sample	es received	at a temperat	ture of >0° C to	o 6.0°C	Yes	<b>V</b>	No		NA 🗆	ų.
5. Sample(s) in pr	oper contail	ner(s)?			Yes	✓	No			
6. Sufficient samp	le volume fo	or indicated te	est(s)?		Yes	V	No			
7. Are samples (ex	cept VOA a	and ONG) pro	perly preserve	d?	Yes	~	No			
8. Was preservativ	e added to	bottles?			Yes		No	✓	NA 🗆	
9. VOA vials have	zero heads	pace?			Yes		No		No VOA Vials <b></b> ✓	
10. Were any same			roken?		Yes		No	<b>V</b>		
									# of preserved bottles checked	
11. Does paperwork	k match bot	tle labels?			Yes	<b>V</b>	No		for pH:	
(Note discrepan	cies on cha	in of custody)	)						(<2 or Adjusted?	>12 unless noted)
12. Are matrices co					Yes	<b>V</b>	No		Adjusted	·
13. Is it clear what a			?		Yes	<b>V</b>	No	1	Chacked by:	
<ol><li>Were all holding (If no, notify cus</li></ol>					Yes	<b>V</b>	No		Checked by:	
Special Handlir	ng (if app	licable)								
15. Was client notif			vith this order?		Yes		No		NA 🗹	
Person N	lotified:	V.E.S.OC. DANCES CO. P. BANKS	teritalis mediaperati film invento sovver occurre	Date	PARATA TANA	C. COPET-VPALLERS	E-E-THE-BARANTER	SERVER OF STREET	v	
By Whom	n:	magan handan a san na daul di	ndh.treilde liter zu zwiederhäpungen der ist zue	Via:	eM	ail 📋	Phone [	Fax	In Person	
Regardin	g:	MELITARIE (EMINERALE) PRANTONIA (MILITARIA)	September and those a color of the september and the september and the september and the september as the se	CANADOS TRADOS DA	TATAN PARTY CANAL	WAREHUNING TH	DATE OF THE PARTY	LATE DAY OF THE	AND THE RESIDENCE OF THE PERSON OF THE PERSO	
Client Ins	tructions:	U.S. Parking has been been been been been been been bee	ALONE IN LABOR DE SERVICIO DE	s entre marient indicates a const	NAMES OF THE PARTY		ALALUTESTE PARENTE PER A PER AND	A CONTRACTOR OF THE PARTY OF TH	GALLINES AND SANDES AND MAINTENANT SAND STORMAN MARKET	
16. Additional rem	arks:									
CUSTOD	Y SEALS I	NTACT ON S	SOIL JARS/at 1	1/25/18						
17. Cooler Inform										
Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal D	ate	Signed	Ву		
			Yes	1 1					l .	

			CHA	AIN OF CUSTODY RECORD
APEX Office Location LODG & RID GUARRE Suite A, Azter NIM 87410 Project Manager K. Summers Sampler's Name Rance Deechilly	Laboratory: Analysi Address: 4901 H. Albuquergue, M. Contact: Attre	awkins NE vm 87109 vemun 5-3975	ANALYSIS REQUESTED  ANALYSIS REQUESTED  ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers /
Proj. No. Project Name		No/Type of Containers	BITX BITX	
Matrix Date Time C G I Identifying Ma	株 IE  rks of Sample(s)  tks of Sample(s)	VOA AVG 1 Lt. 250 ml Glass Jar P/O	749/////	
P b		> 4- 4 9- 1		Lab Sample ID (Lab Use Only)
S 124/8 1350 X CS		1	XXX	1801370-001
3 124 18 1400 X CS		3	XXX	702
3 124/18/14/0 X CS-		1	XXX	703
S 1/24/18/1420 X CS		1	XXX	704
S 1/24/18/1430 X CS	-5			745
	7.656			
	NES			
	150% Rush 100% Rush Time: Received by: (Signat	SAMEDI	, Time: NOTES:	
20 Day 124/18 14	45 / Jahne	1/24/15		()
	Time: Received by: (Signa	ture) Date:	Time: Bill to Tom Co.	ng (EPPOD)
	Time: Received by: (Signat		Time:	,
Relinquished by (Signature) Date:	Time: Received by: (Signat	ture) Date:	Time: SAME DAY	
		<u> </u>		
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/G - Amber / O	6 - Soil SD - Solld L - Liquid r Glass 1 Liter 250 ml -		rcoal tube SL - sludge 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

January 26, 2018

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

FAX

RE: Payne A 1E OrderNo.: 1801B71

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 1/25/2018 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 1801B71

Date Reported: 1/26/2018

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Payne A 1E

Client Sample ID: SP-1

Collection Date: 1/24/2018 2:45:00 PM

Project: Lab ID: 1801B71-001

Matrix: SOIL

Received Date: 1/25/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	360	30	mg/Kg	20	1/25/2018 12:04:52 PM	36194
EPA METHOD 8015D MOD: GASOL	NE RANGE				Analyst	AG
Gasoline Range Organics (GRO)	6.5	3.1	mg/Kg	1	1/25/2018 1:34:07 PM	g48699
Surr: BFB	105	70-130	%Rec	1	1/25/2018 1:34:07 PM	g48699
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	8.6	mg/Kg	1	1/25/2018 10:28:33 AM	36191
Motor Oil Range Organics (MRO)	ND	43	mg/Kg	1	1/25/2018 10:28:33 AM	36191
Surr: DNOP	108	70-130	%Rec	1	1/25/2018 10:28:33 AM	36191
<b>EPA METHOD 8260B: VOLATILES S</b>	SHORT LIST				Analyst	AG
Benzene	ND	0.015	mg/Kg	1	1/25/2018 1:34:07 PM	R48699
Toluene	ND	0.031	mg/Kg	1	1/25/2018 1:34:07 PM	R48699
Ethylbenzene	ND	0.031	mg/Kg	1	1/25/2018 1:34:07 PM	R48699
Xylenes, Total	ND	0.062	mg/Kg	1	1/25/2018 1:34:07 PM	R48699
Surr: 4-Bromofluorobenzene	111	70-130	%Rec	1	1/25/2018 1:34:07 PM	R48699
Surr: Toluene-d8	101	70-130	%Rec	1	1/25/2018 1:34:07 PM	R48699

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
- S % 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 Page 1 of 5
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1801B71

26-Jan-18

Client:

APEX TITAN

**Project:** 

Payne A 1E

Sample ID MB-36194

SampType: mblk

TestCode: EPA Method 300.0: Anions

PBS Client ID:

Batch ID: 36194

RunNo: 48696

Prep Date: 1/25/2018 Analysis Date: 1/25/2018

PQL

SeqNo: 1567091

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Analyte Chloride

ND 1.5

Sample ID LCS-36194

SampType: Ics

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

Batch ID: 36194

PQL

RunNo: 48696

Prep Date: 1/25/2018

Analysis Date: 1/25/2018

SeqNo: 1567092

Units: mg/Kg

Page 2 of 5

Analyte

Result

SPK value SPK Ref Val %REC

93.3

Result 14

15.00

LowLimit

%RPD HighLimit

Chloride

1.5

0

SPK value SPK Ref Val %REC LowLimit

**RPDLimit** Qual

90

110

Qualifiers:

H

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

Practical Quanitative Limit **PQL** 

S % 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 W

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1801B71

26-Jan-18

Client:

APEX TITAN

Project:

Payne A 1E

Sample ID LCS-36191	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch	ID: 36	191	R	RunNo: 4	8688				
Prep Date: 1/25/2018	Analysis Da	ate: 1/	25/2018	S	SeqNo: 1	566249	Units: mg/F	Κg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.2	70	130			
Surr: DNOP	4.6		5.000		91.1	70	130			

Sample ID MB-36191	SampT	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch	ID: <b>36</b> 1	191	R	RunNo: 4	8688					
Prep Date: 1/25/2018	Analysis D	ate: 1/2	25/2018	S	SeqNo: 1	566250	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	10		10.00		100	70	130				

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 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.

ND

ND

0.55

0.50

0.050

0.10

0.5000

0.5000

WO#: 1801B71

26-Jan-18

APEX TITAN Client: Project: Payne A 1E

Sample ID 100ng btex Ics	SampT	ype: LC	S4	Tes	tCode: El	PA Method	8260B: Volat	iles Short	List	
					RunNo: 4					
Client ID: BatchQC	Date	Batch ID: <b>R48699</b>								
Prep Date:	Analysis D	)ate: 1/	25/2018	S	SeqNo: 1	566460	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	90.5	80	120			
Toluene	0.99	0.050	1.000	0	99.2	80	120			
Ethylbenzene	0.97	0.050	1.000	0	97.5	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.4	80	120			
Surr: 4-Bromofluorobenzene	0.48		0.5000		95.2	70	130			
Surr: Toluene-d8	0.49		0.5000		97.7	70	130			
Sample ID rb	Sampl	уре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: Volat	tiles Short	List	
Client ID: PBS	Batcl	h ID: R4	8699	F	RunNo: 4	8699				
Prep Date:	Analysis [	Date: 1/	25/2018	5	SeqNo: 1	566461	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								

110

101

70

70

130

130

#### Qualifiers:

Ethylbenzene

Xylenes, Total

Surr: Toluene-d8

Surr: 4-Bromofluorobenzene

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 ND

**PQL** Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 4 of 5

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1801B71

26-Jan-18

Client: APEX TITAN
Project: Payne A 1E

Sample ID 2.5ug gro lcs2	SampT	ype: LC	S	Test	Code: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: LCSS	Batch	ID: g4	8699	R	unNo: 4	8699				
Prep Date:	Analysis D	ate: 1/	25/2018	S	eqNo: 1	566444	Units: mg/k	⟨g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	111	70	130			
Surr: BFB	460		500.0		92.2	70	130			

Sample ID rb	SampTy	pe: MB	LK	Test	Code: El	PA Method	8015D Mod:	Gasoline l	Range	
Client ID: PBS	Batch	ID: g48	8699	R	lunNo: 4	8699				
Prep Date:	Analysis Da	ate: 1/2	25/2018	S	eqNo: 1	566445	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	530		500.0		105	70	130			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 5 of 5



### 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	: 180	1B71		RcptNo:	1
Received By:	Anne Thome	1/25/2018 7:00:00 AM	ľ		D 1		
No. 14 (1995)	Anne Thome	1/25/2018 7:29:15 AM			Avne St. Avne St.	•	
Completed By:		-	1		Clane St.		
Reviewed By:	ENM	1/25/18					
Chain of Cus	etody						
	ustody complete?		Yes	<b>V</b>	No 🗆	Not Present	
	sample delivered?		Cou				
2. 11011 1100 1110							
Log In					$\Box$	🗆	£
<ol><li>Was an atten</li></ol>	npt made to cool the sample	es?	Yes	<b>V</b>	No 🗌	NA 🗆	
4. Were all sam	ples received at a temperate	ure of >0° C to 6.0°C	Yes	<b>V</b>	No 🗆	NA 🗆	
.,							
5. Sample(s) in	proper container(s)?		Yes	<b>V</b>	No 🗌		
6 Sufficient san	nple volume for indicated tes	at(s)?	Yes	~	No 🗌		
	(except VOA and ONG) proj		Yes	<b>✓</b>	No 🗆		
	ative added to bottles?	,	Yes		No 🗸	NA 🗆	
						_	
9. VOA vials hav	ve zero headspace?		Yes		No 🗆	No VOA Vials 🗹	
10. Were any sai	mple containers received bro	oken?	Yes		No 🗹	# of preserved	
11 Door person	ork match bottle labels?		Yes		No 🗆	bottles checked for pH:	
	ancies on chain of custody)		162		110		>12 unless noted)
12. Are matrices	correctly identified on Chain	of Custody?	Yes	<b>V</b>	No 🗌	Adjusted?	
13. Is it clear wha	at analyses were requested?		Yes	$\checkmark$	No 🗌		
	ing times able to be met?		Yes	<b>V</b>	No 🗌	Checked by:	
(If no, notify o	sustomer for authorization.)						
Special Hand	ling (if applicable)						
15. Was client no	otified of all discrepancies w	ith this order?	Yes		No 🗆	NA 🗹	-
Person	Notified:	Date	VUIDLIEAU	AND DESCRIPTIONS	Charles St. March St. Advantage of St. Communication of St. Communicatio	er.	į
By Wh	om:	Anapitamananan minanan Autoritat	_	ail 🗌	Phone Fax	In Person	P
Regard	ling:		ALLIANA	Miles John Anthon Reservation	armer verificación com com contra con		
Client I	nstructions:	agagus akas ta sang sang akan sang akan mang akan ng sang akan ng akan ng akan ng akan ng ang matanik.	ena, in productive season	AND SOMEON AND A STREET	CAN BERCOLLE, PRICES AN ANTICORPORCIS AL ANNIA.	On The Control of the	
16. Additional re	emarks:						
CUSTO	DDY SEAL INTACT ON SOI	L JAR/at 1/25/18					
17. Cooler Info							
Cooler No	Temp °C   Condition		Seal D	ate	Signed By		
1	1.0 Good	Yes				a management	

				CHAIN OF CUSTODY RECORD
*	Hall E Laboratory: Anal	invironmenta (	ANALYSIS REQUESTED	Lab use only Due Date:
APEX	Address: 4901 H	awkins NE		Temp. of coolers /- O
Office Location	Albuqueoque Contact: A. Fre	NM 87109		when received (C°):
606 Si Rio Grande	Contact: A Fre	eeman	_	1 2 3 4 5
Suite A. Aztec/NM 87410	Phone: 305-34	15-3975		/ / / Pageof
Project Manager K.Summers	PO/SO#: _ See n		_   8/9 /	
Sampler's Name Ranee Deechilly	Sampler's Signature		BITE CONTRACTOR	
Project Name	1	No/Type of Containers		
Payne A	+HE			
Matrix Date Time C G / dentifying Ma	arks of Sample(s)	VOA VOA 1 Lt. 250 ml Glass Jar		Lab Sample ID (Lab Use Only)
S 1/24/18/1445 X SQ	H		$\times \times \times$	1501B71-001
	MS			
	⊒ 50% Rush		V	
hishes 124/18 11	Time: Received by: (Sign	nature) Date:	/ Time: NOTES:	(======================================
Must Wale 1124/13/19	Time: Received by: (Sign	In oltas		11 to Ton Long (EPPOD)
Reinquished by (Signature) /Date:	Time: Received by: (Sign	nature) Date:	Time:	O AV
Relinquished by (Signature) Date:	Time: Received by: (Sign	nature) Date:	Time: SAME	
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/G - Amber / 0			Charcoal tube SL - sludge - Plastic or other	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

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

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

NMOCD	Form C-141
MAD 4.0 0046	Revised April 3, 2017
Submit 1 Copy to appr in accordance v	opriate District Office with 19.15.29 NMAC.
DISTRICT III	

# **Release Notification and Corrective Action**

					OP	<b>ERATOF</b>	3		] Initial F	Report	$\boxtimes$	Final Repo	rt
					Contact Thomas Long								
Address 61	4 Reilly A	ve, Farmir	ngton, NI	VI 87401		Telephone No. 505-599-2286							
Facility Name Val Verde Plant Facility Type Natural Gas Metering Processing Plant													
Surface Owner <b>Private</b> Mineral Owner				)wner l	BLM Serial No. N/A				7				
LOCATION OF BELEASE													
Unit Letter	Section	Township	Range		OCATION OF RELEASE  from North outh Feet from East Vest County						٦		
A	14	29N	11W	the	Line	ouui	the	Line	Vest	San Juan			
				1030			981						
Latitude 36.730042 Longitude -107.955263 NAD83													
		Lo	alliuue_ <u>5t</u>										
NATURE OF RELEASE							_						
Type of Release Water/Amine(approximately 98% water) solution				Volume of Release Estimated Volume Recovered None 190 Barrels									
Source of Release Equipment Malfunction				The Party of the P	Date and Hour of Occurrence 1/25/2018 @ 11:32 a.m. Date and Hour of Discovery 1/25/2018 @ 11:32 a.m.				ery				
Was Immed	iate Notice	Given?					Whom? : Notif	fication					1
			Yes	☐ No ☐ N	lot								
Required													
By Whom? Thomas Long D					Date and Hour January 25, 2018 @ 6:20 p.m.								
Was a Watercourse Reached?					If YES, Volume Impacting the Watercourse.								
☐ Yes ☒ No													
If a Watercourse was Impacted, Describe Fully.*													
Describe Cause of Problem and Remedial Action Taken.* On January 25, 2018, during startup of Train 5 an Water/Amine (approximately													
98% water) solution was ejected from the knockout tank vent stack onto the ground surface. An estimated 190 barrels of Water/Amine													
solution were released.  Describe Area Affected and Cleanup Action Taken.* Fluids release flowed approximately 315 feet south of the knockout tank vent stack.													
Total area impacted by the released fluids was approximately 50 feet wide by 315 feet long. A third party conducted an investigation. Soil													
samples were collected for laboratory analysis. No chemicals of concern were identified to exceed New Mexico Oil Conservation Division													
soil remediation standards. A third party investigation report is included with this "Final" C-141.													
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD													
rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not													
relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to													
ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the													
operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.						4							
			OIL CONSERVATION DIVISION										
Signature: Turk													
1				Approved by Environmental Specialist:									
Printed Name: Jon E. Fields								4					
Title: Directo	r. Environn	nental				Approval Da	te: 5/8/19	<   F	Expiration	Date:			
. Ido. Dirocto	.,	ioniui			'	pprovar Da	0.0/9/	, , ,	-Aprilatio(I				-
E-mail Address: jefields@eprod.com				Conditions of Approval:  Attached □									
Date: 3 /7 /70 \( \text{Phone: (713) 381-6684} \)													

\* Attach Additional Sheets If Necessary







### **ENVIRONMENTAL SITE INVESTIGATION REPORT**

Property:

Val Verde Plant Water/Amine Release (1/25/2018) NE ¼, S14 T29N R11W San Juan County, New Mexico

> February 22, 2018 Apex Project No. 725040112384

NMOCD

MAR 1 2 2018

DISTRICT III

Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager/Senior Geologist

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### **ENVIRONMENTAL SITE INVESTIGATION REPORT**

Val Verde Plant Water/Amine Release (1/25/2018)

NE ¼, S14 T29N R11W

San Juan County, New Mexico

Apex Project No. 725040112384

### 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Val Verde Plant water/amine release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) Val Verde Plant facility in the northeast (NE ¼) of Section 14, Township 29 North, Range 11 West, in San Juan County, New Mexico (36.730042N, 107.955263W). The Site is located on private land controlled by Enterprise. The surroundings are predominately characterized by petroleum gathering, processing, and sales facilities.

A release of water from a knock out tank occurred on January 25, 2018. Approximately 190 barrels (bbls) of water were released from the knock out tank and flowed south over the ground surface for approximately 308 feet. The water potentially contained trace amounts of amine.

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

### 1.2 Project Objective

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

#### 2.0 SITE RANKING

In accordance with the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) *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.



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

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

- Numerous wells are identified within a mile radius of the Site on the OSE Water Right Reporting System (WRRS) database. The nearest water well (SJ 03164) with a recorded depth to water is located approximately 0.4 miles south of the Site, at a lower elevation, with a depth to water of 56 feet below grade surface (bgs). However, based on data from a groundwater monitoring network located approximately 1,300 feet west of the Site, the depth to groundwater in the vicinity of the Site is anticipated to be less than 50 feet bgs, resulting in 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".
- Hare Canyon Arroyo is located approximately 1,610 feet east of the Site. An irrigation ditch is located approximately 1,531 feet south of the Site and a small ephemeral wash, which is identified as a "blue line" on the United States Geological Survey topographic map, is located approximately 1,191 feet west of the Site. This information supports a distance to surface water ranking score of "0".

#### 3.0 FIELD ACTIVITIES

# 3.1 Flow Path Soil Sampling

On January 29, 2018, Apex collected a total of seven (7) composite soil samples (FP-1 through FP-7) along the release flow path for laboratory analysis. Each composite sample comprised of five (5) aliquots collected at approximately 10-foot increments along the flow path.

Enterprise coordinated with the New Mexico EMNRD OCD prior to the initiation of field activities to determine appropriate sample collection points and laboratory analytical methods. The extent of the total flow path measured approximately 308 feet in length and two (2) to 50 feet in width.

**Figures 3** indicates the approximate soil sample locations in relation to the flow path (**Appendix A**). Photographic documentation of the field activities is included in **Appendix B**.



## 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collected of seven (7) composite soil samples (FP-1 through FP-7) from the flow path for laboratory analyses.

The composite soil samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied labels and custody seals, 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 Soil Laboratory Analytical Methods

In accordance with New Mexico EMNRD OCD recommendations to Enterprise, the composite soil samples were analyzed for TPH GRO/DRO/MRO using EPA SW-846 Method #8015.

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

#### 4.0 DATA EVALUATION

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

#### 4.1 Soil Samples

Apex compared the TPH concentrations or laboratory PQLs associated with the composite soil samples collected from the flow path to the New Mexico EMNRD OCD *Remediation Action Levels (RALs)*.

 The laboratory analyses of the composite soil samples collected from the flow path indicate combined TPH GRO/DRO/MRO concentrations below the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg.

Composite sample laboratory analytical results for soils are provided in Table 1 in Appendix C.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Val Verde Plant water/amine release site is located within the Enterprise Val Verde Plant facility in the NE ¼ of Section 14, Township 29 North, Range 11 West, in San Juan County, New Mexico. The Site is located on private land controlled by Enterprise. The surroundings are predominately characterized by petroleum gathering, processing, and sales facilities.

A release of water from a knock out tank occurred on January 25, 2018. Approximately 190 bbls of water were released from the knock out tank and flowed south over the ground surface for approximately 308 feet. The water potentially contained trace amounts of amine.



- The primary objective of the ESI was to evaluate if COCs from the surface release affected the shallow soils at concentrations above the applicable regulatory standards.
- A total of seven (7) composite soil samples were collected from the flow path for laboratory analysis. Based on analytical results, soils remaining in place do not exhibit concentrations of COCs that are detectable by EPA SW-846 Method #8015 above the New Mexico EMNRD OCD RALs for Site a ranking score of "20".

# 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.

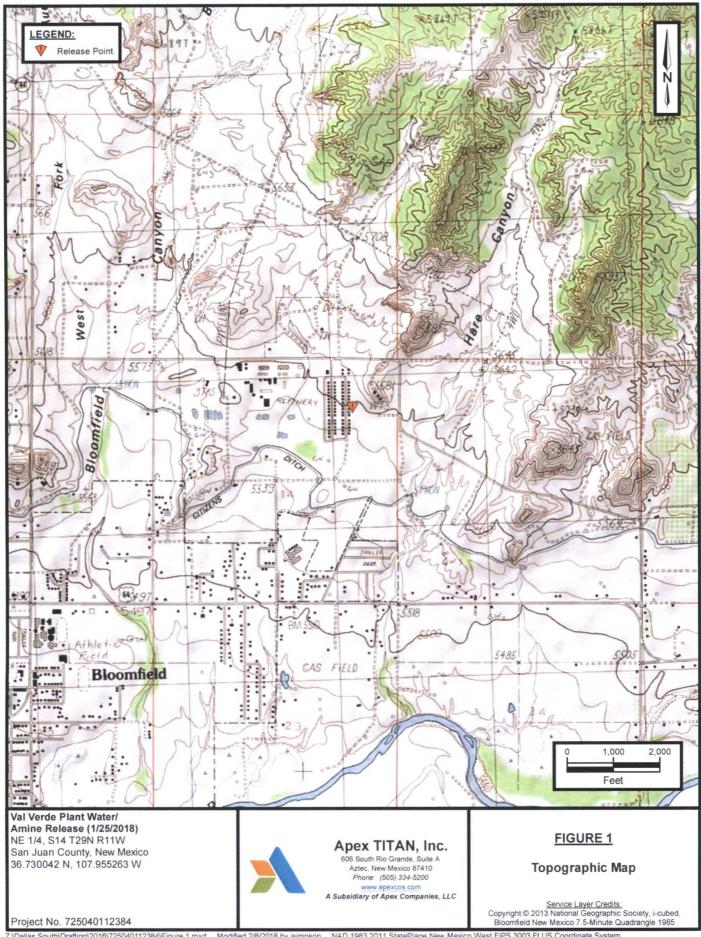
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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





Val Verde Plant Water/ Amine Release (1/25/2018) NE 1/4, S14 T29N R11W San Juan County, New Mexico 36.730042 N, 107.955263 W



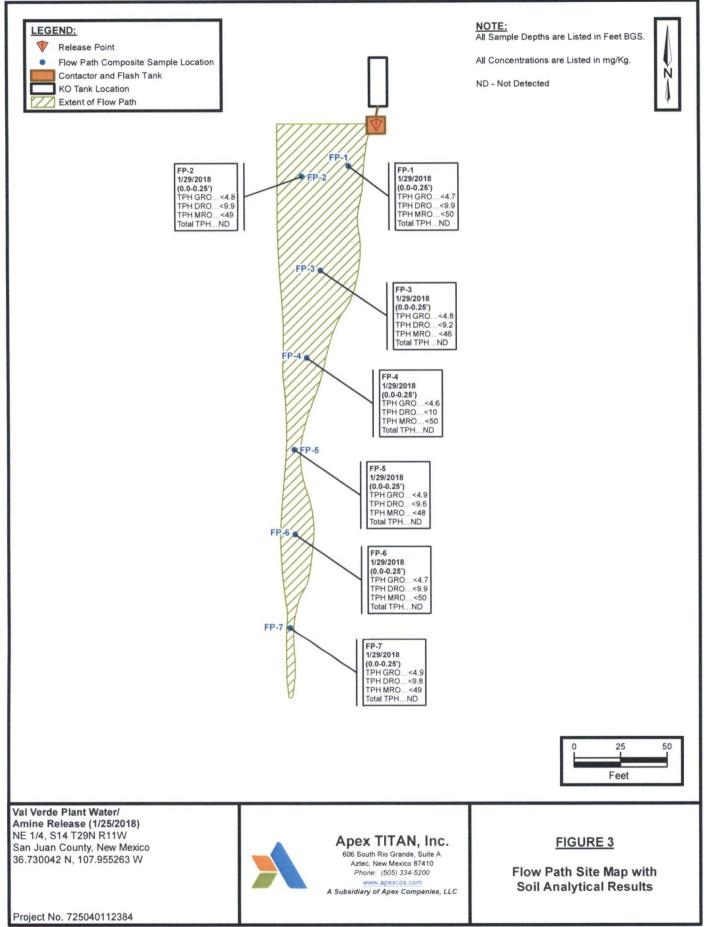
Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200

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 2017





APPENDIX B

Photographic Documentation





# Photograph 1

View of the flow path, facing north.



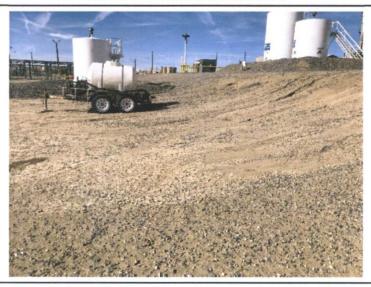
# Photograph 2

View of the flow path, facing north.



# Photograph 3

View of the flow path, facing west.





# SITE PHOTOGRAPHS

Val Verde Water/Amine Release (1/25/2018)

# Photograph 4

View of the flow path, facing south.





APPENDIX C

Table



# TABLE 1 Val Verde Plant Water/Amine Release (1/25/2018) SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (mg/kg)
		& Natural Resource n, Remediation Ac	tion Level				100
			Compos	ite Soil Samples			
FP-1	01.29.18	С	0 to 0.25	<4.7	<9.9	<50	ND
FP-2	01.29.18	С	0 to 0.25	<4.8	<9.9	<49	ND
FP-3	01.29.18	С	0 to 0.25	<4.8	<9.2	<46	ND
FP-4	01.29.18	С	0 to 0.25	<4.6	<10	<50	ND
FP-5	01.29.18	С	0 to 0.25	<4.9	<9.6	<48	ND
FP-6	01.29.18	С	0 to 0.25	<4.7	<9.9	<50	ND
FP-7	01.29.18	С	0 to 0.25	<4.9	<9.8	<49	ND

ND = Not Detected above the Practical Quantitation Limits

mg/kg = milligram per kilogram



Appendix D

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

February 06, 2018

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

TEL: (903) 821-5603

**FAX** 

RE: Val Verde Plant Water Amine Release OrderNo.: 1801D46

# Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 7 sample(s) on 1/30/2018 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued February 01, 2018.

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. 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. All samples are reported as received unless otherwise indicated.

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report Lab Order 1801D46

Date Reported: 2/6/2018

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-1

Project: \

Val Verde Plant Water Amine Release

Collection Date: 1/29/2018 11:00:00 AM

Lab ID:

1801D46-001

Matrix: SOIL

Received Date: 1/30/2018 7:00:00 AM

Analyses	Result	Result PQL Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/31/2018 1:04:47 PM	36275
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/31/2018 1:04:47 PM	36275
Surr: DNOP	88.7	70-130	%Rec	1	1/31/2018 1:04:47 PM	36275
EPA METHOD 8015D: GASOLINE RA				Analys	t: RAA	
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/31/2018 9:09:09 PM	36252
Surr: BFB	94.1	15-316	%Rec	1	1/31/2018 9:09:09 PM	36252

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

# Analytical Report Lab Order 1801D46

Date Reported: 2/6/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: FP-2

Project: Val Verde Plant Water Amine Release Collection Date: 1/29/2018 11:10:00 AM

Lab ID: 1801D46-002 Matrix: SOIL Received Date: 1/30/2018 7:00:00 AM

Analyses	Result	Result PQL Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/31/2018 1:32:36 PM	36275
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/31/2018 1:32:36 PM	36275
Surr: DNOP	90.9	70-130	%Rec	1	1/31/2018 1:32:36 PM	36275
EPA METHOD 8015D: GASOLINE R				Analys	: RAA	
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/31/2018 10:19:18 PM	1 36252
Surr: BFB	97.9	15-316	%Rec	1	1/31/2018 10:19:18 PM	1 36252

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# Lab Order 1801D46

Date Reported: 2/6/2018

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-3

Project: Val V

Val Verde Plant Water Amine Release

Collection Date: 1/29/2018 11:20:00 AM

Lab ID:

1801D46-003

Matrix: SOIL

Received Date: 1/30/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: ТОМ
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	1/31/2018 2:00:45 PM	36275
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/31/2018 2:00:45 PM	36275
Surr: DNOP	88.4	70-130	%Rec	1	1/31/2018 2:00:45 PM	36275
EPA METHOD 8015D: GASOLINE R				Analyst	: RAA	
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/31/2018 10:42:43 PM	36252
Surr: BFB	97.1	15-316	%Rec	1	1/31/2018 10:42:43 PM	36252

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
  - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Lab Order 1801D46

# Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/6/2018

CLIENT: APEX TITAN Client Sample ID: FP-4

Project: Val Verde Plant Water Amine Release Collection Date: 1/29/2018 11:30:00 AM

Lab ID: 1801D46-004 Matrix: SOIL Received Date: 1/30/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	1/31/2018 2:28:46 PM	36275
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/31/2018 2:28:46 PM	36275
Surr: DNOP	87.0	70-130	%Rec	1	1/31/2018 2:28:46 PM	36275
EPA METHOD 8015D: GASOLINE RA				Analyst	t: RAA	
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/31/2018 11:06:11 PM	1 36252
Surr: BFB	94.6	15-316	%Rec	1	1/31/2018 11:06:11 PM	1 36252

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

# Lab Order 1801D46

Date Reported: 2/6/2018

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: FP-5

Val Verde Plant Water Amine Release

Collection Date: 1/29/2018 11:40:00 AM

Lab ID:

1801D46-005

Matrix: SOIL

Received Date: 1/30/2018 7:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	i			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/31/2018 2:56:24 PM	36275
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/31/2018 2:56:24 PM	36275
Surr: DNOP	91.5	70-130	%Rec	1	1/31/2018 2:56:24 PM	36275
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/31/2018 11:29:36 PM	A 36252
Surr: BFB	95.6	15-316	%Rec	1	1/31/2018 11:29:36 PM	A 36252

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
- B Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 9 J
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

# **Analytical Report** Lab Order 1801D46

Date Reported: 2/6/2018

# Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: FP-6

Project: Val Verde Plant Water Amine Release

Collection Date: 1/29/2018 11:50:00 AM

Lab ID: 1801D46-006

**CLIENT: APEX TITAN** 

Matrix: SOIL

Received Date: 1/30/2018 7:00:00 AM

Analyses	Result	Result PQL Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	t: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/31/2018 3:24:30 PM	36275
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/31/2018 3:24:30 PM	36275
Surr: DNOP	86.6	70-130	%Rec	1	1/31/2018 3:24:30 PM	36275
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	t: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/31/2018 11:53:00 PM	A 36252
Surr: BFB	96.4	15-316	%Rec	1	1/31/2018 11:53:00 PM	A 36252

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 9

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

# Lab Order 1801D46 Date Reported: 2/6/2018

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: FP-7

Project: Val Verde Plant Water Amine Release Collection Date: 1/29/2018 12:00:00 PM

Lab ID: 1801D46-007 Matrix: SOIL Received Date: 1/30/2018 7:00:00 AM

Analyses	Result	Result PQL Qual Units		DF	Batch	
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: ТОМ
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/31/2018 4:21:10 PM	36275
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/31/2018 4:21:10 PM	36275
Surr: DNOP	89.5	70-130	%Rec	1	1/31/2018 4:21:10 PM	36275
EPA METHOD 8015D: GASOLINE RA				Analyst	RAA	
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	2/1/2018 12:16:20 AM	36252
Surr: BFB	94.9	15-316	%Rec	1	2/1/2018 12:16:20 AM	36252

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 9
- 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#:

1801D46

06-Feb-18

Client:

APEX TITAN

Project:

Val Verde Plant Water Amine Release

Project: Val Ver	de Plant Water Amine Release	; 
Sample ID LCS-36275	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 36275	RunNo: 48777
Prep Date: 1/30/2018	Analysis Date: 1/31/2018	SeqNo: 1570270 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	41 10 50.00	0 82.2 70 130
Surr: DNOP	4.5 5.000	90.8 70 130
Sample ID MB-36275	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 36275	RunNo: 48777
Prep Date: 1/30/2018	Analysis Date: 1/31/2018	SeqNo: 1570272 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10	
Motor Oil Range Organics (MRO)	ND 50	
Surr: DNOP	8.9 10.00	88.6 70 130
Sample ID LCS-36269	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 36269	RunNo: 48798
Prep Date: 1/30/2018	Analysis Date: 1/31/2018	SeqNo: 1570582 Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	5.0 5.000	99.0 70 130
Sample ID MB-36269	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 36269	RunNo: 48798
Prep Date: 1/30/2018	Analysis Date: 1/31/2018	SeqNo: 1570583 Units: %Rec
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	10 10.00	100 70 130

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 8 of 9

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#:

1801D46

06-Feb-18

**Client:** 

APEX TITAN

**Project:** 

Val Verde Plant Water Amine Release

10	SeqNue SPK Ref Val %I	%REC LowLimit 115 15	Units: %Rec HighLimit %RPI 316  8015D: Gasoline Ra		Qual				
PQL SPK value	ue SPK Ref Val %l	%REC LowLimit 115 15  ode: <b>EPA Method 8</b>	HighLimit %RPI		Qual				
10	00 TestCoo	115 15 ode: <b>EPA Method</b> 8	316		Qual				
	TestCoo	ode: EPA Method 8		nge					
Type: LCS			8015D: Gasoline Ra	nge					
SampType: LCS TestCode: EPA Method 8					d 8015D: Gasoline Range				
h ID: 36252									
Date: 1/31/2018	Seq	qNo: <b>1570843</b>	Units: mg/Kg						
PQL SPK val	ue SPK Ref Val %l	%REC LowLimit	HighLimit %RPI	RPDLimit	Qual				
5.0 25.	00 0	102 75.9	131						
	00	108 15	316						
		5.0 25.00 0 1000							

Sample ID	MD-30230	Samprype	MIDLE	ies	icode.	PA Wethod	ou ion: Gaso	line Kang	е		
Client ID:	PBS	Batch ID	36238	F	RunNo: 4	18820					
Prep Date:	1/29/2018	Analysis Date	1/31/2018	8	SeqNo: 1	1570844	Units: %Red	:			
Analyte		Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB		1000	1000		101	15	316				

Sample ID MB-36252	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch	ID: 362	252	R	unNo: 4	8820				
Prep Date: 1/30/2018	Analysis Da	ate: 1/3	31/2018	S	eqNo: 1	570845	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	940		1000		94.4	15	316			

# 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 9 of 9

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109

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

# Sample Log-In Check List

Client Name:	APEX AZTE	С	Work	Order Number	: 1801	D46			RcptNo:	1
Received By:	Anne Thor	ne	1/30/201	8 7:00:00 AM	Ę		anne	An	_	
Completed By:	Anne Thor	ne	1/30/201	8 7 <u>:</u> 15:31 AM	ı		1	An An		
Reviewed By:	ENM		1/30.	18			Cime	Ji.		
· · · · · · · · · · · · · · · · · · ·										
Chain of Cus	tody									
1. Is Chain of C		ete?			Yes	<b>V</b>	No		Not Present	
2. How was the sample delivered?					Couri	<u>er</u>				
Log In										
3. Was an atten	npt made to co	ool the samples	3?		Yes	<b>V</b>	No		NA 🗌	
		•								
4. Were all samp	ples received	at a temperatur	re of >0°C to	6.0°C	Yes	<b>✓</b>	No		NA 🗆	
F 0							No			
5. Sample(s) in	proper contair	ier(s)?			Yes	V	No			
6. Sufficient sam	ple volume fo	r indicated test	(s)?		Yes	<b>~</b>	No			
7. Are samples (	except VOA a	nd ONG) prope	erly preserve	d?	Yes	<b>V</b>	No			
Was preservative added to bottles?				Yes		No	<b>V</b>	NA 🗆		
						_				
9. VOA vials have zero headspace?				Yes		No		No VOA Vials ✓		
10. Were any sample containers received broken?				Yes		No	~	# of preserved		
11. Does paperwo	ork match bott	le laheis?			Yes	<b>V</b>	No		bottles checked for pH:	
(Note discrepa					, 00				(<2 or	>12 unless noted)
12. Are matrices of	correctly ident	fled on Chain o	of Custody?			<b>V</b>	No		Adjusted?	
13. Is it clear wha						<b>Y</b>	No		Charlend hu	
<ol> <li>Were all holdi</li> <li>(If no, notify c</li> </ol>	-				Yes	✓	No		Checked by:	
Special Handi									G	
15. Was client no	otified of all dis	crepancies wit	h this order?		Yes	Ц	No		NA 🗹	1
Person	Notified:		STATE OF THE STATE	Date		2022-200-201-004	act of the state o	manage of a		0.4
By Who	3	TOUR DATE OF THE PROPERTY OF T	AND THE RESERVE AND THE RESERV	Via: [	eMa	il 🔲	Phone _	] Fax	In Person	
Regard	-	THE WATER CONTRACT PARTY OF THE		Mark Straff of the Straff of t	PC840.38936.A.					
	nstructions:							-	50.30	
16. Additional re										
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17. Cooler Infor	21. 31.01.05	Condition	Seal Intact	Seal No	Seal Da	te	Signed	Bv		
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		CHAIN OF CUSTODY RECORD
-4	11.15	ANALYSIS / / / / Lab use only
	Hall Environmental	REQUESTED / / / / / Due Date:
APEX	Laboratory: Analysis Laboratery Address: M901 Hawkins NE	
		Temp. of coolers //O when received (C°):  1 2 3 4 5  Page
Office Location	Albuquerque, NM 87109	1 2 3 4 5
606 S. Rio Grande, Suite A	Contact: Ai Freeman	
AzteCINM 87410	Phone: 505-345-3975	Z / / / / Page - of -
Project Manager	PO/SO#: See notes	
Sampler's Name	Sampler's Signature	
1	Firehls	
Proj. No. Project Name	unt- Nater Amire Paleox	# / / / / /
725040112384 Val Verde Pla		<i> </i>
Matrix Date Time O r Identifying Ma	Start Depth Photos osynthesis of Start Oberth Photos osynthesis osynth	Lab Sample ID (Lab Use Only)
S 1/29/18 1100 X FP-	1	X 1801D46-00
S 1/29/18 1110 X FP-	2	X az
S 1/29/18 1120 X FP-	3	X 703
3 1/29/18 1130 X FP-	4	Y 704
S 1/29/18/1140 X FP-		X
S 1/29/18/1150 X FP-		206
	7	X
	NRS	
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Relinquished by (Signature)  Date: 12918	Time: Received by: (Signature) Date: 129/18	Time: NOTES: 1548  Day V = AB12598
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	Time: Preceived by: (Signature) Date:	0700 PM - Tom Long
	English Desired by (Circles)	Turn Around
Relinquished by (Signature) Date:	Time: Received by: (Signature) Date:	Time: 2/1)18
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/G - Amber / O		rocal tube SL - sludge O - Oil

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

State of New Mexico Energy Minerals and Natural Resources

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



Form C-141 Revised April 3, 2017

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



Santa Fe, NM 87505												
Release Notification and Corrective Action												
						PERATOR						
Name of Company Enterprise Field Services, LLC						Contact Thomas Long						
Address 614 Reilly Ave, Farmington, NM 87401 Facility Name Quinn 340S						Telephone No. 505-599-2286						
						Facility Type Natural Gas Metering Gathering Pipeline						
Surface Owner <b>Private</b> Mineral Owner					)wner I	BLM			Serial N	No. N/A		
LOCATIO					TION	OF REL	EASE					
Unit Letter <b>K</b>	Section 20	Township 31N	Range 8W	Feet from the 1505	Norti Line	South	Feet from the 1643	East/A Line	Ves	County San Juan	n	
		l a	atitude 36		ongitu	de -107.70	01861_NAD83					
			atitudo <u>o</u>			OF RELE						
Type of Rele	ease Natura	al Gas		IIAI	OIL	Volume of	Release 47.3 M BBLs Condens		Volume F	Recovered	None	
Source of R	elease Sus <sub>l</sub>	pected Intern	nal Corrosi	on			Hour of Occurre	nce		Hour of D		ery
Was Immed	iate Notice					12/20/2017 @ 1:30 p.m.   12/20/2017 @ 1:30 p.m.   If YES, To Whom? : Courtesy Notification Cory Smith - NMOCD						
Required			⊠ Yes	□ No □ N	lot							
By Whom? Thomas Long						Date and Hour December 20, 2017 @ 3:07 p.m.						
Was a Wate	rcourse Re	ached?	☐ Yes	⊠ No			lume Impacting					
16 144 4						<u> </u>						
If a Waterco	urse was In	npacted, Des	scribe Fully	y.* The release	e is loca	ated in a sm	all ephemeral wa	ash. No	fluids wei	re observe	ed on t	the ground
							17 Enterprise te ized, locked out					e on the
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD						to NMOCD						
rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases							r releases					
which may endanger public health or the environment. The acceptar					tance of a C-141 report by the NMOCD marked as "Final Report" does not adequately investigate and remediate contamination that pose a threat to							
ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the												
operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.												
( ), & / /,						OIL CONSERVATION DIVISION						
Signature:	IN	tus	4		<del></del>							-//
Printed Nam	e: Jon E. F	ields			/	Approved by Environmental Specialist:					4	
Title: Directo	or, Environm	nental				Approval Da	te: 5/9/18	- E	Expiration	Date:		
E-mail Addre	E-mail Address: jefields@eprod.com					Conditions of Approval: Attached						

\* Attach Additional Sheets If Necessary

Date:

2018

#NCS 180165 7017

Phone: (713) 381-6684





# **CORRECTIVE ACTION REPORT**

Property:

Quinn #340s Pipeline Release SW 1/4, S20 T31N R8W San Juan County, New Mexico NMOCD

MAR 1 2 2018

DISTRICT | | |

February 21, 2018 Apex Project No. 725040112367

Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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#### CORRECTIVE ACTION REPORT

Quinn #340s Pipeline Release SW 1/4, S20 T31N R8W San Juan County, New Mexico

Apex Project No. 725040112367

#### 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Quinn #340S pipeline release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the southwest (SW) ¼ of Section 20, Township 31 North, Range 8 West, in rural San Juan County, New Mexico (36.880316N,107.701861W). The Site is located on private land. The surrounding area is predominately 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 west to east.

On December 20, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On December 28, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential petroleum hydrocarbon impact resulting from the release. The pipeline was subsequently repaired and placed back into service.

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

## 1.2 Project Objective

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

#### 2.0 SITE RANKING

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



Rank	Ranking Score				
	<50 feet	20			
Depth to Groundwater	50 to 99 feet	10	10		
	>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	200 to 1,000 feet	10	20		
Body	>1,000 feet	0			
Total R		30			

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

- One (1) water well (SJ 00012) was identified within a mile of the Site on the OSE Water Right Reporting System (WRRS) database with a depth to water of 475 feet below grade surface (bgs). A spring is identified on the topographic map approximately 2000 feet west of the Site. Based on this information and the elevation of the spring, the depth to groundwater at the Site may be between 50 and 100 feet bgs. This information supports a ranking score of "10" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead/water source protection area ranking score of "0".
- The release point is located adjacent to 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 December 20, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On December 28, 2017, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential petroleum hydrocarbon impact resulting from the release. The pipeline was subsequently repaired and placed back into service. During the pipeline repair and corrective action activities, West States Energy Contactors Inc., provided heavy equipment and labor support, and Apex provided environmental consulting support.

On December 29, 2017, two (2) composite soil samples (S-1 and S-2) were collected from the sidewalls at the ends of the pipe chase for laboratory analysis. The excavation was extended approximately 35 feet to the east to facilitate additional pipeline repair activities. During pipeline repairs, a second release was identified and was subsequently repaired. On January 4, 2018, ten (10) composite soil samples (S-3 through S-12) were collected from the sidewalls and base of the final excavation. In addition, five (5) composite stockpile soil samples (SP-1 through SP-5) were collected from stockpiled soils.



The final excavation measured approximately 60 feet long by 13 feet wide. The maximum depth of the excavation measured approximately 13 feet bgs.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand. The soils immediately adjacent to the release had been cemented by the natural gas release.

A total of approximately 108 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with laboratory-confirmed stockpiled soils and imported fill and contoured to surrounding grade.

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

# 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of 12 composite soil samples (S-1 through S-12) from the excavation and five (5) composite soil samples (SP-1 through SP-5) from stockpiled soils for laboratory analysis.

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

## 3.3 Laboratory Analytical Methods

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

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

## 4.0 DATA EVALUATION

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



# 4.1 Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory practical quantitation limits (PQLs) associated with the composite soil samples (S-1, S-3 through S-12) and composite stockpile soil samples (SP-1 through SP-5) to the New Mexico EMNRD OCD *RALs* for sites having a total ranking score of "20". Soils associated with composite soil sample S-2 were inadvertently mixed with impacted soils during the excavation of the second leak area and were subsequently transported (with the impacted soils) to the Envirotech landfarm near Hilltop, New Mexico for disposal/treatment. As a result, composite soil sample S-2 is not included in the following discussion.

- The laboratory analyses of the composite soil samples collected from soils remaining in
  place and the composite soil samples collected from the reused stockpiled soils do not
  indicate benzene concentrations above the laboratory PQLs, which are below the New
  Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of composite soil samples collected from soils remaining in place and the composite soil samples collected from the reused stockpiled soils do not indicate total BTEX concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of composite soil sample S-3 indicates a combined TPH GRO/DRO/MRO concentration of 117 mg/kg (S-3), which is above the New Mexico EMNRD OCD RAL of 100 mg/kg. The laboratory analyses of the remaining composite soil samples collected from soils remaining in place and the composite soil samples collected from the reused stockpiled soils do not indicate combined TPH GRO/DRO/MRO concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "30".
- The laboratory analyses of the composite soil samples collected from soils remaining in place and the composite soil samples collected from the reused stockpiled soils indicate chloride concentrations ranging from below the laboratory PQLs to 170 mg/kg (SP-5).

Laboratory analytical results are summarized in Table 1 in Appendix D.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Quinn #340S pipeline release site is located within the Enterprise ROW in the SW ¼ of Section 20, Township 31 North, Range 8 West, in rural San Juan County, New Mexico. The Site is located on private land. The surrounding area is predominately 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 west to east.

On December 20, 2017, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On December 28, 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 action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.



- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand. The soils immediately adjacent to the release had been cemented by the natural gas release
- The final excavation measured approximately 60 feet long by 13 feet wide. The maximum depth of the excavation measured approximately 13 feet bgs.
- Prior to backfilling, 12 composite samples soil samples were collected from the final excavation and five (5) composite soil samples were collected from stockpiled soils for laboratory analyses. Based on soil analytical results, soils remaining in place and reused stockpiled soils do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs for a Site ranking of "30".
- The laboratory analysis of composite soil sample S-3 indicates a combined TPH GRO/DRO/MRO concentration of 117 mg/kg (S-3), which is above the New Mexico EMNRD OCD RAL of 100 mg/kg.
- A total of approximately 108 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 laboratory-confirmed stockpiled soils and imported fill, and contoured to surrounding grade.

Based on laboratory analytical results, no benzene or BTEX exceedances were identified in soil remaining in place. Only the soils associated with composite soil sample S-3 exhibit TPH concentrations (most of which is within the MRO carbon range) above the applicable New Mexico EMNRD OCD standard. Enterprise received regulatory approval for closure on January 8, 2018. Regulatory correspondence is provided in Appendix F.

#### 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,

Enterprise Field Services, LLC Corrective Action Report Quinn #340S Pipeline Release February 21, 2018

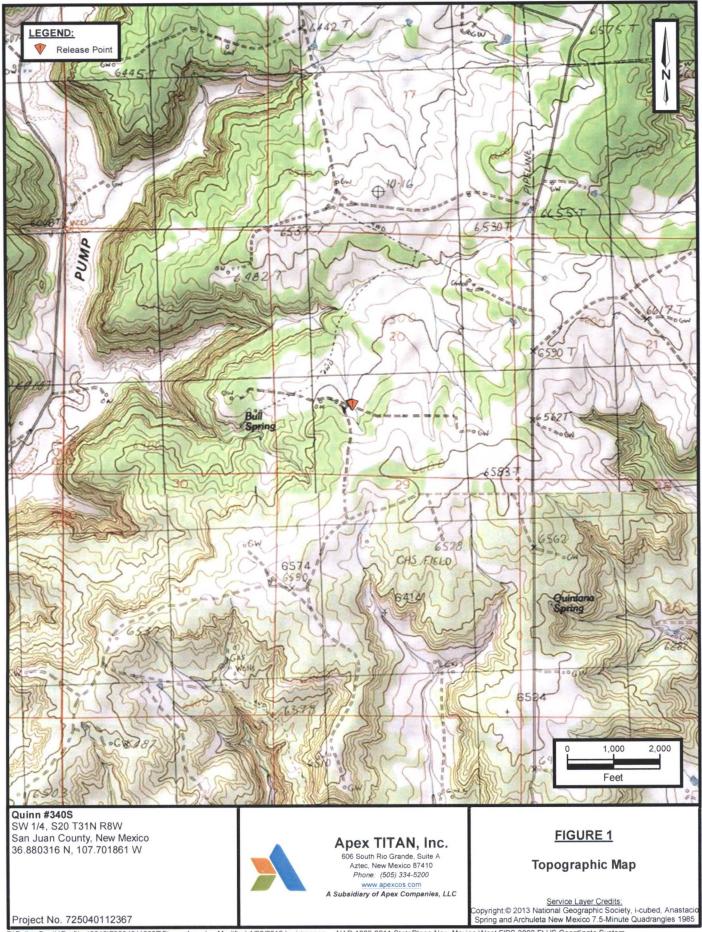


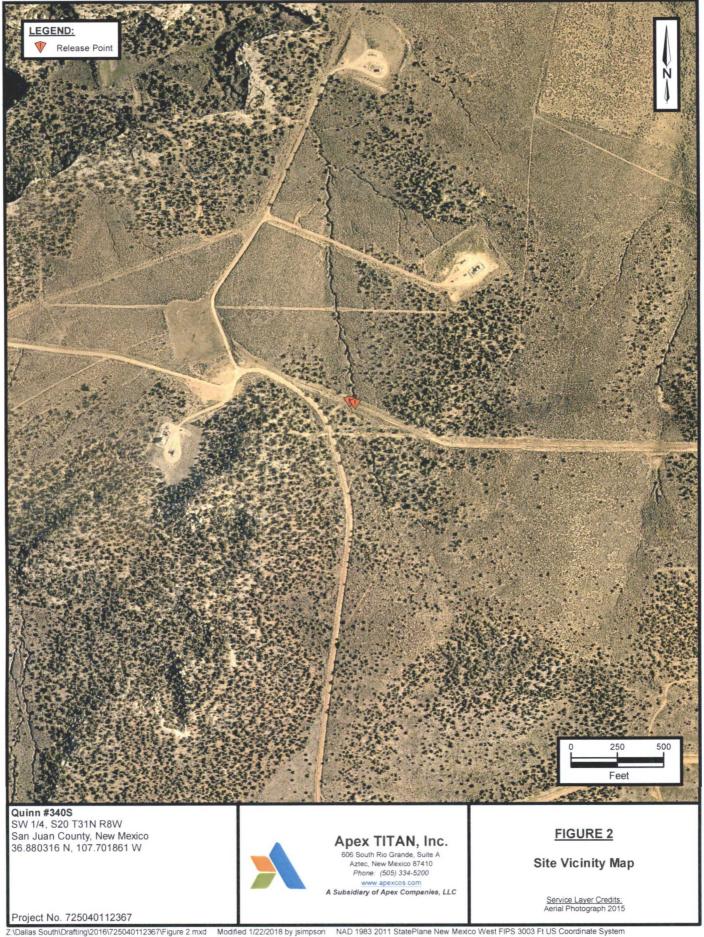
the report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.

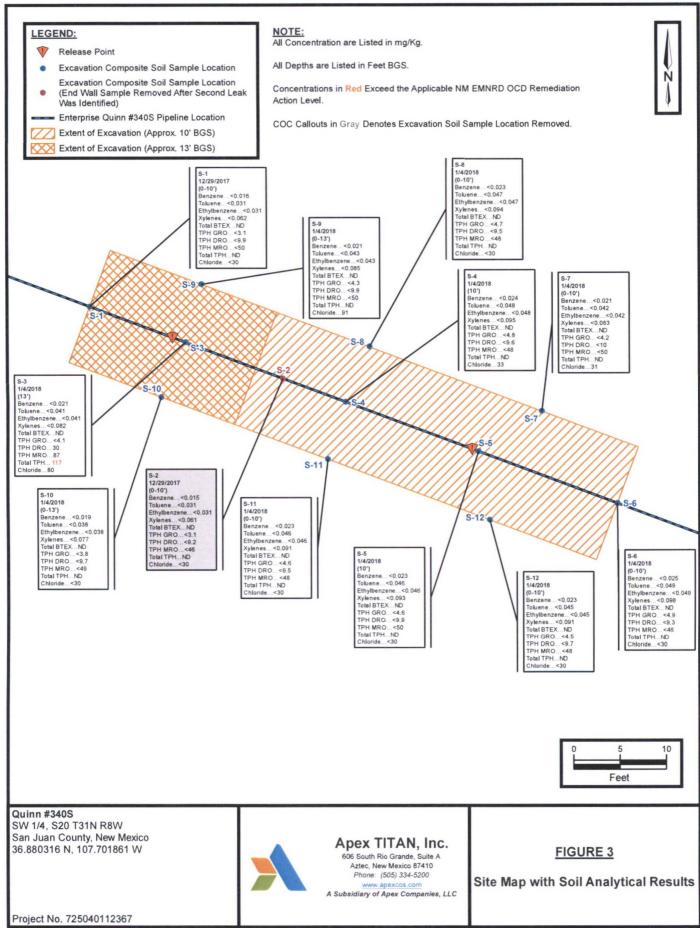


APPENDIX A

Figures









APPENDIX B

Executed C-138 Solid Waste Acceptance Form

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

#### State of New Mexico Energy Minerals and Natural Resources 97057-0880

Form C-138 Revised August 1, 2011

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.

## REOUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. Originating Site: Quinn 340S Pipeline
3. Location of Material (Street Address, City, State or ULSTR): UL K Section 20 T31N R8W; 36.880316, -107.701861
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas meter tube.
Estimated Volume 25 (yd³) bbls Known Volume (to be entered by the operator at the end of the haul) (yd³) bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby  RINT & SIGN NAME  COMPANY NAME  certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Meekly   Revuload**
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous be 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. (Chec 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, 1-4-18 representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete the required Generator Signature testing/sign the Generator Waste Testing Certification.
I,
5. Transporter: TBD Flying M, DeHerrera, HBL
OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Waste Acceptance Status:  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Greg Crabtice TITLE: Environmental Manager DATE: 1/5/18
SIGNATURE: TELEPHONE NO.: 505-632-0615



## APPENDIX C

Photographic Documentation



## Photograph 1

View of the source area and initial excavation, facing northwest.



## Photograph 2

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



## Photograph 3

View of the final excavation, facing southeast.





APPENDIX D

Table



# TABLE 1 Quinn 340s SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (mg/kg)	Chloride (mg/kg)
	931	Natural Resources Remediation Action		10	NE	NE	NE	50				100	NE
				Excavation	Confirmation So	oil Sample Removed	and Transported	to Landfarm for Di	sposal/Treatment				
S-2	12.29.17	С	0 to 10	<0.015	< 0.031	<0.031	<0.061	ND	<3.1	<9.2	<46	ND	<30
Mark Mark	B. Calcon					Soil Sample Collect	ed from Stockpi	led Soils					
SP-1	01.04.18	С	Stockpile	< 0.025	<0.051	<0.051	<0.10	ND	<5.1	<9.6	<48	ND	<30
SP-2	01.04.18	С	Stockpile	<0.026	<0.051	<0.051	<0.10	ND	<5.1	<9.8	<49	ND	<30
SP-3	01.04.18	С	Stockpile	< 0.030	< 0.061	<0.061	<0.12	ND	<6.1	<9.3	<46	ND	<30
SP-4	01.04.18	С	Stockpile	<0.026	<0.052	<0.052	<0.10	ND	<5.2	<9.9	<50	ND	<30
SP-5	01.04.18	С	Stockpile	< 0.023	<0.046	<0.046	<0.091	ND	<4.6	<9.7	<49	ND	170
					E	cavation Confirmati	on Composite S	oil Samples					
S-1	12.29.17	С	0 to 10	< 0.016	<0.031	<0.031	<0.062	ND	<3.1	<9.9	<50	ND	<30
S-3	01.04.18	С	13	<0.021	<0.041	<0.041	<0.082	ND	<4.1	30	87	117	80
S-4	01.04.18	С	10	<0.024	<0.048	<0.048	<0.095	ND	<4.8	<9.6	<48	ND	33
S-5	01.04.18	С	10	< 0.023	<0.046	<0.046	< 0.093	ND	<4.6	<9.9	<50	ND	<30
S-6	01.04.18	С	0 to 10	< 0.025	< 0.049	<0.049	<0.098	ND	<4.9	<9.3	<46	ND	<30
S-7	01.04.18	С	0 to 10	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<10	<50	ND	31
S-8	01.04.18	С	0 to 10	< 0.023	<0.047	<0.047	<0.094	ND	<4.7	<9.5	<48	ND	<30
S-9	01.04.18	С	0 to 13	<0.021	< 0.043	<0.043	<0.085	ND	<4.3	<9.9	<50	ND	91
S-10	01.04.18	С	0 to 13	< 0.019	<0.038	<0.038	<0.077	ND	<3.8	<9.7	<49	ND	<30
S-11	01.04.18	С	0 to 10	< 0.023	<0.046	<0.046	<0.091	ND	<4.6	<9.5	<48	ND	<30
S-12	01.04.18	С	0 to 10	< 0.023	< 0.045	<0.045	< 0.091	ND	<4.5	<9.7	<48	ND	<30

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

OrderNo.: 1801001

January 04, 2018

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

**FAX** 

RE: Quinn 340s 2017

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/30/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1801001

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/4/2018

CLIENT: APEX TITAN Client Sample ID: S-1

 Project:
 Quinn 340s 2017
 Collection Date: 12/29/2017 11:00:00 AM

 Lab ID:
 1801001-001
 Matrix: SOIL
 Received Date: 12/30/2017 8:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: CJS
Chloride	ND	30	mg/Kg	20	1/2/2018 1:50:47 PM	35804
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analyst	: JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/2/2018 10:12:15 AM	35789
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/2/2018 10:12:15 AM	35789
Surr: DNOP	92.0	70-130	%Rec	1	1/2/2018 10:12:15 AM	35789
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	1/2/2018 9:50:34 AM	G48125
Surr: BFB	85.9	15-316	%Rec	1	1/2/2018 9:50:34 AM	G48125
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.016	mg/Kg	1	1/2/2018 9:50:34 AM	B48125
Toluene	ND	0.031	mg/Kg	1	1/2/2018 9:50:34 AM	B48125
Ethylbenzene	ND	0.031	mg/Kg	1	1/2/2018 9:50:34 AM	B48125
Xylenes, Total	ND	0.062	mg/Kg	1	1/2/2018 9:50:34 AM	B48125
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	1/2/2018 9:50:34 AM	B48125

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

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

#### Lab Order 1801001

Date Reported: 1/4/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: S-2

**Project:** Quinn 340s 2017

Collection Date: 12/29/2017 11:10:00 AM

**Lab ID:** 1801001-002

Matrix: SOIL

Received Date: 12/30/2017 8:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: CJS
Chloride	ND	30	mg/Kg	20	1/2/2018 2:03:11 PM	35804
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	;			Analys	: JME
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	1/2/2018 10:34:13 AM	35789
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/2/2018 10:34:13 AM	35789
Surr: DNOP	89.9	70-130	%Rec	1	1/2/2018 10:34:13 AM	35789
EPA METHOD 8015D: GASOLINE RANG	GE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	1/2/2018 10:13:59 AM	G48125
Surr: BFB	90.7	15-316	%Rec	1	1/2/2018 10:13:59 AM	G48125
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.015	mg/Kg	1	1/2/2018 10:13:59 AM	B48125
Toluene	ND	0.031	mg/Kg	1	1/2/2018 10:13:59 AM	B48125
Ethylbenzene	ND	0.031	mg/Kg	1	1/2/2018 10:13:59 AM	B48125
Xylenes, Total	ND	0.061	mg/Kg	1	1/2/2018 10:13:59 AM	B48125
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	1/2/2018 10:13:59 AM	B48125

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

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

## **OC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1801001

04-Jan-18

APEX TITAN Client: Project: Quinn 340s 2017

Sample ID MB-35804 SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 35804 RunNo: 48126

Prep Date: 1/2/2018 Analysis Date: 1/2/2018 SeqNo: 1545516 Units: mg/Kg

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

Chloride ND 1.5

Sample ID LCS-35804 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 35804 RunNo: 48126

Prep Date: 1/2/2018 Analysis Date: 1/2/2018 SeqNo: 1545517 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 94.4 90 110

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

**PQL** Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

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

Sample container temperature is out of limit as specified

## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1801001

04-Jan-18

Client: APEX TITAN
Project: Quinn 340s 2017

Sample ID MB-35789	SampT	ype: ME	BLK	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch	n ID: 35	789	F	RunNo: 48119						
Prep Date: 1/2/2018 Analysis Date: 1/2/2018			S	SeqNo: 1542951 Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	8.8		10.00		88.0	70	130				
Sample ID LCS-35789	Sample ID LCS-35789 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics										

Client ID: LCSS	Batch II	D: <b>35789</b>		RunNo: 48	8119				
Prep Date: 1/2/2018	Analysis Date	e: <b>1/2/2018</b>		SeqNo: 15	543714	Units: mg/K	g		
Analyte	Result I	PQL SPK va	ue SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10 50.	00 0	91.7	73.2	114			
Surr: DNOP	4.3	5.0	00	86.6	70	130			

Sample ID 1801001-001AMS	SampTyp	e: MS	3	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: S-1	Batch II	D: <b>35</b> 7	789	R	RunNo: 4	8119					
Prep Date: 1/2/2018	Analysis Dat	e: 1/2	2/2018	S	SeqNo: 1	543733	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	46	10	49.75	0	93.2	55.8	125				
Surr: DNOP	4.4		4.975		88.7	70	130				

Sample ID 18010	001-001AMSD Sam	рТуре: М	SD	Tes	tCode: El	PA Method	8015M/D: Die	sel Range	e Organics	
Client ID: S-1	Ba	tch ID: 35	789	R	RunNo: 4	8119				
Prep Date: 1/2/2	2018 Analysis	Date: 1/	2/2018	S	SeqNo: 1	543778	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range Organics	s (DRO) 48	9.9	49.65	0	95.7	55.8	125	2.40	20	
Surr: DNOP	4.5		4.965		90.4	70	130	0	0	

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 4 of 6

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

## OC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1801001

04-Jan-18

Client:

APEX TITAN

Project:

Quinn 340s 2017

Sample	ID	RR

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: G48125

RunNo: 48125

Prep Date:

Analysis Date: 1/2/2018

SeqNo: 1544192

Units: mg/Kg HighLimit

Analyte

Result PQL ND 5.0 SPK value SPK Ref Val %REC LowLimit

Gasoline Range Organics (GRO)

TestCode: EPA Method 8015D: Gasoline Range

15

**RPDLimit** Qual

Surr: BFB

910

1000

91.0

316

Sample ID 2.5UG GRO LCS

Batch ID: G48125

RunNo: 48125

Client ID:

LCSS

PQL

Prep Date: Analyte

Analysis Date: 1/2/2018

SampType: LCS

SeqNo: 1544193

Units: mg/Kg

131

316

Gasoline Range Organics (GRO)

Result 23

16

600

25.00

%REC 90.0 LowLimit HighLimit 75.9

%RPD

%RPD

**RPDLimit** 

Surr: BFB

1000

5.0 1000

101

0

0

Qual

Sample ID 1801001-001AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: S-1 Prep Date:

Batch ID: G48125 Analysis Date: 1/2/2018

3.1

RunNo: 48125 SeqNo: 1544194

Units: mg/Kg

Analyte

SPK value SPK Ref Val

SPK value SPK Ref Val

%REC LowLimit HighLimit

128

316

Gasoline Range Organics (GRO) Surr: BFB

Result POL

15.52

620.7

104 96.4 77.8

15

77.8

15

%RPD

**RPDLimit** 

Qual

Qual

Sample ID 1801001-001AMSD

SampType: MSD

Analysis Date: 1/2/2018

PQL

3.1

TestCode: EPA Method 8015D: Gasoline Range

Client ID: S-1

Batch ID: G48125

RunNo: 48125

SeqNo: 1544195

102

97.2

Units: mg/Kg

Prep Date: Analyte Gasoline Range Organics (GRO)

Surr: BFB

Result

16

600

SPK value SPK Ref Val 15.52

620.7

%REC

LowLimit

HighLimit 128

316

%RPD

**RPDLimit** 2.49

20 0 0

## Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

PQL Practical Quanitative Limit % Recovery outside of range due to dilution or matrix В Analyte detected in the associated Method Blank

Analyte detected below quantitation limits

E Value above quantitation range

P Sample pH Not In Range

J

RL Reporting Detection Limit Sample container temperature is out of limit as specified Page 5 of 6

## **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1801001 *04-Jan-18* 

Client: APEX TITAN
Project: Quinn 340s 2017

Sample ID RB	SampT	ype: ME	BLK	Tes	tCode: El					
Client ID: PBS	Batch	Batch ID: <b>B48125</b>			RunNo: 48125					
Prep Date:	Analysis D	ate: 1/	2/2018	S	SeqNo: 1	544204	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID 100NG BTEX LC	SampT	S	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batcl	n ID: <b>B4</b>	8125	F	RunNo: 48125					
Prep Date:	Analysis D	Date: 1/	2/2018	8	SeqNo: 1	544205	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	88.9	77.3	128			
Toluene	0.91	0.050	1.000	0	90.5	79.2	125			
Ethylbenzene	0.90	0.050	1.000	0	90.5	80.7	127			
Xylenes, Total	2.8	0.10	3.000	0	92.1	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 6 of 6

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



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

Website: www.hallenvironmental.com

## Sample Log-In Check List

APEX AZTEC Work Order Number: 1801001 RcptNo: 1 Client Name: Received By: **Andy Freeman** 12/30/2017 8:30:00 AM 1/2/2018 8:18:00 AM Completed By: Erin Melendrez 12/18 Reviewed By: Chain of Custody No 🗌 Not Present 1 Custody seals intact on sample bottles? No 🗌 Yes 🗸 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? NA . 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗌 No 🗌 Sample(s) in proper container(s)? Yes V V 7. Sufficient sample volume for indicated test(s)? No \_ ~ 8. Are samples (except VOA and ONG) properly preserved? No No 🗹 NA 🔲 9. Was preservative added to bottles? Yes No 🗔 No VOA Vials 10.VOA vials have zero headspace? No V Yes 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? Yes V Yes 🗸 No 14. Is it clear what analyses were requested? No 🗌 Checked by: 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes NA 🔽 16. Was client notified of all discrepancies with this order? No 🗌 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 Good Yes

					CHAIN OF CUSTODY RECORD
-	Hall En	vironmenta	.(	ANALYSIS	Lab use only
	Laboratory: Analy	s Laberate	eng	REQUESTED	Due Date:
APEX	Address: 4901 Ha	awking N	 	/	
A STATE OF THE STA	Address: 9701 Tro	M GALLO	9	/	Temp. of coolers when received (C°):
Office Location	Albuquerque, M Contact: A.F	011 8 710	/	/ 0	when received (G°): /, ¿ , ¿ 1   2   3   4   5
406 S Pio Grande site A AzteGNM 87410				1	
AZTECINM 87 410	Phone: 505 - 343			18 /2/	Page of
Project Manager K. Summers	PO/SO#: See nex	es		\$ 6	J' / / / /
	Sampler's Signature			BEDRESTED SORI	
Proj. No. Project Name 725040112367 Quinn 3	403 (2017)	No/Type of Contai	iners	THE PARTY	
CG	Start Start Charlet Start Charlet Start Charlet  VOA A/G 1Lt.	Glass Jar P/O		Lab Sample ID (Lab Use Only)	
S 12/29/17 1100 X 3-	i		)	$\times$ $\times$	1801001-001
S 12/29/17 1110 X 5-			)	XXX	-002
	~		1		00.2
	NAS				
	,				
	50% Rush 100% Rush	SAME			
Fire 12/29/17/4	Received by: (Signat		Date: 12/34/7	Time: NOTE	Bill to Tom Long (Epizoi)
Relinquished by (Signature) Date:	Time: Received by (Signat	ture)	Date:	Time:	Billiag tolli cond
Relinquished by (Signature) Date:	ture)	Date:	Time:		
Relinquished by (Signature)  Date: Time: Received by: (Signature)			Date:	Time: 5	AME DAY
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / 0t	S - Soil SD - Solid L - Liquid	A - Air Bag Glass wide mouth		coal tube SL - sluce	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

January 10, 2018

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

FAX

RE: Quinn 340s 2017 OrderNo.: 1801238

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 15 sample(s) on 1/5/2018 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 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: S-3

 Project:
 Quinn 340s 2017
 Collection Date: 1/4/2018 10:10:00 AM

 Lab ID:
 1801238-001
 Matrix: MEOH (SOIL)
 Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	80	30	mg/Kg	20	1/5/2018 12:58:59 PM	35871
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	30	9.7	mg/Kg	1	1/5/2018 9:55:28 AM	35864
Motor Oil Range Organics (MRO)	87	49	mg/Kg	1	1/5/2018 9:55:28 AM	35864
Surr: DNOP	95.4	70-130	%Rec	1	1/5/2018 9:55:28 AM	35864
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	1/5/2018 9:53:39 AM	35852
Surr: BFB	79.8	15-316	%Rec	1	1/5/2018 9:53:39 AM	35852
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.021	mg/Kg	1	1/5/2018 9:53:39 AM	35852
Toluene	ND	0.041	mg/Kg	1	1/5/2018 9:53:39 AM	35852
Ethylbenzene	ND	0.041	mg/Kg	1	1/5/2018 9:53:39 AM	35852
Xylenes, Total	ND	0.082	mg/Kg	1	1/5/2018 9:53:39 AM	35852
Surr: 4-Bromofluorobenzene	88.6	80-120	%Rec	1	1/5/2018 9:53:39 AM	35852

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 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/10/2018

**CLIENT: APEX TITAN** 

Client Sample ID: S-4

Project: Quinn 340s 2017

Collection Date: 1/4/2018 10:20:00 AM

Lab ID: 1801238-002

Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: MRA
Chloride	33	30	mg/Kg	20	1/5/2018 1:11:24 PM	35871
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/5/2018 10:17:24 AM	35864
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/5/2018 10:17:24 AM	35864
Surr: DNOP	85.9	70-130	%Rec	1	1/5/2018 10:17:24 AM	35864
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	1/5/2018 10:17:09 AM	35852
Surr: BFB	80.4	15-316	%Rec	1	1/5/2018 10:17:09 AM	35852
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	1/5/2018 10:17:09 AM	35852
Toluene	ND	0.048	mg/Kg	1	1/5/2018 10:17:09 AM	35852
Ethylbenzene	ND	0.048	mg/Kg	1	1/5/2018 10:17:09 AM	35852
Xylenes, Total	ND	0.095	mg/Kg	1	1/5/2018 10:17:09 AM	35852
Surr: 4-Bromofluorobenzene	91.2	80-120	%Rec	1	1/5/2018 10:17:09 AM	35852

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 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-5

**Project:** Quinn 340s 2017

**Collection Date:** 1/4/2018 10:30:00 AM

**Lab ID:** 1801238-003

Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 1:23:48 PM	35871
EPA METHOD 8015M/D: DIESEL RANG	EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/5/2018 10:39:17 AM	35864
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/5/2018 10:39:17 AM	35864
Surr: DNOP	84.4	70-130	%Rec	1	1/5/2018 10:39:17 AM	35864
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/5/2018 10:40:41 AM	35852
Surr: BFB	80.5	15-316	%Rec	1	1/5/2018 10:40:41 AM	35852
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.023	mg/Kg	1	1/5/2018 10:40:41 AM	35852
Toluene	ND	0.046	mg/Kg	1	1/5/2018 10:40:41 AM	35852
Ethylbenzene	ND	0.046	mg/Kg	1	1/5/2018 10:40:41 AM	35852
Xylenes, Total	ND	0.093	mg/Kg	1	1/5/2018 10:40:41 AM	35852
Surr: 4-Bromofluorobenzene	90.2	80-120	%Rec	1	1/5/2018 10:40:41 AM	35852

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 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order **1801238**Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: S-6

 Project:
 Quinn 340s 2017
 Collection Date: 1/4/2018 10:40:00 AM

 Lab ID:
 1801238-004
 Matrix: MEOH (SOIL)
 Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 1:36:13 PM	35871
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	1/5/2018 11:01:13 AM	35864
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/5/2018 11:01:13 AM	35864
Surr: DNOP	91.3	70-130	%Rec	1	1/5/2018 11:01:13 AM	35864
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/5/2018 11:04:23 AM	35852
Surr: BFB	80.4	15-316	%Rec	1	1/5/2018 11:04:23 AM	35852
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.025	mg/Kg	1	1/5/2018 11:04:23 AM	35852
Toluene	ND	0.049	mg/Kg	1	1/5/2018 11:04:23 AM	35852
Ethylbenzene	ND	0.049	mg/Kg	1	1/5/2018 11:04:23 AM	35852
Xylenes, Total	ND	0.098	mg/Kg	1	1/5/2018 11:04:23 AM	35852
Surr: 4-Bromofluorobenzene	89.5	80-120	%Rec	1	1/5/2018 11:04:23 AM	35852

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-7

**Project:** Quinn 340s 2017

**Collection Date:** 1/4/2018 10:50:00 AM

**Lab ID:** 1801238-005

Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: MRA
Chloride	31	30	mg/Kg	20	1/5/2018 1:48:37 PM	35871
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	1/5/2018 11:23:14 AM	35864
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/5/2018 11:23:14 AM	35864
Surr: DNOP	89.6	70-130	%Rec	1	1/5/2018 11:23:14 AM	35864
EPA METHOD 8015D: GASOLINE RANG	Ε				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	1/5/2018 11:27:51 AM	35852
Surr: BFB	79.5	15-316	%Rec	1	1/5/2018 11:27:51 AM	35852
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.021	mg/Kg	1	1/5/2018 11:27:51 AM	35852
Toluene	ND	0.042	mg/Kg	1	1/5/2018 11:27:51 AM	35852
Ethylbenzene	ND	0.042	mg/Kg	1	1/5/2018 11:27:51 AM	35852
Xylenes, Total	ND	0.083	mg/Kg	1	1/5/2018 11:27:51 AM	35852
Surr: 4-Bromofluorobenzene	89.7	80-120	%Rec	1	1/5/2018 11:27:51 AM	35852

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-8

Project: Quinn 340s 2017

Collection Date: 1/4/2018 11:00:00 AM

**Lab ID:** 1801238-006

Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 2:01:02 PM	35871
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/5/2018 11:45:11 AM	35864
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/5/2018 11:45:11 AM	35864
Surr: DNOP	84.7	70-130	%Rec	1	1/5/2018 11:45:11 AM	35864
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	1/5/2018 11:51:17 AM	35852
Surr: BFB	83.4	15-316	%Rec	1	1/5/2018 11:51:17 AM	35852
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.023	mg/Kg	1	1/5/2018 11:51:17 AM	35852
Toluene	ND	0.047	mg/Kg	1	1/5/2018 11:51:17 AM	35852
Ethylbenzene	ND	0.047	mg/Kg	1	1/5/2018 11:51:17 AM	35852
Xylenes, Total	ND	0.094	mg/Kg	1	1/5/2018 11:51:17 AM	35852
Surr: 4-Bromofluorobenzene	90.9	80-120	%Rec	1	1/5/2018 11:51:17 AM	35852

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-9

Project: Quinn 340s 2017

Collection Date: 1/4/2018 11:10:00 AM

**Lab ID:** 1801238-007

Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	91	30	mg/Kg	20	1/5/2018 2:13:27 PM	35871
EPA METHOD 8015M/D: DIESEL RANG	EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/5/2018 12:58:11 PM	35864
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/5/2018 12:58:11 PM	35864
Surr: DNOP	107	70-130	%Rec	1	1/5/2018 12:58:11 PM	35864
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	1/5/2018 12:14:44 PM	35852
Surr: BFB	82.7	15-316	%Rec	1	1/5/2018 12:14:44 PM	35852
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.021	mg/Kg	1	1/5/2018 12:14:44 PM	35852
Toluene	ND	0.043	mg/Kg	1	1/5/2018 12:14:44 PM	35852
Ethylbenzene	ND	0.043	mg/Kg	1	1/5/2018 12:14:44 PM	35852
Xylenes, Total	ND	0.085	mg/Kg	1	1/5/2018 12:14:44 PM	35852
Surr: 4-Bromofluorobenzene	92.2	80-120	%Rec	1	1/5/2018 12:14:44 PM	35852

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
- 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 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-10

Project: Quinn 340s 2017

Collection Date: 1/4/2018 11:20:00 AM

Lab ID: 1801238-008 Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 2:25:51 PM	35871
EPA METHOD 8015D MOD: GASOLINE F	RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	1/5/2018 10:15:15 AM	R48228
Surr: BFB	108	70-130	%Rec	1	1/5/2018 10:15:15 AM	R48228
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS	3			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/5/2018 12:33:46 PM	35864
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/5/2018 12:33:46 PM	35864
Surr: DNOP	106	70-130	%Rec	1	1/5/2018 12:33:46 PM	35864
EPA METHOD 8260B: VOLATILES SHOR	RT LIST				Analyst	AG
Benzene	ND	0.019	mg/Kg	1	1/5/2018 10:15:15 AM	A48228
Toluene	ND	0.038	mg/Kg	1	1/5/2018 10:15:15 AM	A48228
Ethylbenzene	ND	0.038	mg/Kg	1	1/5/2018 10:15:15 AM	A48228
Xylenes, Total	ND	0.077	mg/Kg	1	1/5/2018 10:15:15 AM	A48228
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	1	1/5/2018 10:15:15 AM	A48228
Surr: Toluene-d8	104	70-130	%Rec	1	1/5/2018 10:15:15 AM	A48228

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 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-11

Project: Quinn 340s 2017

Collection Date: 1/4/2018 11:30:00 AM

Lab ID: 1801238-009

Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 2:38:16 PM	35871
EPA METHOD 8015D MOD: GASOLIN	E RANGE				Analyst	: AG
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/5/2018 10:38:12 AM	R48228
Surr: BFB	109	70-130	%Rec	1	1/5/2018 10:38:12 AM	R48228
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	1/5/2018 12:09:22 PM	35864
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/5/2018 12:09:22 PM	35864
Surr: DNOP	107	70-130	%Rec	1	1/5/2018 12:09:22 PM	35864
EPA METHOD 8260B: VOLATILES SH	ORT LIST				Analyst	AG
Benzene	ND	0.023	mg/Kg	1	1/5/2018 10:38:12 AM	A48228
Toluene	ND	0.046	mg/Kg	1	1/5/2018 10:38:12 AM	A48228
Ethylbenzene	ND	0.046	mg/Kg	1	1/5/2018 10:38:12 AM	A48228
Xylenes, Total	ND	0.091	mg/Kg	1	1/5/2018 10:38:12 AM	A48228
Surr: 4-Bromofluorobenzene	108	70-130	%Rec	1	1/5/2018 10:38:12 AM	A48228
Surr: Toluene-d8	101	70-130	%Rec	1	1/5/2018 10:38:12 AM	A48228

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-12

Project: Quinn 340s 2017

Collection Date: 1/4/2018 11:40:00 AM

Lab ID: 180

1801238-010

Matrix: MEOH (SOIL)

Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 2:50:41 PM	35871
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst	: AG
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	1/5/2018 11:01:12 AM	R48228
Surr: BFB	107	70-130	%Rec	1	1/5/2018 11:01:12 AM	R48228
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/5/2018 11:44:56 AM	35864
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/5/2018 11:44:56 AM	35864
Surr: DNOP	107	70-130	%Rec	1	1/5/2018 11:44:56 AM	35864
EPA METHOD 8260B: VOLATILES S	SHORT LIST				Analyst	: AG
Benzene	ND	0.023	mg/Kg	1	1/5/2018 11:01:12 AM	A48228
Toluene	ND	0.045	mg/Kg	1	1/5/2018 11:01:12 AM	A48228
Ethylbenzene	ND	0.045	mg/Kg	1	1/5/2018 11:01:12 AM	A48228
Xylenes, Total	ND	0.091	mg/Kg	1	1/5/2018 11:01:12 AM	A48228
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	1	1/5/2018 11:01:12 AM	A48228
Surr: Toluene-d8	103	70-130	%Rec	1	1/5/2018 11:01:12 AM	A48228

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 10 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order 1801238

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/10/2018

CLIENT: APEX TITAN Client Sample ID: SP-1

 Project:
 Quinn 340s 2017
 Collection Date: 1/4/2018 12:00:00 PM

 Lab ID:
 1801238-011
 Matrix: MEOH (SOIL)
 Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	: MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 1:39:18 PM	35873
EPA METHOD 8015D MOD: GASOL	NE RANGE				Analyst	: AG
Gasoline Range Organics (GRO)	ND	5.1	mg/Kg	1	1/5/2018 11:24:05 AM	R48228
Surr: BFB	109	70-130	%Rec	1	1/5/2018 11:24:05 AM	R48228
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	1/5/2018 11:20:44 AM	35864
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	1/5/2018 11:20:44 AM	35864
Surr: DNOP	98.0	70-130	%Rec	1	1/5/2018 11:20:44 AM	35864
EPA METHOD 8260B: VOLATILES S	SHORT LIST				Analyst	: AG
Benzene	ND	0.025	mg/Kg	1	1/5/2018 11:24:05 AM	A48228
Toluene	ND	0.051	mg/Kg	1	1/5/2018 11:24:05 AM	A48228
Ethylbenzene	ND	0.051	mg/Kg	1	1/5/2018 11:24:05 AM	A48228
Xylenes, Total	ND	0.10	mg/Kg	1	1/5/2018 11:24:05 AM	A48228
Surr: 4-Bromofluorobenzene	108	70-130	%Rec	1	1/5/2018 11:24:05 AM	A48228
Surr: Toluene-d8	105	70-130	%Rec	1	1/5/2018 11:24:05 AM	A48228

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

Qualifiers: \* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 11 of 22

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: SP-2

 Project:
 Quinn 340s 2017
 Collection Date: 1/4/2018 12:10:00 PM

 Lab ID:
 1801238-012
 Matrix: MEOH (SOIL)
 Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst:	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 2:16:33 PM	35873
EPA METHOD 8015D MOD: GASOLIN	E RANGE				Analyst:	AG
Gasoline Range Organics (GRO)	ND	5.1	mg/Kg	1	1/5/2018 11:47:07 AM	R48228
Surr: BFB	112	70-130	%Rec	1	1/5/2018 11:47:07 AM	R48228
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst:	TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	1/5/2018 10:56:25 AM	35864
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/5/2018 10:56:25 AM	35864
Surr: DNOP	109	70-130	%Rec	1	1/5/2018 10:56:25 AM	35864
EPA METHOD 8260B: VOLATILES SH	IORT LIST				Analyst:	AG
Benzene	ND	0.026	mg/Kg	1	1/5/2018 11:47:07 AM	A48228
Toluene	ND	0.051	mg/Kg	1	1/5/2018 11:47:07 AM	A48228
Ethylbenzene	ND	0.051	mg/Kg	1	1/5/2018 11:47:07 AM	A48228
Xylenes, Total	ND	0.10	mg/Kg	1	1/5/2018 11:47:07 AM	A48228
Surr: 4-Bromofluorobenzene	111	70-130	%Rec	1	1/5/2018 11:47:07 AM	A48228
Surr: Toluene-d8	105	70-130	%Rec	1	1/5/2018 11:47:07 AM	A48228

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 12 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Hall Environmental Analysis Laboratory, Inc. Date Reported: 1/10/2018

**CLIENT: APEX TITAN** Client Sample ID: SP-3

Project: Quinn 340s 2017 Collection Date: 1/4/2018 12:20:00 PM Lab ID: 1801238-013 Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 2:53:46 PM	35873
EPA METHOD 8015D MOD: GASOLI	NE RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	6.1	mg/Kg	1	1/5/2018 12:10:10 PM	R48228
Surr: BFB	105	70-130	%Rec	1	1/5/2018 12:10:10 PM	R48228
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	1/5/2018 10:32:08 AM	35864
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	1/5/2018 10:32:08 AM	35864
Surr: DNOP	108	70-130	%Rec	1	1/5/2018 10:32:08 AM	35864
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	AG
Benzene	ND	0.030	mg/Kg	1	1/5/2018 12:10:10 PM	A48228
Toluene	ND	0.061	mg/Kg	1	1/5/2018 12:10:10 PM	A48228
Ethylbenzene	ND	0.061	mg/Kg	1	1/5/2018 12:10:10 PM	A48228
Xylenes, Total	ND	0.12	mg/Kg	1	1/5/2018 12:10:10 PM	A48228
Surr: 4-Bromofluorobenzene	103	70-130	%Rec	1	1/5/2018 12:10:10 PM	A48228
Surr: Toluene-d8	106	70-130	%Rec	1	1/5/2018 12:10:10 PM	A48228

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 13 of 22 J
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

#### Lab Order 1801238

Date Reported: 1/10/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: SP-4

Project: Quinn 340s 2017

Collection Date: 1/4/2018 12:30:00 PM

**Lab ID:** 1801238-014

Matrix: MEOH (SOIL) Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	ND	30	mg/Kg	20	1/5/2018 3:06:11 PM	35873
EPA METHOD 8015D MOD: GASOLIN	NE RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	5.2	mg/Kg	1	1/5/2018 12:33:10 PM	R48228
Surr: BFB	109	70-130	%Rec	1	1/5/2018 12:33:10 PM	R48228
EPA METHOD 8015M/D: DIESEL RAN	NGE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	1/5/2018 10:07:53 AM	35864
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	1/5/2018 10:07:53 AM	35864
Surr: DNOP	107	70-130	%Rec	1	1/5/2018 10:07:53 AM	35864
EPA METHOD 8260B: VOLATILES S	HORT LIST				Analyst	AG
Benzene	ND	0.026	mg/Kg	1	1/5/2018 12:33:10 PM	A48228
Toluene	ND	0.052	mg/Kg	1	1/5/2018 12:33:10 PM	A48228
Ethylbenzene	ND	0.052	mg/Kg	1	1/5/2018 12:33:10 PM	A48228
Xylenes, Total	ND	0.10	mg/Kg	1	1/5/2018 12:33:10 PM	A48228
Surr: 4-Bromofluorobenzene	108	70-130	%Rec	1	1/5/2018 12:33:10 PM	A48228
Surr: Toluene-d8	106	70-130	%Rec	1	1/5/2018 12:33:10 PM	A48228

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 14 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1801238

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/10/2018

**CLIENT: APEX TITAN** 

Client Sample ID: SP-5

 Project:
 Quinn 340s 2017
 Collection Date: 1/4/2018 12:40:00 PM

 Lab ID:
 1801238-015
 Matrix: MEOH (SOIL)
 Received Date: 1/5/2018 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	MRA
Chloride	170	30	mg/Kg	20	1/5/2018 3:18:36 PM	35873
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	1/5/2018 12:56:05 PM	R48228
Surr: BFB	108	70-130	%Rec	1	1/5/2018 12:56:05 PM	R48228
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	1/5/2018 9:43:32 AM	35864
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	1/5/2018 9:43:32 AM	35864
Surr: DNOP	109	70-130	%Rec	1	1/5/2018 9:43:32 AM	35864
EPA METHOD 8260B: VOLATILES SHO	ORT LIST				Analyst	AG
Benzene	ND	0.023	mg/Kg	1	1/5/2018 12:56:05 PM	A48228
Toluene	ND	0.046	mg/Kg	1	1/5/2018 12:56:05 PM	A48228
Ethylbenzene	ND	0.046	mg/Kg	1	1/5/2018 12:56:05 PM	A48228
Xylenes, Total	ND	0.091	mg/Kg	1	1/5/2018 12:56:05 PM	A48228
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	1	1/5/2018 12:56:05 PM	A48228
Surr: Toluene-d8	103	70-130	%Rec	1	1/5/2018 12:56:05 PM	A48228

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 15 of 22
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## **OC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: 13

1801238 10-Jan-18

Client: APEX TITAN
Project: Quinn 340s 2017

Sample ID MB-35871 SampType: mblk TestCode: EPA Method 300.0: Anions
Client ID: PBS Batch ID: 35871 RunNo: 48236

Prep Date: 1/5/2018 Analysis Date: 1/5/2018 SeqNo: 1549182 Units: mg/Kg

Frep Date. 1/3/2016 Allalysis Date. 1/3/2016 Seq. 10. 1349162 Utilis. Ingreg

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

Chloride ND 1.5

Sample ID LCS-35871 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 35871 RunNo: 48236

Prep Date: 1/5/2018 Analysis Date: 1/5/2018 SeqNo: 1549183 Units: mg/Kg

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

Chloride 14 1.5 15.00 0 93.4 90 110

Sample ID MB-35873 SampType: mblk TestCode: EPA Method 300.0: Anions

Client ID: PBS Batch ID: 35873 RunNo: 48237

Prep Date: 1/5/2018 Analysis Date: 1/5/2018 SeqNo: 1549446 Units: mg/Kg

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

Chloride ND 1.5

Sample ID LCS-35873 SampType: Ics TestCode: EPA Method 300.0: Anions

Client ID: LCSS Batch ID: 35873 RunNo: 48237

Prep Date: 1/5/2018 Analysis Date: 1/5/2018 SeqNo: 1549447 Units: mg/Kg

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

Chloride 15 1.5 15.00 0 97.3 90 110

#### 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 16 of 22

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#:

1801238

10-Jan-18

Client:

APEX TITAN

**Project:** 

Quinn 340s 2017

Sample ID LCS-35864	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 35864			RunNo: 48215							
Prep Date: 1/5/2018	Analysis Date: 1/5/2018			SeqNo: 1548182			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	44	10	50.00	0	88.9	73.2	114				
Surr: DNOP	4.4		5.000		87.5	70	130				

Sample ID MB-35864	SampT	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch	Batch ID: 35864			RunNo: 48215						
Prep Date: 1/5/2018	Analysis D	ate: 1/	5/2018	S	SeqNo: 1	548183	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	8.9		10.00		88.7	70	130				
Sample ID 1801238-001AMS	SampType: MS TestCode: EPA Method 8015M/D: Diesel Range Organics										

Sample ID 18	801238-001AMS	SampTy	pe: MS	6	Test	Code: El	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: S-:	3	Batch I	D: 358	864	R	tunNo: 4	8215				
Prep Date: 1	/5/2018	Analysis Da	te: 1/	5/2018	S	eqNo: 1	548511	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range Orga	anics (DRO)	64	10	51.18	29.87	67.5	55.8	125			
Surr: DNOP		4.7		5.118		92.1	70	130			

ample ID 1801238-001AMSD SampType: MSD				TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: S-3	Batch	ID: <b>35</b>	864	R	RunNo: 4	8215				
Prep Date: 1/5/2018	Analysis Date: 1/5/2018			SeqNo: 1548512			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range Organics (DRO)	51	9.8	49.02	29.87	44.0	55.8	125	22.4	20	RS
Surr: DNOP	4.0		4.902		82.0	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 17 of 22

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#:

1801238

10-Jan-18

Client:

APEX TITAN

**Project:** 

Quinn 340s 2017

Sample ID LCS-35852	SampTy	pe: LC	S	Test	tCode: El	PA Method	8015D: Gaso			
Client ID: LCSS	Batch	ID: 358	852	R	RunNo: 4	8226				
Prep Date: 1/4/2018	Analysis Da	ite: 1/	5/2018	SeqNo: 1550576 Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	106	75.9	131			
Surr: BFB	910		1000		91.3	15	316			

Sample ID MB-35852	SampT	ype: ME	BLK	Test	Code: El	EPA Method 8015D: Gasoline Range					
Client ID: PBS	Batch	ID: 35	352	R	lunNo: 4	8226					
Prep Date: 1/4/2018	Analysis D	ate: 1/	5/2018	S	eqNo: 1	550577	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: RER	810		1000		81.3	15	316				

#### 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 18 of 22

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#: **1801238** 

10-Jan-18

Client: APEX TITAN
Project: Quinn 340s 2017

Sample ID LCS-35852	SampT	ype: LC	S	Test	Code: El	PA Method				
Client ID: LCSS	Batch	ID: 35	852	R	RunNo: 4					
Prep Date: 1/4/2018	Analysis D	ate: 1/	5/2018	S	SeqNo: 1550583 Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.8	77.3	128			
Toluene	0.95	0.050	1.000	0	95.1	79.2	125			
Ethylbenzene	0.94	0.050	1.000	0	93.8	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	96.7	81.6	129			
Surr: 4-Bromofluorobenzene	0.96		1.000		96.0	80	120			

Sample ID MB-35852	SampT	ype: ME	BLK	Test	tCode: El	PA Method				
Client ID: PBS	Batch	Batch ID: 35852			lunNo: 4					
Prep Date: 1/4/2018	Analysis D	ate: 1/	5/2018	S	eqNo: 1	550584	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		91.8	80	120			

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 19 of 22

- 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#:

1801238

10-Jan-18

Client:	APEX TITAN
Project:	Quinn 340s 2017

Sample ID 100ng btex Ics	SampT	Type: LC	\$4	Test	tCode: El	PA Method	8260B: Vola	tiles Short	List	
Client ID: BatchQC	Batcl	h ID: A4	8228	R	RunNo: 4	8228				
Prep Date:	Analysis D	Date: 1/	5/2018	S	SeqNo: 1	548517	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	104	80	120			
Xylenes, Total	3.0	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.46		0.5000		92.6	70	130			
Surr: Toluene-d8	0.53		0.5000		107	70	130			
Sample ID rb	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List	
Client ID: PBS	Batc	h ID: A4	8228	F	RunNo: 4	8228				
Prep Date:	Analysis [	Date: 1/	5/2018	S	SeqNo: 1	548518	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0		0.5000		0	70	130			S
Surr: 4-Bromofluorobenzene	0.51		0.5000		101	70	130			
Surr: Dibromofluoromethane	0		0.5000		0	70	130			S
Surr: Toluene-d8	0.54		0.5000		107	70	130			
Sample ID 1801238-009ams	Samp	Туре: М	64	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	t List	
Client ID: S-11	Batc	Batch ID: A48228			RunNo: 4	8228				
Prep Date:	Analysis [	Date: 1	/5/2018	8	SeqNo: 1	549746	Units: mg/F	(g		

Sample ID 1601236-009ams	Sampi	ype. M3	14	165	Code. Er	A Wethou	ozoub: voiai			
Client ID: S-11	Batch	ID: A4	8228	R	tunNo: 4	3228				
Prep Date:	Analysis D	ate: 1/	5/2018	S	eqNo: 1	549746	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.023	0.9107	0	106	80	120			
Toluene	0.92	0.046	0.9107	0.006575	100	80	120			
Ethylbenzene	0.90	0.046	0.9107	0	99.3	80	120			
Xylenes, Total	2.7	0.091	2.732	0.02113	99.8	80	120			
Surr: 4-Bromofluorobenzene	0.41		0.4554		89.4	70	130			
Surr: Toluene-d8	0.45		0.4554		98.8	70	130			

Sample ID	1801238-009amsd	SampTy	pe: MS	SD4	Test	Code: El	PA Method	8260B: Vola	tiles Short	List	
Client ID:	S-11	Batch	ID: A4	8228	R	unNo: 4	8228				
Prep Date:		Analysis Da	ite: 1/	5/2018	S	eqNo: 1	549747	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.98	0.023	0.9107	0	107	80	120	0.816	0	
Toluene		0.92	0.046	0.9107	0.006575	100	80	120	0.0762	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 20 of 22

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#:

1801238

10-Jan-18

Client:

APEX TITAN

Project:

Quinn 340s 2017

Sample ID 1801238-009ams	d SampT	ype: MS	D4	Test	tCode: El	PA Method	8260B: Vola			
Client ID: S-11	Batch	ID: A4	8228	R	RunNo: 4	8228				
Prep Date:	Analysis D	ate: 1/	5/2018	S	SeqNo: 1	549747	Units: mg/k	ζд		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Ethylbenzene	0.90	0.046	0.9107	0	98.3	80	120	1.06	0	
Xylenes, Total	2.7	0.091	2.732	0.02113	98.8	80	120	1.01	0	
Surr: 4-Bromofluorobenzene	0.42		0.4554		93.3	70	130	0	0	
Surr: Toluene-d8	0.47		0.4554		103	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 21 of 22

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.

5.0

28

490

WO#: 1801238

10-Jan-18

Client:	APEX TITAN
Project:	Quinn 340s 2017

Sample ID rb	SampType: MBLK	TestCode: EPA Method 8015D Mod: Gasoline Range
Client ID: PBS	Batch ID: R48228	RunNo: 48228
Prep Date:	Analysis Date: 1/5/2018	SeqNo: 1548501 Units: mg/Kg
Analyte	Result PQL SPK valu	ue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Gasoline Range Organics (GRO)	ND 5.0	
Surr: BFB	510 500.	.0 103 70 130
Sample ID 2.5ug gro lcs	SampType: LCS	TestCode: EPA Method 8015D Mod: Gasoline Range
Client ID: LCSS	Batch ID: R48228	RunNo: 48228
Prep Date:	Analysis Date: 1/5/2018	SeqNo: 1548502 Units: mg/Kg
Analyte	Result PQL SPK valu	ue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

112

97.2

70

70

130

130

25.00

500.0

Sample ID 1	801238-008ams	SampTy	SampType: MS TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: S	5-10	Batch	ID: <b>R4</b>	8228	R	unNo: 4	8228				
Prep Date:		Analysis Da	te: 1/	5/2018	S	eqNo: 1	549749	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range (	Organics (GRO)	20	3.8	19.23	0	102	64.7	142			
Surr: BFB		390		384.6		101	70	130			

0

Sample ID 1801238-008am	isd Sampi	ype: MS	SD	les	Code: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: S-10	Batch	ID: <b>R4</b>	8228	R	RunNo: 4	8228				
Prep Date:	Analysis D	ate: 1/	5/2018	S	SeqNo: 1	549750	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	19	3.8	19.23	0	96.8	64.7	142	4.76	20	
Surr: BFB	380		384.6		99.4	70	130	0	0	

#### Qualifiers:

Surr: BFB

Gasoline Range Organics (GRO)

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 S

В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Page 22 of 22

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified



#### Hail Environmental Analysis Laboratory 4901 Hawkins NL Albuquerque, NM 87109

TEL: 505-345-3975 FAX: 505-345-4167 Website: www.hallenvironmental.com

## Sample Log-In Check List

Client Name:	APEX AZTEC	Work Order Number	: 1801	238		R	teptNo: 1
Received By:	Erin Melendrez	1/5/2018 7:30:00 AM			una		
Completed By	Sophia Campuzano	1/5/2018 8:16:00 AM			locker in	-ya	
Reviewed By	no	1 5 18				,	
		, .					
Chain of Cus	stody						
1. Is Chain of C	custody complete?		Yes	<b>V</b>	No	Not Presen	ıt 🗀
2. How was the	sample delivered?		Cour	ier			
Log In							
<ol><li>Was an atten</li></ol>	npt made to cool the sample	s?	Yes	<b>V</b>	No	] N/	
4. Were all sam	ples received at a temperatu	ere of >0° C to 6.0°C	Yes	V	No 🗆	] N	A 🗆
5. Sample(s) in	proper container(s)?		Yes	V	No 🗆	]	
6. Sufficient san	nple volume for indicated tes	it(s)?	Yes	<b>✓</b>	No 🗌	i	
7. Are samples	(except VOA and ONG) prop	perly preserved?	Yes	~	No 🗌	]	
8. Was preserva	ative added to bottles?		Yes		No 🗸	NA NA	
9. VOA vials hav	ve zero headspace?		Yes		No 🗆	No VOA Vials	· 🗸
	mple containers received bro	oken?	Yes		No V		
						# of preserve bottles check	
11. Does paperw	ork match bottle labels?		Yes	✓	No 🗌		eu .
(Note discrep	ancies on chain of custody)				_		(<2 or >12 unless noted)
12. Are matrices	correctly identified on Chain	of Custody?	Yes	~	No 🗌	Adjuste	d?
13, Is it clear wha	et analyses were requested?			~	No 🗆		
	ing times able to be met?		Yes	~	No 📙	Checke	d by:
(If no, notify o	customer for authorization.)						
Special Hand	ling (if applicable)						
15. Was client no	otified of all discrepancies w	th this order?	Yes		No 🗆	N.	A 🗸
Person	Notified:	Date:					
By Wh	om:	Via:	_ eMa	ail 🗌 Ph	none 🗌 Fa	ax In Person	
Regard	ding:			-			suff-deside
Client I	Instructions:						
16. Additional re	emarks:						
17. Cooler Info	rmation						
Cooler No		Seal Intact   Seal No	Seal D	ate	Signed By		
1		Yes		-			

				CHAIN OF CLISTODY RECORD
APEX Office Location (OC S. R.D. Grande, Suite A. Aztechim 87-410 Project Manager K. Summers Sampler's Name	Hall Environment Laboratory: Analysis Labora  Address: 4901 Hawkirs  Albuquerque, rum 8710: Contact: A.Freeman  Phone: 505-345-397  PO/SO#: See-20128  Sampler's Signature	atony NE 9	ANALYSIS LEANESTED SOLVED SOLV	CHAIN OF CUSTODY RECORD  Lab use only Due Date:  Temp. of coolers   0.8 ( when received (C"):   .   1   2   3   4   5  Page / of /
Range Drechilly	Rudilly		में बी	/////
Proj. No. Project Name 72504012367 Quin	NorType of C	ontainers	979/	
		250 ml Glass Jar PrO		Lab Sample ID (Lab Use Only)
2 1	5-3	1	$\times$ $\times$ $\times$	-001
5 114/18 1020 X	S-4	1	XXX	-002
5 114/18 1030 X	S-5	1	ZXX	-003
5 114/18 1040 X	5-6	1	XXX	004
	S-7	)	$\times$ $\times$ $\wedge$	-005
5 1/4/18 1100 X	5-8	1	XXX	-006
5 14115 1110 V	5-9		XXX	-007
S 1/4/18 1120 2	5-10	)	XXX	-008
5 11418 1130 X	5-11	1	XXX	-009
5 11418 1140 ×	5-12	1	$\times$ $\times$ $\times$	-010
Turn around time ☐ Normal ☐ 25% Rust	At the second se	FOAY		
Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Date:	Time: Received by: (Signature)  Time: Received by: (Signature)  Time: Received by: (Signature)	Date: Date: Date: Date:	Time: NOTES:  1541 Time: Bill +  0730 Time: A	o Tom Long (EPRCO)
Relinquished by (Signature) Date:	Time: Received by: (Signature)	Date:		MEDAY

Courier Apex TITAN. Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204

Relinquished by (Signature)

Matrix

Container

WW - Wastewater

VOA - 40 ml vial

Date:

Time:

S - Soil SD - Solid

W - Water S - Soil SD -A/C - Amber / Or Glass 1 Liter

Received by: (Signature)

L - Liquid A - Air Bag

250 ml - Glass wide mouth

SL - sludge

C - Cil

C - Charcoal tube P/C - Plastic or other

																	CHAIN OF	CUSTODY REC	ORD
						Hall	En	in	nnu	ent	01/	A	NALY	sis /	1/	11	III	Lab use only	
					Laboratory							, R	QUE	ESTED	11	III	I/I	Due Date:	
<b>APEX</b>					Address:	49	OIL	tau	rin	c /	VE			14	d / /	11	111	Temp. of coolers	1000
Office Location	100	41	2.0	Consto										18		-1/1	III	Temp. of coolers I - when received (C°):	0.800
Suite A, A					Contact:		A, F				, 0	-		18	11	11	III	1 2 3 4	
XXIII A, A	12166	110	, ,	3 7410	Phone:	,								7	1/	/ / /	' / /	Page of	/
Project Manage	- Y C		170.0	re	PO/SO #:		ee 1			1.7	- 2			3 3 1	7 / /	1.7	//	1 490	
Sampler's Name	- 20	SULL	11146		Sampler's Sign		,	107				-	۲,	737 9		//	1 1		
Rance Dec	echil	ly		1	Zuo	III.	7						BILL	TPIT GEOLDECHINES	$J/J_{\perp}$	///	/ /		
Proj. No. 725040 1123		Proje		Duinn 34	10 = 1200	2\		No/T	rpe of C	ontair	ners		-/-	A /	III	11	/		
		Com	Gra	Juinn >	105(201	+ 5	- E	4	Ø -:	0-	2 -	c	/	III		11	f = 1	801238	
Matrix Date	Time	p m	a	Identifying Mark	ks of Sample(s)	Sta	En Dep	VOA	- A	153 E	Glass	ñ.		LLL			Lab	Sample ID (Lab Use Onl	y)
5 114/18 1	200	Y		50-	1						1	×	X	8				- 01	f
S 1/4/18 1	210	X		SP.							1	X	X	X				-012	2
5 14/18 1		X		Sp							1	X	X	Χ				-013	Š
5 11418 1	230	X									}	×	X	X				-014	+
5 14 18 1	240	X		Sp Sp	-5						)	X	×	1				-015	5
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										-									
Turn around time	□ Norr	mai		25% Rush		100%			ME	D/-	y		+						
Relinquished by (Sig			1	14/18 15	548 /	-	- W1	A			Date:	5 15	Time:	NOTES		, -	- m 1 - m	(Eppon)	
Relinquished by (Sig					71/11	ived by:	100	ture)		4	Date:		Time:	10-	13111	TO	3.71	37 (EPROD)	
Belinquished by (Sig			-		ime: Rece	ived by:	Signa	ture	-		Date:		Time:		Non	AFE	N331	37	
Relinguished by (Sig	onatura)			Date: T	ime: Rece	ivec by:	(Signa	ture)		-	15/ Date:		3( Time:	2 <1	LME D				
Helinquisited by (Sig	grature)			Date.		.voc by.	Ogna				Julio	1		3.5		_	Cac	· Soch sad	CES
	Wastewat 40 ml vial			W - Water S A/G - Amber / Or	- Soil SD - S Glass 1 Liter	olid L	- Liquio		- Air Ba			Charcoal - Plastic		SL - sludg	e O-0	OI .			

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Appendix F Regulatory Correspondence From: Fields, Vanessa, EMNRD

To: Long, Thomas; Smith, Cory, EMNRD

Cc: Stone, Brian

**Subject:** RE: Quinn #340s - UL K Section 20 T31N R8W; 36.880316, -107.701861

**Date:** Monday, January 08, 2018 8:52:42 AM

Attachments: image001.gif

Good morning Tom,

As per our conversation this morning the OCD grants Enterprise the requested variance.

Please include this e-mail with your final C-141.

Thank you,

Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 119
Cell: (505) 419-0463

vanessa.fields@state.nm.us

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

Sent: Monday, January 8, 2018 8:50 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: Quinn #340s - UL K Section 20 T31N R8W; 36.880316, -107.701861

Vanessa,

Please find the attached site sketch and lab report for the Quinn 340S excavation. All sample results are below the site specific remediation standard except for S-3 with a result of 117 ppm TPH. Enterprise requests a variance for this sample as that a 17 ppm exceedance of the 100 ppm TPH remediation standard is due to the motor oil range organics. 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: Wednesday, January 03, 2018 10:33 AM

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

(Corv.Smith@state.nm.us)'; |1thomas@blm.gov

Cc: Stone, Brian

Subject: FW: Quinn #340s - UL K Section 20 T31N R8W; 36.880316, -107.701861

Vanessa/Whitney,

This email is to notify you that Enterprise anticipates collecting soil samples for laboratory analysis at the Quinn 340s release site tomorrow, Thursday, January 4, 2018 at 10:00 a.m. If you have any questions, please call or email.

Sincerely,

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

From: Thomas, Leigh [mailto:l1thomas@blm.gov]
Sent: Wednesday, December 20, 2017 2:59 PM

To: Long, Thomas

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

(Cory.Smith@state.nm.us); Stone, Brian

Subject: Re: Quinn #349s - UL K Section 20 T31N R8W; 36.880316, -107.701861

Tom,

This location appears to be on Private Surface.

Whitney Thomas Natural Resource Specialist Farmington Field Office 6251 North College Boulevard Suite A Farmington, NM 87402

Office: 505-564-7680 Cell: 505-635-9796

email: <a href="mailto:l1thomas@blm.gov">l1thomas@blm.gov</a>

On Wed, Dec 20, 2017 at 2:53 PM, Long, Thomas < tilong@eprod.com > wrote:

#### Vanessa/Whitney,

This email is to notify you that Enterprise had a release on the Quinn 340s today. The release is located in a small (blue line) wash. No fluids have been observed on the ground surface. The release is located at UL K Section 20 T31N R8W; 36.880316, -107.701861. I will keep you informed as to when the repairs and remediation are scheduled. If you have any questions, please call or email.

Sincerely,

Thomas J. Long
Senior Environmental Scientist
Enterprise Products Company
614 Reilly Ave.
Farmington, New Mexico 87401
505-599-2286 (office)
505-215-4727 (Cell)
tilong@eprod.com



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

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
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 NWOCD APR 1 6 2018

Form C-141 Revised April 3, 2017

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

## **Release Notification and Corrective Action**

					UP	ERATOR	<		j initial i	Report 🛛 Final Repo
Name of C	ompany <b>E</b> r	terprise F	ield Serv	ices, LLC			omas Long			
	14 Reilly A			/I 87401			No. <b>505-599-2</b>			
Facility Na	me <b>San Ju</b>	an 29-9 #1			F	acility Typ	e Natural Gas	s Mete	ring Gat	hering Pipeline
Surface O	wner <b>BLM</b>			Mineral C	wner <b>E</b>	BLM			Serial	No. N/A
				LOCA	TION	OF REL	FASE			
Unit Letter	Section	Township	Range		North/		Feet from	East	Nest	County
D	35	29N	9W	the 1140	Line		the 1130	Line		San Juan
		La	atitude_36	6.686347 L	ongitud	de107.7	56354 NAD83			
				NAT	URE (	OF RELE	EASE			
Type of Rel	ease Natural	Gas and C	ondensate	)		The state of the s	Release 0.84 NBBLs Condens		Volume I	Recovered None
Source of F	Release Interr	nal Corrosio	n of the pi	peline			Hour of Occurre		Date and	Hour of Discovery
							@ 1:00 p.m.			@ 1:00 p.m.
Was Immed	liate Notice (	Given?	☐ Yes	□ No ⊠ N	ot		Whom? : Cour homas - BLM	tesy No	tification \	Vanessa Fields – NMOCD;
Required			l les		Ot	vviilliey i	Homas - BLIVI			
·										
By Whom?	Thomas Lon	q				Date and	Hour February 9	9, 2018	@ 9:06 a	.m.
	ercourse Rea						olume Impacting			
			Yes	⊠ No						
	ourse was Im									
										a release of natural gas and
pipeline.	on the San	Juan 29-9#	i well tie.	Enterprise con	ııırmea	the release	and isolated, de	epressu	rizea, ioci	ked out and tagged out the
	roa Affected	and Claanu	p Action Ta	aken.* The cor	ntamina	nt mass wa	e romoved by m	nechani	cal excava	ation. The final excavation
Describe Ai	ea Allected	and Cleanu			itaiiiii	III IIIass wa	s removed by in			ation. The iniai excavation
dimensions	measured a	pproximatel		ong by 18 feet	by 10 f	eet deep.	Approximately 1	20 cub		f hydrocarbon impacted soil
dimensions were excav	measured a ated and trar	pproximatel asported to a	a New Mex	ong by 18 feet	by 10 f	eet deep.	Approximately 1	20 cub		
dimensions were excav	measured a	pproximatel asported to a	a New Mex	ong by 18 feet	by 10 f	eet deep.	Approximately 1	20 cub		f hydrocarbon impacted soil
dimensions were excav report is inc	measured a ated and trand cluded with the crtify that the i	pproximately asported to a ais "Final" C- anformation of	a New Mea	ong by 18 feet xico Oil Conse ve is true and o	by 10 fervation	eet deep. Division ap	Approximately 1 proved land farm st of my knowled	20 cub n facilit	y. A third	f hydrocarbon impacted soil party corrective action and that pursuant to NMOCD
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#### **CORRECTIVE ACTION REPORT**

Property:

San Juan 29-9 #1 Pipeline Release NW 1/4, S35 T29N R9W San Juan County, New Mexico

March 30, 2018 Apex Project No. 725040112397

Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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#### CORRECTIVE ACTION REPORT

San Juan 29-9 #1 Pipeline Release NW 1/4, S35 T29N R9W San Juan County, New Mexico

Apex Project No. 725040112397

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The San Juan 29-9 #1 pipeline release site, referred to hereinafter as the "Site", is located adjacent to County Road (CR) 4990 and within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ½ of Section 35, Township 29 North, Range 9 West, in San Juan County, New Mexico (36.686347N,107.756354W). The Site is located on land managed by the United States Bureau of Land Management (BLM). The surrounding area is predominately rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which transects the area from approximately northeast to southwest.

On February 7, 2018, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On February 13, 2018, 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 by replacing approximately 40 feet of pipe prior to being placed back in service.

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

#### 1.2 Project Objective

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

#### 2.0 SITE RANKING

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



Rank	ing 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 Surface Water	<200 feet	20	
Body	200 to 1,000 feet	10	10
Body	>1,000 feet	0	130° 58°
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". The ranking is based on the following information:

- No water wells were identified within a mile of the Site on the OSE Water Right Reporting System (WRRS) database. However, due to the Site's elevation and proximity relative to the Largo Canyon Wash, groundwater may be present at less than 50 feet below grade surface (bgs), resulting in 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/water source protection area ranking score of "0".
- The release point is located approximately 350 feet southwest of the Largo Canyon Wash cut-bank and approximately 703 feet northwest 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 "10".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

On February 7, 2018, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On February 13, 2018, 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 by replacing approximately 40 feet of pipe prior to being placed back in service. During the pipeline and earthwork activities, West States Energy Contactors Inc., provided heavy equipment and labor support, and Apex provided environmental consulting support.

Field screening results indicated that petroleum hydrocarbon impact to Site soils was limited to the immediate vicinity of the release. On February 13, 2018, after Enterprise determined that they intended to install of a full joint (40') of pipe, one (1) composite soil sample (S-1) was collected from the southwest wall of the excavation to verify, prior to additional excavation, that petroleum hydrocarbon impact did not extend in that direction. On February 16, 2018, four (4) composite soil samples (S-2 through S-5) were collected from the remaining walls and base of the excavation.

The remediation portion of the excavation measured approximately 18 feet long by 18 feet wide. The maximum depth of the excavation measured approximately ten (10) feet bgs.



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

A total of approximately 120 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with imported fill and contoured to surrounding grade.

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

#### 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of five (5) composite soil samples (S-1 through S-5) from the excavation for laboratory analysis.

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

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

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

#### 4.1 Soil Samples

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



- The laboratory analyses of the composite soil samples collected from soils remaining in
  place do not indicate benzene concentrations above the laboratory PQLs, which are
  below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of composite soil sample S-5 (collected from soils remaining in place) indicates a total BTEX concentration of 0.20 mg/kg, which is below the New Mexico EMNRD OCD RAL of 50 mg/kg. The laboratory analyses of the remaining composite soil samples collected from soils remaining in place do not indicate total BTEX concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of the composite soil samples collected from soils remaining in place do not indicate combined TPH GRO/DRO/MRO concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "30".
- The laboratory analyses of the composite soil samples collected from soils remaining in place indicate chloride concentrations ranging from below the laboratory PQLs to 260 mg/kg (S-1).

Laboratory analytical results are summarized in **Table 1** in **Appendix D**.

#### 5.0 FINDINGS AND RECOMMENDATIONS

The San Juan 29-9 #1 pipeline release site is located adjacent to CR 4990 and within the Enterprise ROW in the NW ¼ of Section 35, Township 29 North, Range 9 West, in San Juan County, New Mexico. The Site is located on land managed by the Unite States BLM. The surrounding area is predominately rangeland that is periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which transects the area from approximately northeast to southwest.

On February 7, 2018, a release of natural gas was discovered at the Site. Enterprise subsequently isolated and locked the line out of service. On February 13, 2018, 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 by replacing approximately 40 feet of pipe prior to being placed back in service.

- The primary objective of the corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand.
- The final remediation portion of the excavation measured approximately 18 feet long by 18 feet wide. The maximum depth of the excavation measured approximately ten (10) feet bgs.
- Prior to backfilling, five (5) composite samples soil samples were collected from the excavation for laboratory analyses. Based on soil 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 120 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with imported fill and contoured to surrounding grade.

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

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

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

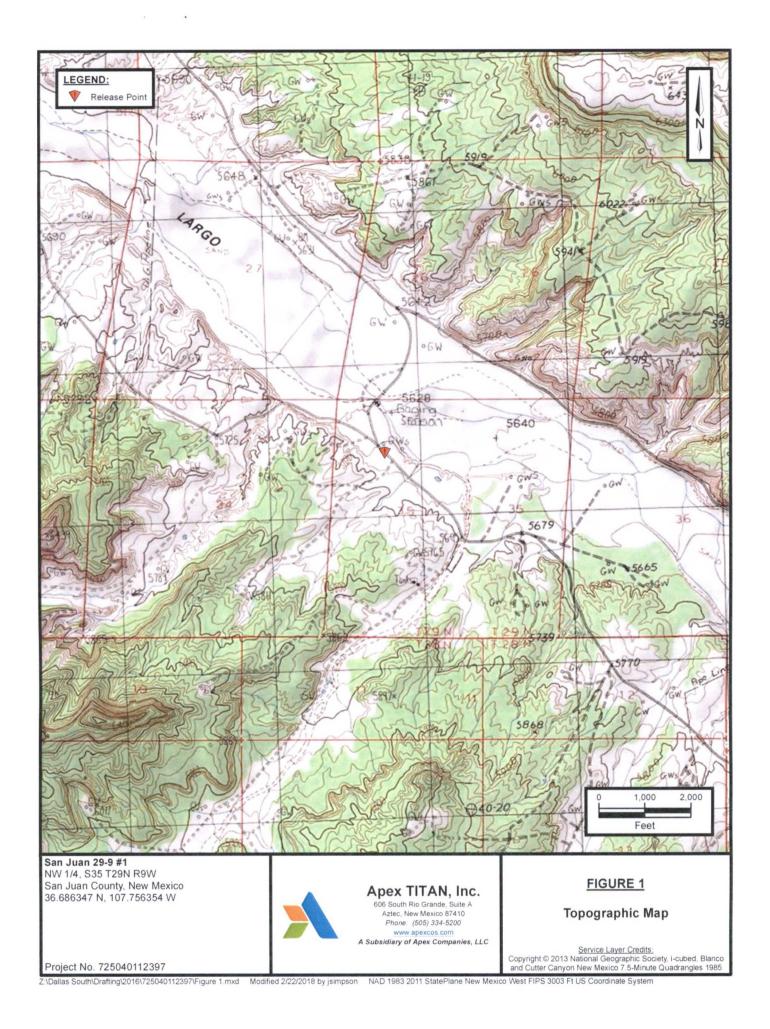
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

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



APPENDIX A

Figures





San Juan 29-9 #1 NW 1/4, S35 T29N R9W San Juan County, New Mexico 36.686347 N, 107.756354 W



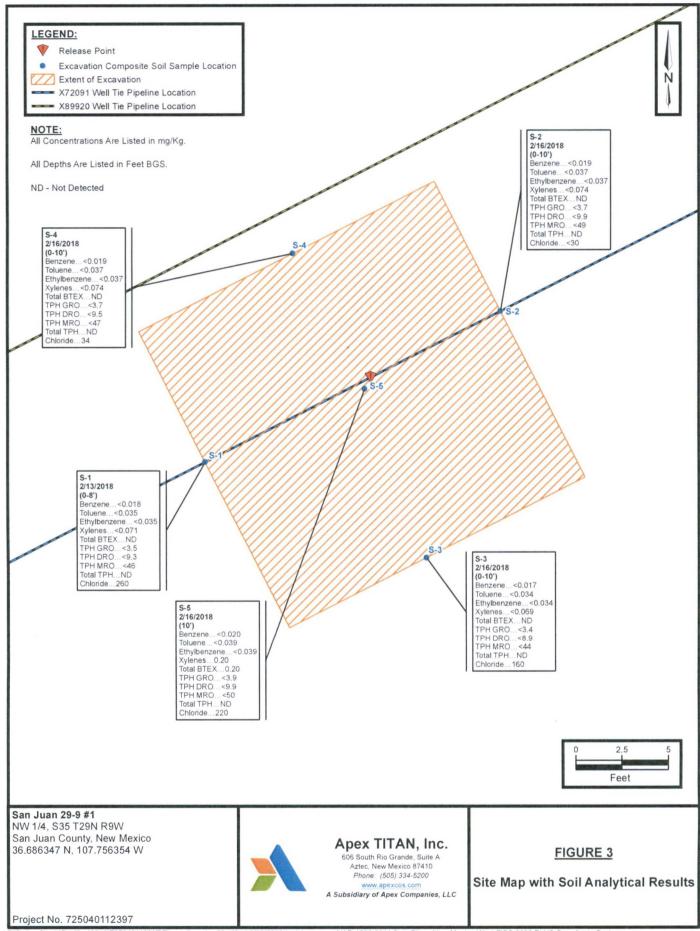
Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200 www.apexcos.com
A Subsidiary of Apex Companies, LLC

Site Vicinity Map

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

FIGURE 2

Project No. 725040112397





APPENDIX B

Executed C-138 Solid Waste Acceptance Form

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

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

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 9 7 8 7 - 0 8 99 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:	Invoice Information: PM: Thomas Long
Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401	Non AFE: N35122
	Pay Key: CM22355
2. Originating Site:	
San Juan 29-9#1 Pipeline	
3. Location of Material (Street Address, City, State or ULSTR):	~1 ~~=
UL D Section 35 T29N R9W; 36.686347,-107.756354	teh. 2018
4. Source and Description of Waste: Hydrocarbon impacted soils associated with	a release from a natural gas pipeline.
Estimated Volume 50 (yd³) bbls Known Volume (to be entered by the operator at	the and of the health 120 Alberta
Estimated Volume 50 (yd³) bbls Known Volume (to be entered by the operator at	the end of the hauf)yd bbis
5. GENERATOR CERTIFICATION STATEMENT OF	
I, Thomas Long representative or authorized agent for Enterprise Field S	ervices, LLC do hereby
PRINT & SIGN NAME COMPANY N	AME
certify that according to the Resource Conservation and Recovery Act (RCRA) and the U	
regulatory determination, the above described waste is: (Check the appropriate classificat	101)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and pro-	
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	ed the minimum standards for waste hazardous by
characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed has	
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 STAT	TEMENT FOR LANDFARMS
Warm Land	
1, 2-16-18 , representative for Enterprise Field Services, LLC authorize En	virotech, Inc. to complete the required
Generator Signature testing/sign the Generator Waste Testing Certification.	
testing/sign the deherator waste resting certification.	
I, And Envirotech, I	de benebu entife that
representative samples of the oil field waste have been subjected to the paint filter test and	d tested for chloride content and that the samples
have been found to conform to the specific requirements applicable to landfarms pursuan	
of the representative samples are attached to demonstrate the above-described waste conf	
19.15.36 NMAC.	
5. Transporter: TBD M+ R	
OCD Permitted Surface Waste Management Facility	
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: Ni	VI 01-0011
Address of Facility: Hilltop, NM	
Method of Treatment and/or Disposal:	3
☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐	Landfill Other
Waste Acceptance Status:	
	ED (Must Be Maintained As Permanent Record)
PRINT NAME: Greg Craffice TITLE: Environme	ntal Manager DATE: 2/16/18
$\Lambda \Lambda / I \Lambda$	
SIGNATURE: TELEPHONE NO.: Surface Waste Management Facility Authorized Agent	505-632-0615
Surface waste management racinty Authorized Agent	



APPENDIX C

Photographic Documentation



## Photograph 1

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



## Photograph 2

View of the source area and initial excavation, facing east.



### Photograph 3

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





## Photograph 4

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



## Photograph 5

View of the final excavation, facing north.





APPENDIX D

Table



# TABLE 1 San Juan 29-9 #1 SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (mg/kg)	Chloride (mg/kg)
		Natural Resources , Remediation Action		10	NE	NE	NE	50				100	NE
						Excavation Con	nposite Soil San	ples	andre de la compani		GLOSSIE.		
S-1	02.13.18	С	0 to 8	< 0.018	< 0.035	< 0.035	< 0.071	ND	<3.5	<9.3	<46	ND	260
S-2	02.16.18	С	0 to 10	< 0.019	< 0.037	< 0.037	< 0.074	ND	<3.7	<9.9	<49	ND	<30
S-3	02.16.18	С	0 to 10	< 0.017	< 0.034	< 0.034	< 0.069	ND	<3.4	<8.9	<44	ND	160
S-4	02.16.18	С	0 to 10	< 0.019	< 0.037	< 0.037	< 0.074	ND	<3.7	<9.5	<47	ND	34
S-5	02.16.18	С	10	< 0.020	< 0.039	< 0.039	0.20	0.20	<3.9	<9.9	<50	ND	220

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

February 15, 2018

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

TEL: (903) 821-5603

**FAX** 

RE: San Juan 29-9 1

OrderNo.: 1802795

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/14/2018 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

#### **Analytical Report**

#### Lab Order 1802795

Date Reported: 2/15/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Lab ID:

Project:

San Juan 29-9 1

1802795-001

Client Sample ID: S-1

Collection Date: 2/13/2018 2:00:00 PM

Received Date: 2/14/2018 7:00:00 AM

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CJS
Chloride	260	30	mg/Kg	20	2/14/2018 11:04:00 AM	36522
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analyst	AG
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	2/14/2018 11:18:59 AM	G49122
Surr: BFB	119	70-130	%Rec	1	2/14/2018 11:18:59 AM	G49122
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS	i			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	2/14/2018 10:10:28 AM	36519
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	2/14/2018 10:10:28 AM	36519
Surr: DNOP	94.5	70-130	%Rec	1	2/14/2018 10:10:28 AM	36519
EPA METHOD 8260B: VOLATILES SHO	ORT LIST				Analyst	AG
Benzene	ND	0.018	mg/Kg	1	2/14/2018 11:18:59 AM	R49122
Toluene	ND	0.035	mg/Kg	1	2/14/2018 11:18:59 AM	R49122
Ethylbenzene	ND	0.035	mg/Kg	1	2/14/2018 11:18:59 AM	R49122
Xylenes, Total	ND	0.071	mg/Kg	1	2/14/2018 11:18:59 AM	R49122
Surr: 4-Bromofluorobenzene	126	70-130	%Rec	1	2/14/2018 11:18:59 AM	R49122
Surr: Toluene-d8	108	70-130	%Rec	1	2/14/2018 11:18:59 AM	R49122

Matrix: SOIL

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

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 5 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1802795

15-Feb-18

Client:

APEX TITAN

Project:

San Juan 29-9 1

Sample ID MB-36522

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID: **PBS** 

Batch ID: 36522

RunNo: 49121

Analysis Date: 2/14/2018

Prep Date: 2/14/2018

Result **PQL**  SeaNo: 1584649

Units: mg/Kg

HighLimit

%RPD **RPDLimit** 

Qual

Analyte Chloride

ND 1.5

Sample ID LCS-36522

SampType: Ics

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

Batch ID: 36522

RunNo: 49121

2/14/2018

SegNo: 1584650

Units: mg/Kg

Prep Date: Analyte

Analysis Date: 2/14/2018

SPK value SPK Ref Val %REC LowLimit

HighLimit

PQL

15.00

Qual

Chloride

%RPD

SPK value SPK Ref Val %REC LowLimit

14

1.5

**RPDLimit** 

Qualifiers:

D

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Page 2 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#:

1802795

15-Feb-18

**Client:** 

APEX TITAN

Project:

San Juan 29-9 1

Sample ID LCS-36519	SampTy	pe: LC	S	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch	ID: 36	519	R	lunNo: 4	9118				
Prep Date: 2/14/2018	Analysis Da	ate: 2/	14/2018	S	eqNo: 1	582129	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.2	70	130			
Surr: DNOP	4.4		5.000		87.5	70	130			

Sample ID MB-36519	SampTy	pe: MB	LK	Test	tCode: EF	PA Method	8015M/D: Die	esel Range	e Organics	
Client ID: PBS	Batch	ID: 365	519	R	RunNo: 49	9118				
Prep Date: 2/14/2018	Analysis Da	te: 2/1	14/2018	S	SeqNo: 1	582135	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	10		10.00		102	70	130			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 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#:

1802795

15-Feb-18

Client: Project:

APEX TITAN San Juan 29-9 1

Sample ID 100ng lcs SampType: LCS4 TestCode: EPA Method 8260B: Volatiles Short List Client ID: BatchQC Batch ID: R49122 RunNo: 49122 Prep Date: SeqNo: 1583401 Analysis Date: 2/14/2018 Units: mg/Kg SPK value SPK Ref Val HighLimit %RPD **RPDLimit** Analyte Result PQL %REC LowLimit Qual 0.83 0.025 83.0 80 120 1.000 0 Benzene 0.90 0.050 1.000 0 90.0 80 120 Toluene 1.000 0 91.1 80 120 0.91 0.050 Ethylbenzene Xylenes, Total 2.8 0.10 3.000 0 93.4 80 120 99.6 70 Surr: 4-Bromofluorobenzene 0.50 0.5000 130 70 Surr: Toluene-d8 0.55 0.5000 111 130

Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: Volat	iles Short	List	
Client ID: PBS	Batch	D: R4	9122	R	RunNo: 49122					
Prep Date:	Analysis D	sis Date: 2/14/2018 SeqNo: 1583405				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	0.62		0.5000		123	70	130			
Surr: Toluene-d8	0.57		0.5000		114	70	130			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 4 of 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#:

1802795

15-Feb-18

Client:

APEX TITAN

Project:

San Juan 29-9 1

Sample ID 2.5ug gro lcs	SampT	ype: LC	S	TestCode: EPA Method 8015D Mod: Gasoline Range						
Client ID: LCSS	Batch	ID: <b>G4</b>	9122	R	lunNo: 4	9122				
Prep Date:	Analysis D	ate: 2/	14/2018	S	eqNo: 1	583398	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.8	70	130			
Surr: BFB	540		500.0		108	70	130			

Sample ID rb	SampT	SampType: MBLK			TestCode: EPA Method 8015D Mod: Gasoline Range					
Client ID: PBS	Batch	Batch ID: <b>G49122</b> RunNo: <b>49122</b>								
Prep Date:	Analysis D	ate: 2/	14/2018	S	eqNo: 1	583399	Units: mg/K	ζg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	590		500.0		117	70	130			

## Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 5 of 5

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

# Sample Log-In Check List

Client Name:	APEX AZTEC	Work Order Number	1802	795			RcptNo:	1
Received By:	Anne Thorne	2/14/2018 7:00:00 AM			am	A	·	
Completed By:	Anne Thome	2/14/2018 7:15:08 AM			1	A.		
Reviewed By: N	n 2 hula				am	- Ma		
, tovioliou 25. N	19 41 11%							
Chain of Cus	todv							
	ustody complete?		Yes	<b>V</b>	No		Not Present	
2. How was the	sample delivered?		Cour	ier				
Log In	npt made to cool the samp	olog?	Yes		No		NA 🗆	
O. VVas all attell	ipi made to cool the samp	oles r	185	•	NO		NA 🗀	
4. Were all samp	ples received at a tempera	ature of >0° C to 6.0°C	Yes	<b>✓</b>	No		NA 🗆	
5. Sample(s) in p	proper container(s)?		Yes	<b>✓</b>	No			
1						_		
<ol><li>Sufficient sam</li></ol>	ple volume for indicated t	est(s)?	Yes	<b>V</b>	No			
7. Are samples (	except VOA and ONG) pr	operly preserved?	Yes	<b>V</b>	No		_	
8. Was preserva	tive added to bottles?		Yes		No	<b>V</b>	NA 🗆	
9. VOA vials hav	e zero headspace?		Yes		No		No VOA Vials 🗹	
10. Were any san	mple containers received t	oroken?	Yes		No	<b>Y</b>	# of	
							# of preserved bottles checked	
	ork match bottle labels?	4	Yes	<b>✓</b>	No		for pH:	12 unless noted)
	ancies on chain of custody		Yes		No	$\Box$	Adjusted?	12 dilless floted)
	correctly identified on Cha t analyses were requested			<b>V</b>	No			
	ng times able to be met?	21		<b>✓</b>	No	_	Checked by:	
	ustomer for authorization.	)	105		,,,,			
Special Handl	ing (if applicable)						*	
	otified of all discrepancies	with this order?	Yes		No		NA 🗸	
Person	Notified:	Date 1		Additional attitude instruments	OMODE WATER			
By Who		THE RANGE WHEN THE PROPERTY OF	T eMa	ail 🔲 1	Phone	Fax	In Person	
Regardi	CHICATA CONTRACTOR CON							
	nstructions:				***************************************	NAME OF THE OWNER, OR THE		
16. Additional rei	<b>*</b> · · · · · · · · · · · · · · · · · · ·		(i) (i)	VENE 61 (0.8	0.0		74 (K K 1000)004 K	
	Marks. DDY SEALS INTACT ON S	SOIL JARS/at 2/14/18						
17. Cooler Infor								
Cooler No	BECOME AND A CAMBANA AND A STREET OF A STREET AND ASSOCIATION ASSOCIATION	Seal Intact   Seal No   S	eal D	ite	Signed	Ву		
1	1.0 Good	Yes					]	

				CHAIN OF CUSTODY RECORD
APEX Office Location  606 S. RIO Grande Suite A, Azter, NM 87410 Project Manager Ksummers Sampler's Name Range Deechilly	Address: 4901 Ho Allaquerque Contact: AiFre	NUM 87109 Servern	ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers // O = when received (C°):  1 2 3 4 5  Page 3 of 6
Proj. No. Project Name		No/Type of Containers	以打造	/ / /
725040112397 San Juan à	29-9-1		BIEX Charles	/ /
Matrix Date Time C G o r Identifying M p b	arks of Sample(s)	VOA VOA 1 LL 250 ml Glass Jar P/O	_779////	Lab Sample ID (Lab Use Only)
S 215/18 1400 X S	-i	į	* * * *	1702795-001
	105			
-				
urn around time  Normal 25% Rush	□ 50% Rush □ 100% Rush	SAME DAY		
Relinquished by (Signature) Date:	Time: Received by: (Signature of Signature) Time: Received by: (Signature of Signature)	ature) Date:	Time: NOTES:	-Tom Long 10ey-CM 22355
Pelinquished by (Signature) Date:	Time: Received by: (Signa	ature) Date:	Time:	
Relinquished by (Signature) Date:	Time: Received by: (Signa		Time: SAMEDAY	AFE N35122 COC Seal
atrix WW - Wastewater W - Water	S - Soil SD - Solid L - Liqui		rccal tube SL - sludge O - Oil	on Lou



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

February 21, 2018

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

TEL: (903) 821-5603

FAX

RE: San Juan 29-9 1

OrderNo.: 1802972

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 4 sample(s) on 2/17/2018 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 1802972

Date Reported: 2/21/2018

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

TITAN

**Project:** San Juan 29-9 1 **Lab ID:** 1802972-001

Matrix: SOIL

Collection Date: 2/16/2018 9:00:00 AM Received Date: 2/17/2018 10:00:00 AM

Client Sample ID: S-2

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: CJS
Chloride	ND	30	mg/Kg	20	2/19/2018 10:25:59 AM	1 36589
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	2/19/2018 10:00:45 AM	1 36587
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	2/19/2018 10:00:45 AM	1 36587
Surr: DNOP	95.8	70-130	%Rec	1	2/19/2018 10:00:45 AM	1 36587
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	2/19/2018 10:55:00 AM	1 G49216
Surr: BFB	86.9	15-316	%Rec	1	2/19/2018 10:55:00 AM	1 G49216
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.019	mg/Kg	1	2/19/2018 10:55:00 AM	1 B49216
Toluene	ND	0.037	mg/Kg	1	2/19/2018 10:55:00 AM	B49216
Ethylbenzene	ND	0.037	mg/Kg	1	2/19/2018 10:55:00 AM	1 B49216
Xylenes, Total	ND	0.074	mg/Kg	1	2/19/2018 10:55:00 AM	1 B49216
Surr: 4-Bromofluorobenzene	84.1	80-120	%Rec	1	2/19/2018 10:55:00 AM	1 B49216

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

### Lab Order 1802972

Date Reported: 2/21/2018

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Lab ID:

Project: San Juan 29-9 1

1802972-002

Matrix: SOIL

Collection Date: 2/16/

**Collection Date:** 2/16/2018 9:10:00 AM **Received Date:** 2/17/2018 10:00:00 AM

Analyses	Result	PQL Q	Qual U	nits	DF Date Analyzed Batch
EPA METHOD 300.0: ANIONS					Analyst: CJS
Chloride	160	30	n	ng/Kg	20 2/19/2018 10:38:23 AM 36589
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst: TOM
Diesel Range Organics (DRO)	ND	8.9	n	ng/Kg	1 2/19/2018 10:22:41 AM 36587
Motor Oil Range Organics (MRO)	ND	44	n	ng/Kg	1 2/19/2018 10:22:41 AM 36587
Surr: DNOP	102	70-130	9/	%Rec	1 2/19/2018 10:22:41 AM 36587
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.4	n	ng/Kg	1 2/19/2018 11:18:53 AM G49216
Surr: BFB	84.9	15-316	9/	%Rec	1 2/19/2018 11:18:53 AM G49216
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	ND	0.017	n	ng/Kg	1 2/19/2018 11:18:53 AM B49216
Toluene	ND	0.034	n	ng/Kg	1 2/19/2018 11:18:53 AM B49216
Ethylbenzene	ND	0.034	n	ng/Kg	1 2/19/2018 11:18:53 AM B49216
Xylenes, Total	ND	0.069	n	ng/Kg	1 2/19/2018 11:18:53 AM B49216
Surr: 4-Bromofluorobenzene	77.7	80-120	S %	%Rec	1 2/19/2018 11:18:53 AM B49216

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
  - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Lab Order 1802972

Date Reported: 2/21/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project:

Lab ID:

San Juan 29-9 1

1802972-003

Matrix: SOIL

Client Sample ID: S-4

Collection Date: 2/16/2018 9:20:00 AM

Received Date: 2/17/2018 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analy	st: CJS
Chloride	34	30	mg/Kg	20	2/19/2018 10:50:47 A	M 36589
EPA METHOD 8015M/D: DIESEL RANG	SE ORGANICS				Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	2/19/2018 10:44:49 A	M 36587
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	2/19/2018 10:44:49 A	M 36587
Surr: DNOP	99.3	70-130	%Rec	1	2/19/2018 10:44:49 A	M 36587
EPA METHOD 8015D: GASOLINE RAN	GE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	2/19/2018 11:42:51 A	M G49216
Surr: BFB	91.1	15-316	%Rec	1	2/19/2018 11:42:51 A	M G49216
EPA METHOD 8021B: VOLATILES					Analy	st: NSB
Benzene	ND	0.019	mg/Kg	1	2/19/2018 11:42:51 A	M B49216
Toluene	ND	0.037	mg/Kg	1	2/19/2018 11:42:51 A	M B49216
Ethylbenzene	ND	0.037	mg/Kg	1	2/19/2018 11:42:51 A	M B49216
Xylenes, Total	ND	0.074	mg/Kg	1	2/19/2018 11:42:51 A	M B49216
Surr: 4-Bromofluorobenzene	85.9	80-120	%Rec	1	2/19/2018 11:42:51 A	M B49216

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 8 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1802972

Date Reported: 2/21/2018

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: San Juan 29-9 1

Client Sample ID: S-5

Collection Date: 2/16/2018 9:30:00 AM

**Lab ID:** 1802972-004

Matrix: SOIL

Received Date: 2/17/2018 10:00:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: CJS
Chloride	220	30	mg/Kg	20	2/19/2018 11:03:11 AM	36589
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	2/19/2018 11:07:03 AM	1 36587
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	2/19/2018 11:07:03 AM	1 36587
Surr: DNOP	97.1	70-130	%Rec	1	2/19/2018 11:07:03 AM	1 36587
EPA METHOD 8015D: GASOLINE RAN	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	2/19/2018 12:06:42 PM	1 G49216
Surr: BFB	112	15-316	%Rec	1	2/19/2018 12:06:42 PM	1 G49216
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.020	mg/Kg	1	2/19/2018 12:06:42 PM	B49216
Toluene	ND	0.039	mg/Kg	1	2/19/2018 12:06:42 PM	1 B49216
Ethylbenzene	ND	0.039	mg/Kg	1	2/19/2018 12:06:42 PM	1 B49216
Xylenes, Total	0.20	0.079	mg/Kg	1	2/19/2018 12:06:42 PM	1 B49216
Surr: 4-Bromofluorobenzene	91.8	80-120	%Rec	1	2/19/2018 12:06:42 PM	1 B49216

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
  - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

# **QC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1802972

21-Feb-18

Client:

APEX TITAN

Project:

San Juan 29-9 1

Sample ID MB-36589

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID: **PBS** Prep Date:

2/19/2018

Batch ID: 36589

SPK value SPK Ref Val %REC LowLimit

RunNo: 49214

Analysis Date: 2/19/2018

SeqNo: 1588713

Units: mg/Kg

HighLimit

%RPD

**RPDLimit** Qual

Analyte Chloride

PQL ND 1.5

Sample ID LCS-36589

SampType: Ics

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

2/19/2018

Batch ID: 36589

RunNo: 49214

1.5

Analysis Date: 2/19/2018 PQL

SeqNo: 1588714

Units: mg/Kg

Analyte

Prep Date:

SPK value SPK Ref Val %REC LowLimit

94.8

HighLimit

**RPDLimit** 

Chloride

14

15.00

%RPD

Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Page 5 of 8

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.

Result

45

PQL

9.9

WO#: 1802972

21-Feb-18

Client:

Analyte

Diesel Range Organics (DRO)

APEX TITAN

**Project:** San Juan 29-9 1

Sample ID LCS-36587	SampType	: LCS	TestCoo	de: EPA Method	8015M/D: Die	sel Range	Organics	
Client ID: LCSS	Batch ID:	36587	RunN	lo: <b>49208</b>				
Prep Date: 2/19/2018	Analysis Date	2/19/2018	SeqN	lo: <b>1587555</b>	Units: mg/Kg	g		
Analyte	Result P	QL SPK value	SPK Ref Val %	REC LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10 50.00	0	95.1 70	130			
Surr: DNOP	4.6	5.000		91.9 70	130			
Sample ID MB-36587	SampType	: MBLK	TestCoo	de: EPA Method	8015M/D: Die	sel Range	e Organics	
Client ID: PBS	Ratch ID:	36587	RunN	lo: <b>49208</b>				
Cheft ID. PB3	Datonib							
Prep Date: 2/19/2018	Analysis Date			No: 1587556	Units: mg/Kg	g		
1 (California Inc.) 10 (California Inc.)	Analysis Date	2/19/2018	SeqN		Units: mg/Kg	g %RPD	RPDLimit	Qual
Prep Date: 2/19/2018	Analysis Date	2/19/2018	SeqN	lo: <b>1587556</b>			RPDLimit	Qual
Prep Date: 2/19/2018 Analyte	Analysis Date	: <b>2/19/2018</b> QL SPK value	SeqN	lo: <b>1587556</b>			RPDLimit	Qual
Prep Date: 2/19/2018  Analyte  Diesel Range Organics (DRO)	Analysis Date: Result P	2/19/2018  QL SPK value	SeqN SPK Ref Val %f	lo: <b>1587556</b>			RPDLimit	Qual
Prep Date: 2/19/2018  Analyte  Diesel Range Organics (DRO)  Motor Oil Range Organics (MRO)	Analysis Date  Result P  ND  ND  9.8	2/19/2018  QL SPK value  10  50  10.00	SeqN SPK Ref Val %f	No: 1587556 REC LowLimit	HighLimit	%RPD		Qual
Prep Date: 2/19/2018  Analyte  Diesel Range Organics (DRO)  Motor Oil Range Organics (MRO)  Surr: DNOP	Analysis Date  Result P  ND  ND  9.8	QL SPK value 10 50 10.00	SeqN SPK Ref Val %F	No: <b>1587556</b> REC LowLimit	HighLimit	%RPD		Qual

Surr: DNOP		4.6		4.950		92.4	70	130			
Sample ID '	1802972-001AMSD	SampTy	pe: M	SD	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	S-2	Batch	ID: 36	587	F	RunNo: 4	9208				
Prep Date:	2/19/2018	Analysis Da	te: 2	/19/2018	S	SeqNo: 1	587973	Units: mg/k	<b>K</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	rganics (DRO)	47	9.7	48.64	0	96.3	55.8	125	4.30	20	
Surr: DNOP		4.6		4.864		94.4	70	130	0	0	

0

%REC

90.7

LowLimit

55.8

HighLimit

125

%RPD

**RPDLimit** 

SPK value SPK Ref Val

49.50

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 6 of 8

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

# **OC SUMMARY REPORT**

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1802972

21-Feb-18

Client:

APEX TITAN

**Project:** 

San Juan 29-9 1

Sample ID RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS Batch ID: G49216

RunNo: 49216

Prep Date:

Analysis Date: 2/19/2018

SeqNo: 1587978

Units: mg/Kg

Analyte

Result PQL 5.0

ND

SPK value SPK Ref Val %REC LowLimit

15

HighLimit %RPD **RPDLimit** Qual

**RPDLimit** 

Qual

Gasoline Range Organics (GRO) Surr: BFB

1200

1000

116

316

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range RunNo: 49216

Client ID: LCSS Batch ID: G49216

Prep Date:

Analysis Date: 2/19/2018

SeqNo: 1587979

Units: mg/Kg

**PQL** 

%REC

HighLimit %RPD Analyte Result SPK value SPK Ref Val LowLimit Gasoline Range Organics (GRO) 30 118 25.00 Surr: BFB 1300 1000 134 15 316

- 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
- POL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Page 7 of 8

- 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#:

1802972

21-Feb-18

Client:

APEX TITAN

Project:

San Juan 29-9 1

Sample ID RB	SampT	ype: ME	BLK	Tes	tCode: El	tiles				
Client ID: PBS	Batch	Batch ID: <b>B49216</b>			RunNo: 49216					
Prep Date:	Analysis D	ate: 2/	19/2018	S	SeqNo: 1	587988	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		115	80	120			

Sample ID 100NG BTEX LC	S SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batch	ID: <b>B4</b>	9216	F	RunNo: 4	9216				
Prep Date:	Analysis Da	ate: 2/	19/2018	8	SeqNo: 1	587989	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.90	0.025	1.000	0	89.7	77.3	128			
Toluene	0.84	0.050	1.000	0	84.2	79.2	125			
Ethylbenzene	0.87	0.050	1.000	0	86.6	80.7	127			
Xylenes, Total	2.6	0.10	3.000	0	87.9	81.6	129			
Surr: 4-Bromofluorobenzene	1.2		1.000		118	80	120			

### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 8 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 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	1802972		RcptNo:	1
Received By: Ashley Gallegos	2/17/2018		A		
Completed By: Anne Thorne	2/19/2018 8:35:23 AM		anne Am		
Reviewed By: ENM	2/19/18		CAPIL SIL		
Chain of Custody					
Is Chain of Custody complete?		Yes 🗸	No 🗆	Not Present	
2. How was the sample delivered?		Courier			
2		0001101			
<u>Log In</u>					
Was an attempt made to cool the samples	?	Yes 🗹	No 🗆	NA 🔲	
4. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗆	
5. Sample(s) in proper container(s)?		Yes 🗸	No 🗆		
Sufficient sample volume for indicated test	(s)?	Yes 🗸	No 🗌		
7. Are samples (except VOA and ONG) prope	rly preserved?	Yes 🗹	No 🗌		
8. Was preservative added to bottles?		Yes	No 🗹	NA 🗆	
9. VOA vials have zero headspace?		Yes	No 🗆	No VOA Vials	
10. Were any sample containers received brok	en?	Yes	No 🗹	# of preserved	
44.5			N. [	bottles checked	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗔	for pH:(<2 or	>12 unless noted)
12. Are matrices correctly identified on Chain of	f Custody?	Yes 🗸	No 🗆	Adjusted?	
3. Is it clear what analyses were requested?		Yes 🗹	No 🗆		
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗸	No 🗆	Checked by:	
Special Handling (If applicable)					
15. Was client notified of all discrepancies with	this order?	Yes 🗌	No 🗆	NA 🗸	
Person Notified:	Date		i di busine mentenga bisau di anasayang antary		
By Whom:	Via: [	eMail []	Phone Fax	In Person	
Regarding:	THE RESERVE THE PROPERTY OF TH	Parlaman and Forential State Commen	ORGANIZATION AND AND AND AND AND AND AND AND AND AN	Charles and American Alexander and American Amer	
Client Instructions:	4 TH HIS STORT ALL HIS CHILD HE AND SIGNAR AND CONTROL OF STORY AND CONTROL AND AND CONTROL AND AND CONTROL AND AND CONTROL AND AND CONTROL AND AND CONTROL AND AND CONTROL AND AND CONTROL AND CONTRO	N. CO HOLDINGS BY THE SOUTH THE BOOK OF A CONTRACTOR	MICHAEL PROPERTY AND PROPERTY OF CHARLES IN THE ARRESTS AND	NO. LEAN AND REAL PROPERTY OF THE PROPERTY OF	
16. Additional remarks:					
17. Cooler Information					
1	Seal Intact   Seal No   5	Seal Date	Signed By		
1 4.3 Good Y	es		CA 100/100/09 313900341-3100399		

			CHAIN OF CUSTODY RECOR
34	Hall Envi	ronmental	ANALYSIS REQUESTED Lab use only Due Date:
APEX	Address: 4901 Ho		\W\/\/\\
Office Location			Temp. of coolers 4-3 when received (C°): 4-3
606 S. Rio Grande	Albuqueque, Contact: A. Fre	eman	8 / / / / 1 2 3 4 5
Suite A, Aster NIM 87410	Phone: 505-34		Page 1 of
Project Manager KSwmmurs	PO/SO #:		
Sampler's Name	Sampler's Signature		
Proj. No. Project Name	1 24 0	No/Type of Containers	
725040112397 San Juan 2	9-9#1		] 779/////
p b	Start Depth Depth	VOA A/G 1Lt. 250 ml Glass Jar P/O	Lab Sample ID (Lab Use Only)
S 2/14/18 900 X S-2	2	1	XXX 1802972 00
S 2/16/18 910 X 8-3	3		X x X 702
		1	XXX 703
3 216/18 930 X S-5			XXX
	195		
	Provident State Control		
Relinquished by (Signature) Date:   7	150% Rush \(\sup \footnote{700% Rush}\) Time: Received by: (Signate	SAME DAY tore) Date: 1	Time: NOTES:
Bus 2/16/18/17	120 / WW	al Zhelis	1720 pm - Tam Long
	Time: Received by: (Signat	07/17/19	10:00 Pay key - CM 22355
	Time: Preceived by Kignar	ture) Date:	1720   PM - Tem Long   10:00   Pay key - CM 22355   Time: Non AFE N35122
Relinquished by (Signature) Date: 1	Time: Received by (Signat	ture) Date:	Time: SAME DAY
Matrix WW - Wastewater W - Water S	S - Soil SD - Solid L - Liquid		Plactic or other

<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

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

NMOCD

Form C-141 Revised April 3, 2017

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



Name of Company Enterprise Field Services, LLC Address 814 Reilly Ave, Farmington, NM 87401 Facility Name Negro Canyon Compressor Station  Surface Owner BLM  Mineral Owner BLM  Serial No. NM 080782  LOCATION OF RELEASE  Unit Letter Section Township Range Feel from Line Line Line Line Line Line Line Line	200-400-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-									Total Control of the		1000		
Name of Company Enterprise Field Services, LLC Address 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name Negro Canyon Compressor Station  Surface Owner BLM  Mineral Owner BLM  Serial No. NM 080782  LOCATION OF RELEASE  Unit Letter Section Township Range Feet from Line Page Feet from Line Page Feet Feet Feet Feet Feet Feet Feet Fe			F	Releas	e Notific	atior	n and C	orrective	Actio	n				
Address 614 Reilly Ave, Farmington, NM 87401 Facility Name Negro Canyon Compressor Station  Surface Owner BLM  Mineral Owner BLM  LOCATION OF RELEASE  Unit Letter Section Township Range 8W Feet from the 1232 Nortice 11232 NATURE OF RELEASE  Type of Release Lubrication Oil Source of Release Equipment Malfunction Discovery 4/27/2018 @ 11:00 a.m.  Was immediate Notice Given?  Was immediate Notice Given?  Was manufacted Nortice 9 Note 1 Note 1 Nortice 1127, 2018, while monitoring a pipeline encroachment, an Enterprise 1 Nortice 2 Nortice 1 Nortice 2 Norti						OF	ERATOR	3	$\boxtimes$	Initial F	Report		Final Repor	rt
Surface Owner BLM    Mineral Owner BLM   Mineral Owner BLM   Serial No. NM 080782														
Surface Owner BLM    Mineral Owner BLM   Mineral Owner BLM											0			
Unit Letter Section 14 31N 8W Feet from the Line Line Line Line Line Line Line Lin	Facility Nar	me <b>Negro</b>	Canyon C	ompress	or Station		Facility Typ	e Natural Ga	s Com	oressor	Station			
Unit Letter   Section   14	Surface Ov	vner <b>BLM</b>			Mineral (	Owner	BLM			Serial	No. NM 0	8078	2	
Unit Letter   Section   14					LOCA	ATION	OF REL	EASE						
Latitude _36.893491	Unit Letter	Section	Township			NortK			East/	Vest				
NATURE OF RELEASE  Type of Release Lubrication Oil  Source of Release Equipment Malfunction  Was Immediate Notice Given?  Required    Yes	0	14	31N	W8	1.00	Line			Line		San Juan			
NATURE OF RELEASE  Type of Release Lubrication Oil  Source of Release Lubrication Oil  Source of Release Equipment Malfunction  Date and Hour of Occurrence  Al27/2018 @ 11:00 a.m.  Was Immediate Notice Given?  Was a Watercourse Reached?  Was a Watercourse Reached?  Was a Watercourse Reached?  Was a Watercourse was Impacted, Describe Fully.*  Describe Cause of Problem and Remedial Action Taken.* On April 27, 2018, while monitoring a pipeline encroachment, an Enterprise technician observed soil staining outside the Negro Canyon Compressor Station fence. Work was stopped and a soil sample was collected to determine the origin of the soil staining. Upon receipt of laboratory analysis on 5-1-2018, it was determined that the soil staining was associated with lubrication oil release.  Describe Area Affected and Cleanup Action Taken.* An area of approximately 50 feet long by 50 feet wide was impacted by the release of lubrication oil. A third party investigation report will be included with the "Final." C-141.  I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rulles and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.  OIL CONSERVATION DIVISION  Approved by Environmental Specialist:  Approved by Env				atitude 36		ongitu	ide -107.64							
Type of Release Lubrication Oil  Source of Release Equipment Malfunction  Date and Hour of Occurrence  At 2712018 @ 11:00 a.m.  Was Immediate Notice Given?  Was Immediate Notice Given?  Was Immediate Notice Given?  Person No Not  Date and Hour of Discovery  At 2712018 @ 11:00 a.m.  If YES, To Whom? : Courtesy Notification: Cory Smith - NMOCD  By Whom? Thomas Long  Was a Watercourse Reached?  Date and Hour May 2, 2018 @ 1:28 p.m.  If YES, Volume Impacting the Watercourse.  If YES, Volume Impact				atitude_ <u>ot</u>										
Was Immediate Notice Given?  Required    Yes   No   Not   Not   Not   Not   If YES, To Whom?: Courtesy Notification: Cory Smith - NMOCD	Type of Rele	ease Lubric	ation Oil						own	Volume I	Recovered	None	)	
Was Immediate Notice Given?  Required    Yes	Source of R	elease Equ	ipment Malfu	ınction									ery	
By Whom? Thomas Long Was a Watercourse Reached?    Yes   No   Not	Was Immed	iate Notice	Given?										IOCD	-
By Whom? Thomas Long  Was a Watercourse Reached?    Yes   No				☐ Yes	□ No ⊠ N	lot					,			
Was a Watercourse Reached?    Yes   No   If a Watercourse was Impacted, Describe Fully.*  Describe Cause of Problem and Remedial Action Taken.* On April 27, 2018, while monitoring a pipeline encroachment, an Enterprise technician observed soil staining outside the Negro Canyon Compressor Station fence. Work was stopped and a soil sample was collected to determine the origin of the soil staining. Upon receipt of laboratory analysis on 5-1-2018, it was determined that the soil staining was associated with lubrication oil release.  Describe Area Affected and Cleanup Action Taken.* An area of approximately 50 feet long by 50 feet wide was impacted by the release of lubrication oil. A third party investigation report will be included with the "Final." C-141.  I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.  OIL CONSERVATION DIVISION  Approved by Environmental Specialist:  Approved by Environmental Specialist:  OIL CONSERVATION DIVISION  Attached Dates: 5/1/10/8 Phone: (713) 381-6684  Phone: (713) 381-6684  Phone: (713) 381-6684  Phone: (713) 381-6684	Required													
Was a Watercourse Reached?    Yes   No   If a Watercourse was Impacted, Describe Fully.*  Describe Cause of Problem and Remedial Action Taken.* On April 27, 2018, while monitoring a pipeline encroachment, an Enterprise technician observed soil staining outside the Negro Canyon Compressor Station fence. Work was stopped and a soil sample was collected to determine the origin of the soil staining. Upon receipt of laboratory analysis on 5-1-2018, it was determined that the soil staining was associated with lubrication oil release.  Describe Area Affected and Cleanup Action Taken.* An area of approximately 50 feet long by 50 feet wide was impacted by the release of lubrication oil. A third party investigation report will be included with the "Final." C-141.  I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.  OIL CONSERVATION DIVISION  Approved by Environmental Specialist:  Approved by Environmental Specialist:  OIL CONSERVATION DIVISION  Attached Dates: 5/1/10/8 Phone: (713) 381-6684  Phone: (713) 381-6684  Phone: (713) 381-6684  Phone: (713) 381-6684														
If a Watercourse was Impacted, Describe Fully.*  Describe Cause of Problem and Remedial Action Taken.* On April 27, 2018, while monitoring a pipeline encroachment, an Enterprise technician observed soil staining outside the Negro Canyon Compressor Station fence. Work was stopped and a soil sample was collected to determine the origin of the soil staining. Upon receipt of laboratory analysis on 5-1-2018, it was determined that the soil staining was associated with lubrication oil release.  Describe Area Affected and Cleanup Action Taken.* An area of approximately 50 feet long by 50 feet wide was impacted by the release of lubrication oil. A third party investigation report will be included with the "Final." C-141.  If hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.  OIL CONSERVATION DIVISION  Approved by Environmental Specialist:  OIL CONSERVATION DIVISION  Approved by Environmental Specialist:  OIL CONSERVATION DIVISION  Approved by Environmental Specialist:  OIL CONSERVATION DIVISION  Approved Specialist:  OIL CONSERVATION DIVISION  Approved Specialist:  OIL CONSERVATION DIVISION														_
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## Smith, Cory, EMNRD

From:

Smith, Cory, EMNRD

Sent:

Monday, May 14, 2018 9:12 AM

To:

'Long, Thomas'; Fields, Vanessa, EMNRD; aadeloye@blm.gov

Cc:

Stone, Brian

Subject:

RE: Negro Canyon Compressor Station - UL O Section 14 T31N R8W; 36.893491,

-107.644727

**Categories:** 

Release Notification

Tom,

OCD approved the initial C-141 with the standard COA typically attached and the below condition of approval:

 Enterprise will sample for TPH (GRO+DRO+MRO), BTEX, Benzene, and a base sample to include RCRA Metals.

If you have any questions please let me know.

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

From: Long, Thomas <tjlong@eprod.com> Sent: Wednesday, May 2, 2018 1:28 PM

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

aadeloye@blm.gov

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

Subject: Negro Canyon Compressor Station - UL O Section 14 T31N R8W; 36.893491, -107.644727

Cory/Abiodun,

This is a follow up to our phone conversation earlier. Last Friday, April 27, Enterprise discovered a soil staining outside the Negro Canyon Compressor facility. An area of approximately 50 feet long by 50 feet wide was affected. The affected area was sampled and laboratory results indicate a lubrication oil release. The facility is located at UL O Section 14 T31N R8W; 36.893491, -107.644727. I will let you know when we have the remediation scheduled. If you have any questions, please call or email.

Thomas J. Long
Senior Environmental Scientist

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 5/1/2 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number () 12/3/527 84 has been assigned. Please refer to this case number in all future correspondence.

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

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

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

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

- •Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.
- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.
- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

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

### Jim Griswold

OCD Environmental Bureau Chief 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505-476-3465 jim.griswold@state.nm.us 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., 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

Revised April 3, 2017

Form C-141

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

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

		F	Releas	e Notific	atior	and C	orrective	Actio	on			
					OP	ERATOR	₹	$\boxtimes$	Initial F	Report		Final Report
Name of C	ompany E	nterprise F	ield Ser	vices, LLC			omas Long					
Address 6'	14 Reilly A	ve, Farmir	ngton, NI	M 87401		Telephone	No. 505-599-	2286				
Facility Na	me Riverir	ne #2 Pipel	line			Facility Typ	e Natural Ga	s Gath	ering Pip	eline		
Surface Ov	wner City	of Farming	gton	Mineral C	Owner	BLM			Serial I	No. N/A		
				LOCA	ATION	OF REL	.EASE					
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Was Immed	liate Notice						Whom? :Notifi	cation C				
Descript			Yes	□ No □ N	lot	NMOCD						
Required										11	MUG	u
										MAY	24	2018
By Whom?						Date and	Hour May 10, 2	018@6	6:45 p.m.			2010
Was a Wate	ercourse Re	ached?	☐ Yes	⊠ No		If YES, Volume Impacting the Watercourse.						
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released flu Approximate	Describe Area Affected and Cleanup Action Taken.* The water storage tank had a temporary secondary containment in which most of the released fluids were captured. Approximately 30 barrels of water and condensate were ejected from the top of the water storage tank. Approximately 3-5 barrels were released to the ground surface affecting an area of approximately 40 feet long by 3-4 feet wide. A third party corrective action report will be included with the "Final." C-141.											
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Signature:	JN (	· tens	/						//			
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Title: Directo	or, Environn	nental				Approval Da	ite: 6/12/1	8 E	Expiration	Date:		
E-mail Addr	ess: jefields	@eprod.con	n			Conditions of	of Approval: 54	suple for	OR T?H	Attacha	~ <del>\</del>	

Phone: (713) 381-6684 \* Attach Additional Sheets If Necessary

# NCS 181 6331051



Operator/Responsible Party,

The OCD has received the form C-141 you provided on  $\frac{5/24/8}{8}$  regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number  $\frac{4\times5161}{8}$  . has been assigned. Please refer to this case number in all future correspondence.

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

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- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

- •Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.
- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.
- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

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

### Jim Griswold

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

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

Form C-141

Revised April 3, 2017

Oil Conservation Division 1220 South St. Francis Dr.

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E-mail Addr	E-mail Address: jefields@eprod.com  Conditions of Approval:  Attached											
Date:	18/18		Phon	e: (713) 381-6	684	_						

MF1803850755



### CORRECTIVE ACTION REPORT

Property:

Sullivan Frame B#1 NW 1/4, S30 T29N R10W San Juan County, New Mexico

March 30, 2018 Apex Project No. 725040112380

Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG

Branch Manager / Senior Geologist

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### CORRECTIVE ACTION REPORT

Sullivan Frame B#1 NW 1/4, S30 T29N R10W San Juan County, New Mexico

Apex Project No. 725040112380

#### 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Sullivan Frame B#1 surface release site, referred to hereinafter as the "Site", is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 30, Township 29 North, Range 10 West, in San Juan County, New Mexico (36.700994N,107.931039W). The Site is located on private land. The surrounding properties are private acreages, periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline ROW which transects the area from approximately northwest to southeast.

On January 24, 2018, a surface release of pipeline liquids occurred at the Sullivan Frame B#1 near the meter run. An unknown volume of pipeline liquids was released from a surface valve and subsequently flowed over the ground surface, travelling approximately 50 feet west from the meter run. Enterprise subsequently isolated and locked the line out of service. On January 26, 2018, Enterprise initiated excavation activities to remediate petroleum hydrocarbon impacted soils.

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

### 1.2 Project Objective

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

### 2.0 SITE RANKING

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



Rank		Ranking Score	
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	20
	>100 feet	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 Confess Motor	<200 feet	20	
Distance to Surface Water	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". The ranking is based on the following information:

- Six (6) water wells were identified within a mile of the Site on the OSE Water Right Reporting System (WRRS) database. The nearest water well (SJ 00303, identified as a private domestic well) is identified as being 0.3 miles north of the Site with a depth to water of five (5) feet below grade surface (bgs). Based on this information, the depth to groundwater at the Site is anticipated to be less than 50 feet bgs. This information supports a ranking score of "20" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site.
   These proximities result in a wellhead/water source protection area ranking score of "0".
- The release point is located approximately 430 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 "10".

### 3.0 RESPONSE ACTIONS

### 3.1 Soil Excavation Activities

On January 24, 2018, a surface release of pipeline liquids occurred at the Sullivan Frame B#1. An unknown volume of pipeline liquids was released from a surface valve and subsequently flowed over the ground surface, travelling approximately 50 feet west from the meter run. Enterprise subsequently isolated and locked the adjacent pipeline out of service. On January 26, 2018, Enterprise initiated excavation activities to remediate petroleum hydrocarbon impacted soils. During the earthwork activities, West States Energy Contactors Inc., provided heavy equipment and labor support, and Apex provided environmental consulting support.

The area near the meter run and the flow path to the west were excavated approximately 0.5 feet bgs, and three (3) composite soil samples (S-1 through S-3) were collected for laboratory analysis.

The final excavation at the source area measured approximately 26 feet long by 22 feet wide. The maximum depth of the source area excavation measured approximately 0.5 feet bgs. The flow path excavation measured approximately 50 feet in total length and four (4) feet in width, with a maximum depth of approximately 0.5 feet bgs.



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

A total of approximately 12 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 solid waste acceptance form is provided in **Appendix B**. The excavation was backfilled with imported fill and then contoured to surrounding grade.

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

### 3.2 Soil Sampling Program

Apex field screened soil samples from the excavation utilizing a photoionization detector (PID) fitted with a 10.6 eV lamp.

Apex's soil sampling program included the collection of three (3) composite soil samples (S-1 through S-3) for laboratory analysis.

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

### 3.3 Laboratory Analytical Methods

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

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

## 4.0 DATA EVALUATION

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

### 4.1 Soil Samples

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

 The laboratory analyses of the composite soil samples collected from soils remaining in place do not indicate benzene concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).



- The laboratory analysis of composite soil sample S-2 collected from soils remaining in place indicates a total BTEX concentration of 0.094 mg/kg, which is below the New Mexico EMNRD OCD RAL of 50 mg/kg. The laboratory analyses of the remaining composite soil samples collected from soils remaining in place do not indicate total BTEX concentrations above the laboratory PQLs, which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analysis of composite soil sample S-2 collected from soils remaining in place indicates a combined TPH GRO/DRO/MRO concentration of 113 mg/kg, which is above the New Mexico EMNRD OCD RAL of 100 mg/kg. The laboratory analysis of composite soil sample S-1 collected from soils remaining in place indicates a combined TPH GRO/DRO/MRO concentration of 97 mg/kg, which is below the New Mexico EMNRD OCD RAL of 100 mg/kg. The laboratory analysis of composite soil sample S-3 collected from soils remaining in place does not indicate a combined TPH GRO/DRO/MRO concentration above the laboratory PQL, which is below the New Mexico EMNRD OCD RAL of 100 mg/kg for a Site ranking of "30".
- The laboratory analyses of the composite soil samples collected from soils remaining in place indicate chloride concentrations ranging from 190 mg/kg (S-2) to 710 mg/kg (S-3). Based on the aerial photo (Site Map, Figure 2), the clays associated with the Site and most of the surrounding areas exhibit white surface crusting that is commonly associated with saline soils. These "mineral salts" are often associated with clays in arid areas. The mineral salts often contain a varied mixture of gypsum, magnesium sulfate, potassium chloride, sodium sulfate, and sodium chloride.

Laboratory analytical results are summarized in **Table 1** in **Appendix D**.

### 5.0 FINDINGS AND RECOMMENDATIONS

The Sullivan Frame B#1 surface release site is located within the Enterprise ROW in the NW ¼ of Section 30, Township 29 North, Range 10 West, in San Juan County, New Mexico. The Site is located on private land. The surrounding properties are private acreages, periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline ROW which transects the area from approximately northwest to southeast.

On January 24, 2018, a surface release of pipeline liquids occurred at the Sullivan Frame B#1. An unknown volume of pipeline liquids was released from a surface valve and subsequently flowed over the ground surface, travelling approximately 50 feet west from the meter run. Enterprise subsequently isolated and locked the adjacent pipeline out of service. On January 26, 2018, Enterprise initiated excavation activities to remediate petroleum hydrocarbon impacted soils.

- The primary objective of the corrective action was to reduce COC concentrations in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand and clay.
- The final source area excavation measured approximately 26 feet long by 22 feet wide, with a maximum depth of approximately 0.5 feet bgs. The flow path excavation measured



approximately 50 feet in total length and four (4) feet in width, with a maximum depth of approximately 0.5 feet bgs.

- Prior to backfilling, three (3) composite soil samples were collected from the source area and flow path excavations for laboratory analyses. Based on soil analytical results, soils associated with composite soil samples S-1 and S-3 do not exhibit COC concentrations above the New Mexico EMNRD OCD RALs.
- The laboratory analysis of composite soil sample S-2 indicates a combined TPH GRO/DRO/MRO concentration of 113 mg/kg, which is above the New Mexico EMNRD OCD RAL of 100 mg/kg.
- A total of approximately 12 cubic yards of petroleum hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with imported fill and then contoured to surrounding grade.

Based on laboratory analytical results, no benzene or BTEX exceedances were identified in soil remaining in place. Only the soils associated with composite soil sample S-2 exhibit TPH concentrations (most of which is within the MRO carbon range) above the applicable New Mexico EMNRD OCD standard. Enterprise received regulatory approval for closure on January 29, 2018. Regulatory correspondence is provided in Appendix F.

### 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.

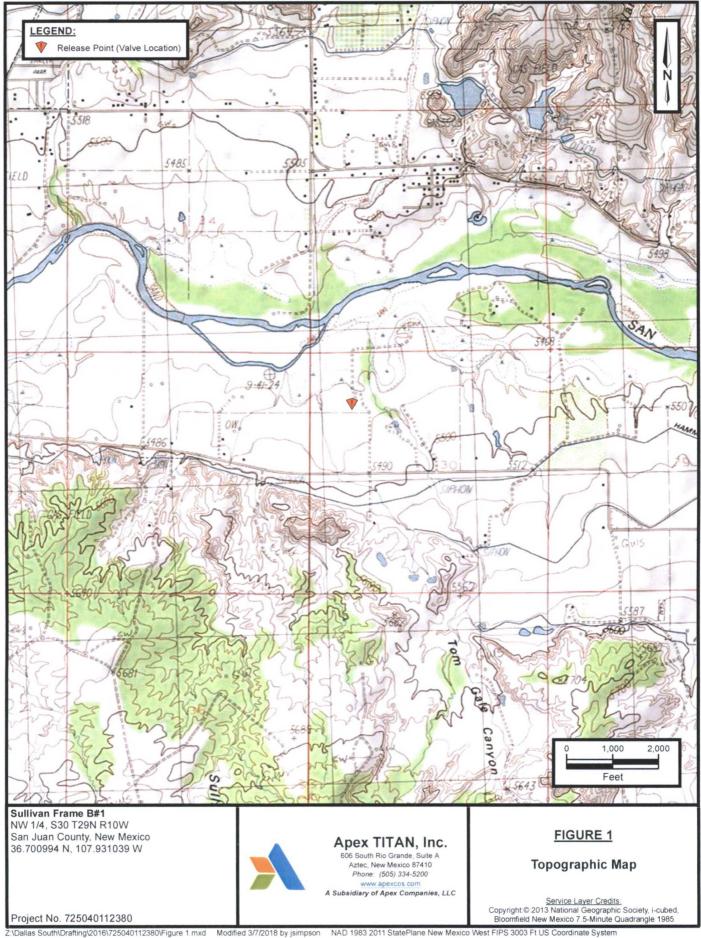
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

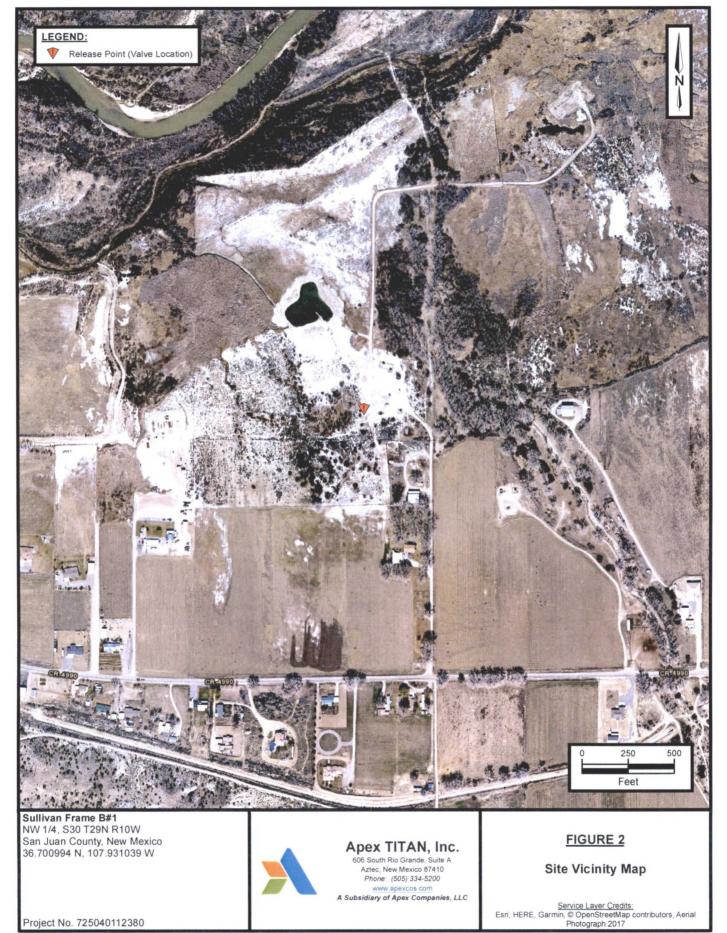
This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized distribution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

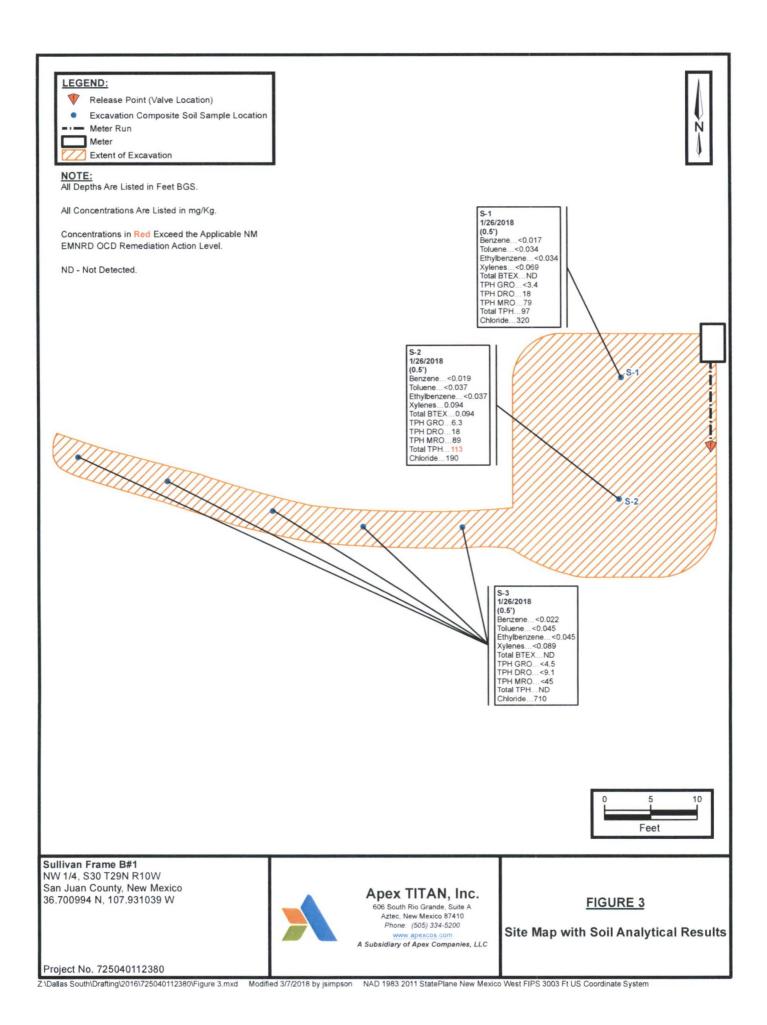


APPENDIX A

Figures









APPENDIX B

Executed C-138 Solid Waste Acceptance Form

District I
1625 N French Dr., Hobbs, NM 88240
District II
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 7 0 5 7 - 0 8 8 2 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  Invoice Information: PM: Thomas Long Non AFE: N34442 Pay Key: CM22355
2. Originating Site: Sullivan Frame B#1 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): UL K Section 30 T30N R10W; 36.700960, -107.930993  Jan. 2018
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.
Estimated Volume 50 (yd³) bbls Known Volume (to be entered by the operator at the end of the haul) 12 (yd³) bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long PRINT & SIGN NAME  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 Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous be 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. (Chec 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
l, 1-26-18 , representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to complete the required Generator Signature testing/sign the Generator Waste Testing Certification.
I,
5. Transporter: TBD Dehertera
OCD Permitted Surface Waste Management Facility  Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011  Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal: ☐ Evaporation ☐ Injection ☐ Treating Plant ☒ Landfarm ☐ Landfill ☐ Other
Waste Acceptance Status:  APPROVED  DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Greg Crabtice TITLE: Environmental Manager DATE: 1/26/18
SIGNATURE: TELEPHONE NO.: 505-632-0615  Surface Waste Management Facility Authorized Agent



APPENDIX C

Photographic Documentation



### Photograph 1

View of the surface release, facing west.



## Photograph 2

View of the surface release, facing west.



#### Photograph 3

View of the release area after remediation and backfill, facing northwest.





## Photograph 4

View of the release area after remediation and backfill, facing southwest.



#### Photograph 5

View of the release area after remediation and backfill, facing west.





APPENDIX D

Table



# TABLE 1 Sullivan Frame B#1 SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Type C- Composite G - Grab	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)	Total Combined TPH (mg/kg)	Chloride (mg/kg)
		Natural Resources Remediation Action		10	NE	NE	NE	50				100	NE
						Excavation Con	nposite Soil Sam	ples		FOR EXPLOSION			
S-1	01.26.18	С	0.5	< 0.017	< 0.034	< 0.034	< 0.069	ND	<3.4	18	79	97	320
S-2	01.26.18	С	0.5	< 0.019	< 0.037	< 0.037	0.094	0.094	6.3	18	89	113	190
S-3	01.26.18	С	0.5	<0.022	< 0.045	< 0.045	<0.089	ND	<4.5	<9.1	<45	ND	710

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not established

mg/kg = milligram per kilogram



Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

January 31, 2018

Kyle Summers
APEX TITAN
606 S. Rio Grande Suite A

Aztec, NM 87410 TEL: (903) 821-5603

FAX

RE: Sullivan Frame B1 OrderNo.: 1801D05

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 3 sample(s) on 1/27/2018 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

## Analytical Report

## Lab Order **1801D05**Date Reported: 1/31/2018

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: S-1

 Project:
 Sullivan Frame B1
 Collection Date: 1/26/2018 2:40:00 PM

 Lab ID:
 1801D05-001
 Matrix: MEOH (SOIL)
 Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: CJS
Chloride	320	30	mg/Kg	20	1/29/2018 11:45:18 Al	M 36235
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analys	st: TOM
Diesel Range Organics (DRO)	18	9.4	mg/Kg	1	1/29/2018 11:23:22 AI	M 36231
Motor Oil Range Organics (MRO)	79	47	mg/Kg	1	1/29/2018 11:23:22 AI	M 36231
Surr: DNOP	106	70-130	%Rec	1	1/29/2018 11:23:22 Al	M 36231
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	st: AG
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	1/29/2018 11:14:51 AI	M G48753
Surr: BFB	102	15-316	%Rec	1	1/29/2018 11:14:51 Al	M G48753
<b>EPA METHOD 8021B: VOLATILES</b>					Analys	st: AG
Benzene	ND	0.017	mg/Kg	1	1/29/2018 11:14:51 AI	M B48753
Toluene	ND	0.034	mg/Kg	1	1/29/2018 11:14:51 AI	M B48753
Ethylbenzene	ND	0.034	mg/Kg	1	1/29/2018 11:14:51 Al	M B48753
Xylenes, Total	ND	0.069	mg/Kg	1	1/29/2018 11:14:51 Al	M B48753
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	1/29/2018 11:14:51 Al	M B48753

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

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
  - S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### **Analytical Report**

## Lab Order **1801D05**

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 1/31/2018

CLIENT: APEX TITAN Client Sample ID: S-2

 Project:
 Sullivan Frame B1
 Collection Date: 1/26/2018 2:50:00 PM

 Lab ID:
 1801D05-002
 Matrix: MEOH (SOIL)
 Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CJS
Chloride	190	30	mg/Kg	20	1/29/2018 11:57:42 AM	36235
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	18	8.6	mg/Kg	1	1/29/2018 11:45:17 AM	36231
Motor Oil Range Organics (MRO)	89	43	mg/Kg	1	1/29/2018 11:45:17 AM	36231
Surr: DNOP	104	70-130	%Rec	1	1/29/2018 11:45:17 AM	36231
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	AG
Gasoline Range Organics (GRO)	6.3	3.7	mg/Kg	1	1/29/2018 11:38:39 AM	G48753
Surr: BFB	114	15-316	%Rec	1	1/29/2018 11:38:39 AM	G48753
EPA METHOD 8021B: VOLATILES					Analyst	AG
Benzene	ND	0.019	mg/Kg	1	1/29/2018 11:38:39 AM	B48753
Toluene	ND	0.037	mg/Kg	1	1/29/2018 11:38:39 AM	B48753
Ethylbenzene	ND	0.037	mg/Kg	1	1/29/2018 11:38:39 AM	B48753
Xylenes, Total	0.094	0.074	mg/Kg	1	1/29/2018 11:38:39 AM	B48753
Surr: 4-Bromofluorobenzene	108	80-120	%Rec	1	1/29/2018 11:38:39 AM	B48753

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

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### **Analytical Report**

#### Lab Order 1801D05

Date Reported: 1/31/2018

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** APEX TITAN

Client Sample ID: S-3

Project: Sullivan Frame B1

Collection Date: 1/26/2018 3:00:00 PM

Lab ID: 1801D05-003 Matrix: MEOH (SOIL)

Received Date: 1/27/2018 10:05:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analyst	CJS
Chloride	710	30	mg/Kg	20	1/29/2018 12:10:07 PM	36235
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	1/29/2018 12:07:15 PM	36231
Motor Oil Range Organics (MRO)	ND	45	mg/Kg	1	1/29/2018 12:07:15 PM	36231
Surr: DNOP	108	70-130	%Rec	1	1/29/2018 12:07:15 PM	36231
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	AG
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	1/29/2018 12:02:31 PM	G48753
Surr: BFB	95.0	15-316	%Rec	1	1/29/2018 12:02:31 PM	G48753
EPA METHOD 8021B: VOLATILES					Analyst	: AG
Benzene	ND	0.022	mg/Kg	1	1/29/2018 12:02:31 PM	B48753
Toluene	ND	0.045	mg/Kg	1	1/29/2018 12:02:31 PM	B48753
Ethylbenzene	ND	0.045	mg/Kg	1	1/29/2018 12:02:31 PM	B48753
Xylenes, Total	ND	0.089	mg/Kg	1	1/29/2018 12:02:31 PM	B48753
Surr: 4-Bromofluorobenzene	111	80-120	%Rec	1	1/29/2018 12:02:31 PM	B48753

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

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 7
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### **OC SUMMARY REPORT**

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1801D05

31-Jan-18

Client:

APEX TITAN

Project:

Sullivan Frame B1

Sample ID MB-36235

SampType: mblk

TestCode: EPA Method 300.0: Anions

Client ID:

PBS

Batch ID: 36235

RunNo: 48756

Prep Date: 1/29/2018 Analysis Date: 1/29/2018

SeqNo: 1569479

Units: mg/Kg

**RPDLimit** Qual

Analyte Chloride

Result PQL ND

SPK value SPK Ref Val %REC LowLimit 1.5

HighLimit

%RPD

Sample ID LCS-36235

LCSS

SampType: Ics

RunNo: 48756

TestCode: EPA Method 300.0: Anions

Batch ID: 36235

SeqNo: 1569480

Units: mg/Kg

Qual

Page 4 of 7

Analyte

1/29/2018

Analysis Date: 1/29/2018

Result

14

SPK value SPK Ref Val

92.0

90

HighLimit

PQL

15.00

0

%REC

%RPD

**RPDLimit** 

Chloride

Client ID:

Prep Date:

1.5

LowLimit

110

Qualifiers:

**PQL** 

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 Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

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#: 1801D05

31-Jan-18

Client: APEX TITAN
Project: Sullivan Frame B1

Sample ID LCS-36231	SampTy	ype: LC	S	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch	ID: 362	231	R	RunNo: 4	8751						
Prep Date: 1/29/2018	Analysis Da	ate: 1/	e: 1/29/2018 SeqNo: 1568685 Units: mg/Kg									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	49	10	50.00	0	98.9	70	130					
Surr: DNOP	4.8		5.000		95.9	70	130					

Sample ID MB-36231	SampT	ype: ME	BLK	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: PBS	Batch	ID: 36	231	F	RunNo: 4	8751					
Prep Date: 1/29/2018	Analysis D	ate: 1/	29/2018	8	SeqNo: 1	568686	Units: mg/k	ζg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	10		10.00		101	70	130				

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 5 of 7

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#:

1801D05

31-Jan-18

Client: APEX TITAN
Project: Sullivan Frame B1

Sample ID RB SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS Batch ID: G48753 RunNo: 48753

Prep Date: Analysis Date: 1/29/2018 SeqNo: 1569231 Units: mg/Kg

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

 Gasoline Range Organics (GRO)
 ND
 5.0

 Surr: BFB
 910
 1000
 91.2
 15
 316

Sample ID 2.5UG GRO LCS SampType: LCS TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS Batch ID: G48753 RunNo: 48753

Prep Date: Analysis Date: 1/29/2018 SeqNo: 1570600 Units: mg/Kg

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

Gasoline Range Organics (GRO) 21 5.0 25.00 0 84.3 75.9 131 Surr: BFB 990 1000 98.9 15 316

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 6 of 7

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#:

1801D05
31-Jan-18

Client: APEX TITAN
Project: Sullivan Frame B1

Sample ID 100NG BTEX LCS	SampT	ype: LC	S	Tes						
Client ID: LCSS	Batch	ID: <b>B4</b>	8753	F	RunNo: 4					
Prep Date:	29/2018	S	SeqNo: 1569264 Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	87.6	77.3	128			
Toluene	0.87	0.050	1.000	0	86.9	79.2	125			
Ethylbenzene	0.87	0.050	1.000	0	86.6	80.7	127			
Xylenes, Total	2.6	0.10	3.000	0	85.7	81.6	129			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID RB	BLK	TestCode: EPA Method 8021B: Volatiles								
Client ID: PBS Batch ID: B48753				R						
Prep Date:	Analysis D	ate: 1/	29/2018	S	SeqNo: 1	569268	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

#### Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 7 of 7



Hall Environmental Analysis Laboratory 1901 Hawkins NE Albuquerque XM 87109 TEL 505-345-3975 FAX 505-545-4107 Website www.hallerxironmental.com

## Sample Log-In Check List

Client Name:	APEX AZTEC	Work Order Numb	er 180	1005			RoptNe: 1	
Received By:	Erin Melendrez	1/27/2018 10:05:00	AM		U.	K.L		
Completed By:	Dennis Suazo	1/29/2018 8:21:17 A	м		Joseph .	,		
		1129/18			Jan Strange	100	The state of the s	
Reviewed By:	ENH	1704116						
Chain of Cust	tody							
1. Is Chain of Cu	stody complete?		Yes	V	No		Not Present	
2 How was the s	sample delivered?		Cou	rier				
Log In								
	pt made to cool th	e samples?	Yes	~	No		NA	
<ol> <li>Were all samp</li> </ol>	les received at a to	emperature of >0" C to 6.0°C	Yes	<b>V</b>	No		NA	
5. Sample(s) in p	proper container(s)	?	Yes	~	No			
6, Sufficient samp	ple volume for indi	cated test(s)?	Yes	<b>v</b>	No			
7. Are samples (e	except VOA and O	NG) properly preserved?	Yes	<b>V</b>	No			
8. Was preservat	ive added to bottle	15?	Yes		No	<b>V</b>	NA	
9 VOA vials have	e zero headspace?	,	Yes		No		No VOA Vials ✔	
10. Were any sam			Yes		No	~		
10, were any sam	ipie cuitamers rec	erved brokerry	165		140		# of preserved bottles checked	
11. Does paperwo			Yes	<b>~</b>	Nο		for pH	
	ncies on chain of o		Tark 100 100 100				(<2 or >12 unless n Adjusted?	oted)
		on Chain of Custody?	Yes		No		rajusteu	
13. Is it clear what			Yes		No		Charled but	
<ol><li>Were all holdin (If no, notify cu</li></ol>	ig times able to be istomer for authori		Yes	~	No		Checked by:	
Special Handli								
		ancies with this order?	Yes		No		NA 🗸	
	,		,				No X.	
Ferson		Date:	1					
By Who	1	Via	eM	ail	Phone	Fax	In Person	
Regardi	-							
Client In	structions:							
16. Additional ren	narks:							
17. Cooler Inform	mation							
Cooler No	1	ndition   Seal Infact   Seal No	Seal D	ate	Signed 8	Ву		
1	10 Goo	Not Present					I	

			CHAIN OF CUSTODY RECORD
APEX	Hall Environmental  Laboratory: Analysis Laborator  Address: 4901 Hawkins NE	ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers 0 - 3 + 0 - 2
Office Location  606 S. RIO Grande Suite A	Albuquerque, NM 87109		when received (C*): [ . C   1 2 3 4 5
AztecyNM x741C	Phone: 505-345-3975	-   / / / / / / / / / / / / / / / / / /	Page 1 of /
Project Manager K. Symmers  Sampler's Name  Rand Deech lly	PO/SO#: See no 4 S	BITA SE. 31  TRUE EPIDE YANG SEYS	
roj. No. Project Name 73 5 640/12380 Sullivan Fr	No/Type of Containers	BIT THE BIT	
	Start Soldway VOA VOA VOA VOA VOA VOA VOA VOA VOA VOA	04	1801005 Lab Sample IC (Lab Use Only)
5 1/26/18 1440 × 5-	1	XXX	001
5 1/26/18 1450 X S-1	21	XXX	002
5 1/20/18 1500 X S-1	3	XXX	003
	TARS		
urn around time	350% Rush 2000% Rush SAME DA	1	
Relinquished by (Signature)  Date: 126   8   7  Relinquished by (Signature)  Date: 127   9  Relinquished by (Signature)  Date: 12   9  Date: 12   9  Date: 13   9  Date: 14   9  Date: 15   9  Date: 16   9  Date: 17   9  Date: 17   9  Date: 18   9  Date: 19   9  Date: 19   9  Date: 10   9  Date: 10   9  Date: 11   9  Date: 12   9  Date: 13   9  Date: 14   9  Date: 15   9  Date: 16   9  Date: 17   9  Date: 18   9  Date: 18   9  Date: 19   9  Date: 19   9  Date: 10   9  Date: 11   9  Date: 12   9  Date: 13   9  Date: 14   9  Date: 15   9  Date: 16   9  Date: 17   9  Date: 18   9  Date: 18   9  Date: 19   9  Date: 10   9  Date: 1	Time: Received by: (Signature)  Received by: (Signature)  Date  COLUMN  Date  Time: Received by: (Signature)  Date  Time: Received by: (Signature)  Date	Time NOTES: SAME OF 1740 Time: PAR BILL TO NOTES: NOTES: SAME OF TIME: NOTES: N	Tom Long (Epech)  E N34442 (CC - CM 22355 Lable



Appendix F Regulatory Correspondence From: Fields, Vanessa, EMNRD

To: Long, Thomas; Smith, Cory, EMNRD

Cc: Stone, Brian

**Subject:** RE: Sullivan Frame B#1

**Date:** Monday, January 29, 2018 3:38:43 PM

Attachments: image001.gif

Good afternoon Tom,

The OCD grants Enterprises requested variance for sample S-2.

Please let me know if you have any questions.

Thank you,

Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 119
Cell: (505) 419-0463

vanessa.fields@state.nm.us

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

Sent: Monday, January 29, 2018 3:09 PM

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: Sullivan Frame B#1

Vanessa,

Please find the attached site sketch and lab report for the Sullivan Frame B#1 surface spill. This is the one with that was labeled the Lechner #2 which was incorrect. The one that operations thinks it was the producer that caused it. I have attached pictures for reference. One sample (S-2) exceeds the site specific remediation standard of 100 ppm TPH with a result of 107 ppm TPH. Enterprise requests a variance on the 107 ppm TPH result as that a majority is MRO. 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) tilong@eprod.com



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

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

				Sa	mare	s, INIVIO	303						
		F	Releas	e Notific	atior	n and C	orrective	Actio	n				
					OP	ERATO	₹	$\boxtimes$	Initial F	Report		Final Repo	ort
		nterprise F					omas Long						
		Ave, Farmir		M 87401		A TO SERVICE SERVICE	No. 505-599-2						_
Facility	y Name <b>La</b>	teral C-38	Pipeline			Facility Typ	e Natural Ga	s Gathe	ering Pip	peline			_
Surface O	wner <b>Nav</b> a	ajo Tribal		Mineral (	Owner	Navajo Tr	bal		Serial I	No. NA			
				_		OF REI							
Unit Letter O	Section 13	Township <b>27N</b>	Range 9W	Feet from the 1250	Norti Line	South	Feet from the 2450	East/W Line	/es	County San Jua	n		
		La	atitude <u>3</u>	<u>6.571113</u> l	Longitu	de107.7	39448_NAD83						
				NAT	URE	OF REL	EASE						
Type of Rel							Release Unkn			Recovered			
Source of F	telease Sus	pected intern	nal corrosi	on of the pipel	line	and the second s	Hour of Occurre at 11:45 a.m.			Hour of E at 11:45			
Was Immed	diate Notice	Given?					Whom? : Notif						
Required			⊠ Yes	□ No □ N	Vot					JUN	122	2018	
										DISTI	RICT	**	
By Whom?							Hour June 7, 20						
Was a Wate	∍rcourse Re		⊠ Yes	☐ No			olume Impacting d surface.	g the Wat	tercourse	. No fluids	were	release to	
ground surf	ace.						d on the edge of						<b>,</b>
							Interprise techn and tagged out		covered a	release o	of natur	al gas on	
							he ground surfa ne "Final." C-14		airs and i	remediatio	n are i	n the	
rules and re which may relieve the o ground water	egulations al endanger pu operator of l er, surface v	Il operators a ublic health o liability should water, humar	are require or the envi d their ope n health or	ed to report and ronment. The erations have to the environm	d/or file accepta failed to ent. In	certain releance of a Cadequately addition, N	st of my knowled ase notifications 141 report by the investigate and MOCD acceptan aws and/or regu	and per ne NMOC I remedia ice of a C	form corre CD marke ate contar	ective acti d as "Fina nination th	ons for al Repo nat pos	r releases ort" does not se a threat to	t o
Signature:	Chris	E. tu	4				OIL CON	SERV/	ATION	DIVISIO	NC	7	7
Printed Nar	ne: Jon E. F	ields			,	Approved b	/ Environmental	Speciali	ist:	en o	<u>/</u>	->	
Title: Direct	or, Environn	nental				Approval Da	ite: 6/25//	8 E	xpiration	Date:			
E-mail Add	ress: jefields	s@eprod.con	n			Conditions of Approval: Sample for Attached							

Date: 4 18 18 F

\* Attach Additional Sheets If Necessary

Phone: (713) 381-6684 TPA, BHOX, BENZENE Y #NCS 181762 97 11 Operator/Responsible Party,

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

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

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

- •Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.
- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.
- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

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#### Jim Griswold

OCD Environmental Bureau Chief 1220 South St. Francis Drive Santa Fe, New Mexico 87505 505-476-3465 jim.griswold@state.nm.us District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III
1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

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

Form C-141

Revised April 3, 2017

Santa En NIM 97505

Oil Conservation Division 1220 South St. Francis Dr.

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Release Notification and Corrective Action													
					OP	ERATOR	₹	$\boxtimes$	Initial F	Report  Final Report			
		nterprise F					omas Long						
		ve, Farmir					No. <b>505-599-</b> 2						
Facility	Name Bla	anco Stora	ge/Liqui	d Recovery		-acility Typ	e Natural Ga	s Gath	ering Pip	eline			
Surface Ov	vner <b>Priva</b>	te		Mineral O	wner <b>E</b>	BLM			Serial N	lo. NA			
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Unit Letter <b>D</b>	Section 14	Township 29N	Range 11W	Feet from the	North/S Line	South	Feet from the 1002	Eact/V Line	Vest	County San Juan			
		La	atitude_30	6.731732 L	ongitud	de107.96	66570 NAD83						
	NATURE OF RELEASE												
Type of Rele	ease Conde	ensate				Volume of 5 to 10 Bacondensa		ated	Volume R	Recovered None			
Source of R	elease Pum	p Failure/Eq	uipment F	ailure		6/8/2018	Hour of Occurre at 1:00 p.m.		6/8/2018	Hour of Discovery at 1:00 p.m.			
Was Immed	iate Notice				-4	If YES, To	Whom?: Cour	tesy Not	ification C	ory Smith? NMOCD			
Required			☐ Yes	□ No ⊠ N	ot					JUN 2 2 2018			
By Whom?	Runell Seal					Date and	Hour June 8, 20	18 @ 4	30 p.m.	STRICT			
Was a Wate	ercourse Re		Yes	⊠ No		If YES, Volume Impacting the Watercourse.							
If a Waterco													
										release of condensate from sed out and tagged. out.			
	All standing									d approximately 30 feet to action report will be included			
rules and re which may e relieve the o ground water	I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.												
0:		16 1	//			OIL CONSERVATION DIVISION							
Signature: Printed Nam	ne: Jon E. F	ields				Approved by	/ Environmental	Special	ist:	3/1			
Title: Directo	or, Environn	nental			A	Approval Da	ite: 6/25/	18 E	xpiration	Date:			
E-mail Addr		@eprod.com	1		Conditions of Approval: Sample See Attached ☑					Attached 💢			
Date:	0118115	2	Dhan	o. (712) 204 G	601	mul and							

\* Attach Additional Sheets If Necessary

Phone: (713) 381-6684 TPH, Btex Boxone
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Operator/Responsible Party,

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

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

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C<sub>6</sub> thru C<sub>36</sub>), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

- •Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.
- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.
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