Administrative/Environmental Order

150



# **AE Order Number Banner**

**Report Description** 

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



App Number: pJK1424832159

# 3RP - 1011

# ENTERPRISE PRODUCTS OPERATING, LLC

1/19/2017

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

 1625 N. French Dr., House, Human St. 1

 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

-

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1 1

State of New Mexico Energy Minerals and Natural Resources

**Oil Conservation Division** 00 0 th Ct E . .

Form C-141 Revised April 3, 2017

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

1220 South St. Francis Dr. Santa Fe, NM 87505 Santa Fe, NM 87505													
Release Notification and Corrective Action													
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40													
Surface Ov	wner Jicari	lla Apache	Tribe	Mineral	Jwne	r Jicarilla A	pache Tribe		API No				
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Type of Rele	ease Natural	Gas and Na	tural Gas	Liquids		Gas; 15-2 Condens		NCF	Volume I	Recovered	d Non	9	
Source of R	elease Pipel	ine strike wit	h a road g	rader		Date and	Hour of Occurre @ 3:52 p.m.	nce		Hour of I 7 @ 3:52		ery	
Was Immed	iate Notice G					If YES, To	Whom? : Cory	Smith	- NMOCD	; Hobson	Sando	oval - JAEPO	
Required			Yes		NOT								
By Whom?							Hour March 28,						
Was a Wate	ercourse Rea		Yes	🛛 No		IT YES, VO	olume Impacting	the vv	atercourse				
If a Waterco	ureo wae Im	pacted, Desc							*)				
Lateral 2C-8	30 pipeline.		no injuries				a third party grac d, depressurized						
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rules and re which may e relieve the o ground wate	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.												
1	16	10/1	1				OIL CON	SER	VATION	DIVISI	ON	$\cap$	
Signature: A. tud									1				
Printed Name: Jon E. Fields Approved by Environmental Specialist:								Z					
Title: Directo	or, Environm	ental				Approval Da	ate: 11/8/1-		Expiration	Date:			
E-mail Addr	ess: jefields@	@eprod.com				Conditions of	of Approval:						
Date:         10         16         Z017         Phone: (713) 381-         Attached									•				
* Attach Addi	tional Shee	ts If Neces	sary :	# NCS	171	315169	55			(	[49	$\geq$	



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

October 16, 2017

7015 1520 0002 7267 4692 Return Receipt Requested

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

OIL CONS. DIV DIST. 3 OCT 2 3 2017

RE: Lateral 2C-80 Sandoval County

Mr. Smith:

Attached is the Release Notification and the Corrective Action Report for the Lateral 2C-80 on March 27, 2017. Should you have questions or need additional information, please contact Mr. Thomas Long at 505-599-2286 or me directly at 713-381-6684.

Thank you,

Jon E. Fields Director, Field Environmental

/bjm Enclosures

Xc: Cordell Te Cube & Hobson Sandoval – Jicarilla Apache Tribe Environmental Protection Office,
 P. O. Box 507, Dulce, NM 87528-0807 – Cert #7015 1520 0002 7267 4708

Orson Harrison & Jason Sandoval – Jicarilla Oil and Gas Administration, Jicarilla Apache Nation, P. O Box 146, Dulce, NM 87528 – Cert #7015 1520 0002 7267 4715



## **CORRECTIVE ACTION REPORT**

Property:

Lateral 2C-80 Pipeline Release SW ¼, Sec 20 T23N R3W Jicarilla Apache Nation, Sandoval County, New Mexico

> July 11, 2017 Apex Project No. 725040112272

> > Prepared for:

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

Prepared by:

**Ranee Deechilly** 

Project Scientist

ummo

Kyle Summers, CPG Branch Manager / Senior Project Manager

Apex TITAN, Inc., a subsidiary of Apex Companies, LLC 606 S Rio Grande, Unit A, Aztec, NM 87410 T 505.334.5200 F 505.334.5204 www.apexcos.com

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#### CORRECTIVE ACTION REPORT

Lateral 2C-80 Pipeline Release SW ¼, Sec 20 T23N R3W Jicarilla Apache Nation, Sandoval County, New Mexico

#### Apex Project No. 725040112272

#### 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Lateral 2C-80 pipeline release site is located in the southwest (SW) 1/4 of Section 20, Township 23 North, Range 3 West, in Sandoval County, New Mexico (36.2065N, 107.1833W), referred to hereinafter as the "Site". The Site is located on Jicarilla Apache Nation lands. The Site is located on, and adjacent to, a lease road. The surrounding area is predominately rangeland, periodically interrupted by oil and gas gathering facilities, including one (1) Enterprise Field Services, LLC (Enterprise) natural gas pipeline which transects the area from approximately east to west.

On March 27, 2017, a third-party line strike occurred on the Lateral 2C-80 pipeline, resulting in the loss of natural gas and pipeline liquids to the surface of the lease road and adjacent rangeland. Pipeline liquids traveled north approximately 232 feet on and adjacent to the lease road, terminating near an ephemeral wash. Overspray from the line strike affected approximately 0.09 acres of the pipeline right-of-way (ROW) east of the release point, adjacent to the lease road. Initial response actions were implemented which included the construction of berms to prevent the pipeline liquids from traveling further down the road, and the enhancement of an existing berm to prevent liquids from entering the ephemeral wash. Liquids were subsequently removed and taken to a New Mexico Energy, Minerals, and Natural Resources Department (EMNRD), Oil Conservation Division (OCD)-approved disposal facility. On March 30, 2017, Enterprise initiated excavation activities to remediate petroleum hydrocarbon soil impact. The pipeline was subsequently repaired by replacing approximately 40 feet of pipe and placed back into service.

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

#### 1.2 Project Objective

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

#### 2.0 SITE RANKING

The Site is under the jurisdiction of the Jicarilla Apache Nation Environmental Protection Office (JANEPO). In the absence of published JANEPO regulatory guidance, Apex TITAN Inc. (Apex) references the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases.* Apex utilized the general site characteristics obtained during the completion of corrective action activities and information available from the 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:

Ranl	king Criteria	Star Street St.	Ranking Score
	and the second se		
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 Quefere Mister	<200 feet	20	
Distance to Surface Water	200 to 1,000 feet	10	20
Body	>1,000 feet	0	
Total R	40		

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

- No nearby water wells were identified on the OSE water rights website, however due to the proximity to the Chacon 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 protection area ranking score of "0".
- The flow path of the pipeline liquids terminated near the Chacon Canyon wash which is identified as a "blue line" on the United States Geological Survey topographic map. This information supports a distance to surface water ranking score of "20".

## 3.0 CORRECTIVE ACTIONS

## 3.1 Soil Excavation Activities

On March 27, 2017, a third-party line strike occurred on the Lateral 2C-80 pipeline resulting in the loss of natural gas and pipeline liquids to the surface of a lease road and adjacent rangeland. Pipeline liquids traveled north approximately 232 feet on and adjacent to the lease road, terminating near an ephemeral wash. Overspray from the line strike affected approximately 0.09 acres of the pipeline right-of-way (ROW) east of the release point, adjacent to the lease road. Initial response actions were implemented which included the construction of berms to prevent the pipeline liquids from traveling further down the road, and the enhancement of an existing berm to prevent liquids from entering the ephemeral wash. Liquids were subsequently vacuumed and taken to a New Mexico ENMRD OCD-approved disposal facility. On March 30, 2017, Enterprise initiated excavation activities to remediate petroleum hydrocarbon soil impact. The pipeline was subsequently repaired by replacing approximately 40 feet of pipe and placed back into service. During the corrective action activities, OFT Construction, Inc., provided heavy equipment and labor support, and Apex provided environmental support.



The pipeline liquid overspray area measured approximately 130 feet long and 40 feet wide, east of the release point. Approximately six (6) inches of soil was scraped from this area to remove potential petroleum hydrocarbon affected soils. Three (3) composite soil samples (S-1 through S-3) from this area were submitted for laboratory analysis.

The pipeline and upper flow path excavation activities were completed on April 17, 2017. A total of nine (9) composite soil samples (ES-1 through ES-9) from the excavated upper flow path and excavated pipeline ROW were submitted for laboratory analysis.

Enterprise performed additional excavation activities intermittently between April 17, 2017 and May 18, 2017 to remediate the lower flow path. These activities were delayed several times due to inclement weather and the repair of the pipeline. A total of 36 composite soil samples (ES-10 through ES-45) from the excavated lower flow path and the terminal berm were submitted for laboratory analysis.

Two (2) soil samples (EW-1 and EW-2) from the ephemeral wash at upstream and downstream sides of the culvert located at the intersection of the lease road and the ephemeral wash were submitted for laboratory analysis to evaluate potential impact to the ephemeral wash.

The final pipeline ROW excavation measured approximately 33 feet long and 12 feet wide at the maximum extents, with a total maximum depth of approximately 8 feet bgs.

The lower flow path excavation measured approximately 232 feet long and 16 feet wide at the maximum extents, with depths ranging from four (4) to nine (9) feet bgs. The upper flow path excavation (north of the pipeline ROW) measured approximately 25 feet long and 25 feet wide, with a maximum depth of approximately four (4) feet bgs.

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

A total of approximately 1,331 cubic yards of petroleum hydrocarbon-affected soils and 45 barrels (bbls) of petroleum hydrocarbon-affected saturated soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, NM for disposal/remediation. The executed C-138 solid waste acceptance forms are provided in **Appendix B**. The resulting excavations were backfilled with clean imported fill from a JANEPO-approved source, and compacted.

**Figure 3** is a **Site Map** that indicates the approximate location of the remediation excavations and confirmation sample locations in relation to the Enterprise pipeline and adjacent roads (**Appendix A**). Photographic documentation of the field activities is included in **Appendix C**.

#### 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection and laboratory submittal of 45 composite excavation samples (ES-1 through ES-45) from the pipeline ROW and upper/lower flow path excavations, three (3) composite surface soil samples (S-1 through S-3) from the overspray area, and two (2) composite samples (EW-1 and EW-2) from the ephemeral wash.

The soil samples were collected and placed in laboratory prepared glassware, labeled/sealed using the laboratory supplied label, and placed on ice in a cooler, which was secured with a



custody seal. The samples and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico for analysis.

#### 3.3 Laboratory Analytical Methods

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

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

#### 4.0 DATA EVALUATION

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

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final soil samples collected from the excavation, overspray area, and ephemeral wash to the New Mexico EMNRD OCD *RALs* for sites having a total ranking score of "40". Soils associated with excavation sample ES-28 were over-excavated and removed from the Site for appropriate disposal/treatment and are not included in the following discussion.

- The laboratory analyses of the excavation, overspray area, and ephemeral wash samples representing soils remaining at the Site did not indicate benzene concentrations above the PQLs, which are below the New Mexico EMNRD OCD RAL of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the excavation, overspray area, and ephemeral wash samples representing soils remaining at the Site exhibited total BTEX concentrations ranging from below the PQLs to 0.16 mg/kg (ES-21), which are below the New Mexico EMNRD OCD RAL of 50 mg/kg.
- The laboratory analyses of the excavation, overspray area, and ephemeral wash samples representing soils remaining at the Site exhibited combined TPH GRO/DRO/MRO concentrations ranging from below the PQLs to 71.8 mg/kg (ES-21), which are below the New Mexico EMNRD OCD *RAL* of 100 mg/kg for a Site ranking of "40".

Excavation, overspray, and ephemeral wash soil sample laboratory analytical results are provided in **Table 1** in **Appendix D**.



## 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2C-80 pipeline release Site is located in the SW 1/4 of Section 20, Township 23 North, Range 3 West, in Sandoval County, New Mexico. The Site is located on Jicarilla Apache Nation lands. The Site is located on, and adjacent to, a lease road. The surrounding area is predominately rangeland, periodically interrupted by oil and gas gathering facilities, including one (1) Enterprise natural gas pipeline which transects the area from approximately east to west.

On March 27, 2017, a third-party line strike occurred on the Lateral 2C-80 pipeline, resulting in the loss of natural gas and pipeline liquids from the pipeline to the surface of a lease road and adjacent rangeland. Pipeline liquids traveled north approximately 232 feet on and adjacent to the lease road, terminating near an ephemeral wash. Overspray from the line strike affected approximately 0.09 acres of the pipeline ROW east of the release point, adjacent to the lease road. Initial response actions were implemented which included the construction of berms to prevent the pipeline liquids from traveling further down the road, and the enhancement of an existing berm to prevent liquids from entering the ephemeral wash. Liquids were subsequently vacuumed and taken to a New Mexico ENMRD OCD-approved disposal facility. On March 30, 2017, Enterprise initiated excavation activities to remediate petroleum hydrocarbon soil impact. The pipeline was subsequently repaired by replacing approximately 40 feet of pipe and placed back into service.

- The primary objective of the corrective actions was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silt, silty sand and silty clay.
- The final pipeline ROW excavation measured approximately 33 feet long and 12 feet wide at the maximum extents, with a total maximum depth of approximately 8 feet bgs.
- The lower flow path excavation measured approximately 232 feet long and 16 feet wide at the maximum extents, with depths ranging from four (4) to nine (9) feet bgs. The upper flow path excavation (north of the pipeline ROW) measured approximately 25 feet long and 25 feet wide, with a maximum depth of approximately four (4) feet bgs.
- Prior to backfilling, a total of 47 composite soil samples from the excavations, terminal berm, and the ephemeral wash were submitted for laboratory analysis. Additionally, three (3) composite surface soil samples were submitted for laboratory analysis. Excavation sample ES-28 was removed from the Site for appropriate disposal/treatment. Based on analytical results, soils remaining in place do not exhibit BTEX or TPH GRO/DRO/MRO concentrations above the New Mexico EMNRD OCD *RALs* for a site ranking of "40".
- A total of approximately 1,331 cubic yards of petroleum hydrocarbon-affected soils and 45 bbls of petroleum hydrocarbon-affected saturated soils were transported to the Envirotech landfarm near Hilltop, NM for disposal/remediation. The excavation was backfilled with clean imported fill from a JANEPO-approved source, and compacted.

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

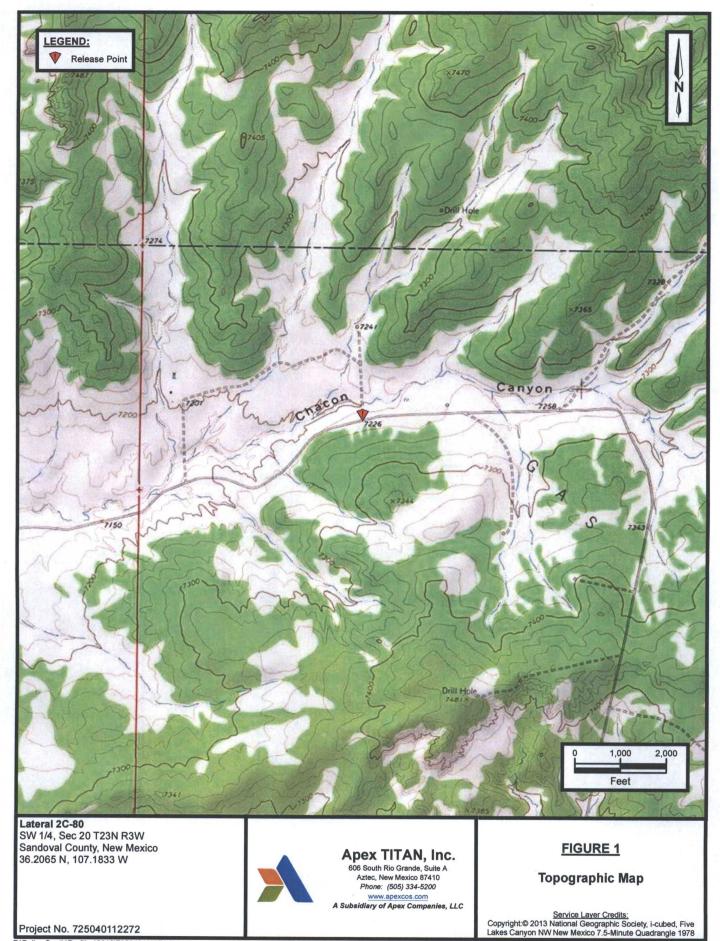


#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

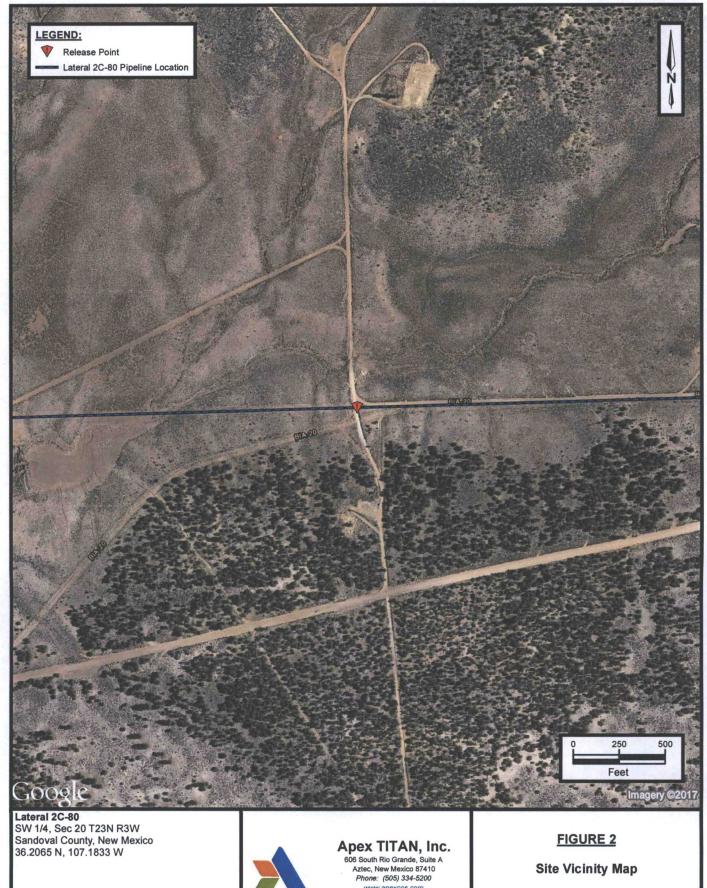
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

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



Project No. 725040112272

Z:\Dallas South\Drafting\2016\725040112272\Figure 1.mxd Modified 7/6/2017 by jsimpson NAD 1983 2011 StatePlane New Mexico Central FIPS 3002 Ft US Coordinate System



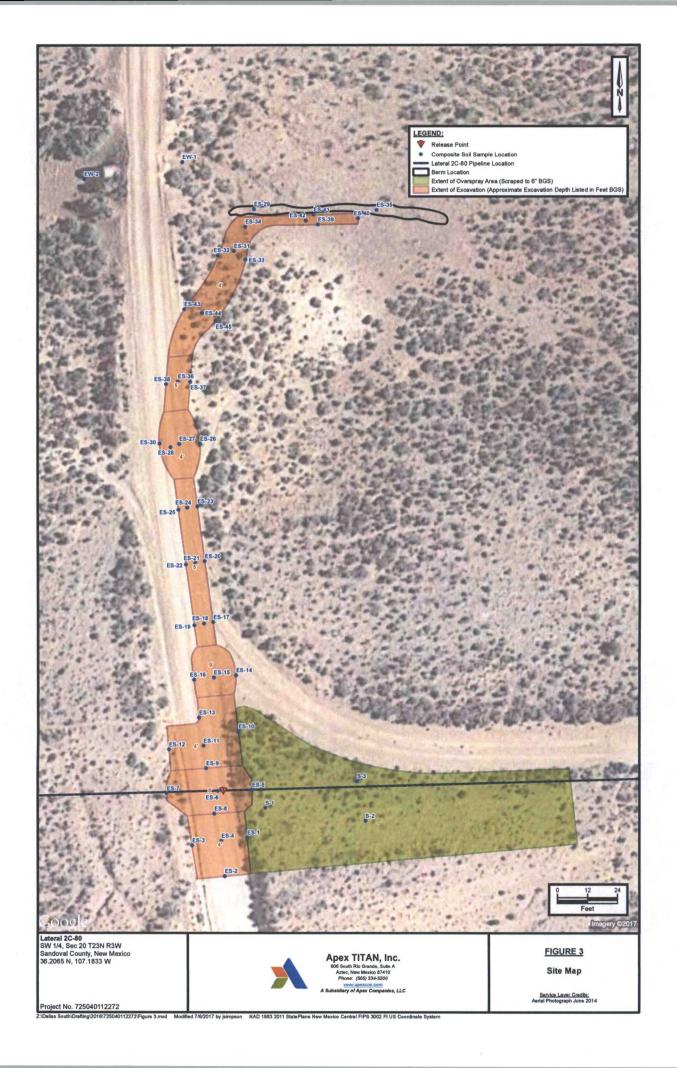
Project No. 725040112272

www.apexcos.com ubsidiary of Apex Companies, LLC

**Site Vicinity Map** 

Service Laver Credits: Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, Aerial Photograph June 2014

Z-\Dallas South\Drafting\2016\725040112272\Figure 2.mxd Modified 7/6/2017 by jsimpson NAD 1983 2011 StatePlane New Mexico Central FIPS 3002 Ft US Coordinate System





**APPENDIX B** 

Executed C-138 Solid Waste Acceptance Forms

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 97057-0836 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 **Originating Site:** Lateral 2C-80 Pipeline Location of Material (Street Address, City, State or ULSTR): 3. Section 20 T23N 3W; 36.206620, -107.183271 2017 Source and Description of Waste: Hydrocarbon Impacted Soil/Sludge associated with a natural gas pipeline/release. Estimated Volume 50 (yd3) bbls Known Volume (to be entered by the operator at the end of the haul) 107.5/45 yd3/bbls GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS 5. I, Thomas Long Theme Long, representative or authorized agent for Enterprise Products Operating do hereby **Generator** Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with nonexempt waste. Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items) □ MSDS Information □ RCRA Hazardous Waste Analysis □ Process Knowledge □ Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, Thomas Long John Jay 3-28-17, representative for Enterprise Products Operating authorize Envirotech. Inc. to complete **Generator** Signature the required testing/sign the Generator Waste Testing Certification. , representative for Envirotech. Inc. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC. 5. Transporter: FBD OFT, Ternco, Stan Horn, West States **OCD Permitted Surface Waste Management Facility** Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM01-0011 Address of Facility: Hill Top, NM Method of Treatment and/or Disposal: □ Injection □ Treating Plant ⊠ Landfarm □ Landfill Other Evaporation Waste Acceptance Status: APPROVED DENIED (Must Be Maintained As Permanent Record) TITLE: Environmental Manager DATE: 3/28/17 PRINT NAME: Greg Crabtree SIGNATURE: TELEPHONE NO .: 505-632-0615 anagement Facility Authorized Agent

District 1 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

97057-0836

Form C-138 Revised 08/01/11

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2. Originating Site: Lateral 2C-80 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Section 20 T23N 3W; 36.206620, -107.183271 May 2017
4. Source and Description of Waste: Hydrocarbon Impacted Soil/Sludge associated with a natural gas pipeline release. Estimated Volume $50 \text{ yd}^3$ bbls Known Volume (to be entered by the operator at the end of the haul) 256 yd bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long <sup>them Ley</sup> , representative or authorized agent for Enterprise Products Operating do hereby Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <u>Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load</u>
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)
<b>GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS</b>
<ul> <li>I, Thomas Long <i>Jhm Ly</i> 5-10-17, representative for Enterprise Products Operating authorize <u>Envirotech. Inc</u>. to complete <b>Generator Signature</b></li> <li>the required testing/sign the Generator Waste Testing Certification.</li> <li>I, <u>Market</u>, representative for <u>Envirotech. Inc</u>. do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.</li> </ul>
5. Transporter: TBD Stan Horn, Ternco, OFT
OCD Permitted Surface Waste Management Facility
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM01-0011 Address of Facility: Hill Top, NM Method of Treatment and/or Disposal: Evaporation Injection Treating Plant Landfarm Landfill Other Waste Acceptance Status: APPROVED DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Greg Crabtree TITLE: Environmental Manager DATE: 5/9/17 SIGNATURE: Surface Waste Management Facility Authorized Agent TELEPHONE NO.: 505-632-0615



# APPENDIX C

# Photographic Documentation

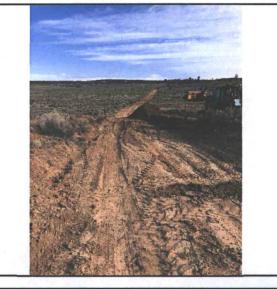
## SITE PHOTOGRAPHS



## Lateral 2C-80 Pipeline Release



View of the Site, facing north.



## Photograph 2

View of the scraped overspray area, facing west.



## Photograph 3

View of the upper flow path (south of pipeline ROW) excavation, facing northwest.





## Photograph 4

View of the pipeline ROW excavation and source area, facing northwest.



## Photograph 5

View of the excavated flow path, facing southwest.



## Photograph 6

View of the excavated flow path, facing north.



Apex Job #725040112272

Page 2 of 3

## SITE PHOTOGRAPHS



## Lateral 2C-80 Pipeline Release



View of the excavated flow path, facing north.



## Photograph 8

View of the excavated flow path, facing west.





APPENDIX D

Table



					TABLE 1 2C-80 Pipeline ANALYTICAL SU					
Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departmer	ergy, Mineral & nt, Oil Conserva nediation Actio		10	NE	NE	NE	50	100		
Condistant Constant	Salar Salar			Soil Sam	ples Removed by Ove	r-Excavation			Constant and the	
ES-28	4.21.17	0 to 4	<0.10	0.90	0.26	1.9	3.1	79	230	75
		and the second second			Spray Area Soil Samp	les	the States		No and Could	
S-1	4.25.17	0 to 0.5	< 0.022	<0.044	<0.044	<0.088	ND	<4.4	<9.4	<47
S-2	4.07.17	0 to 0.5	< 0.024	<0.048	<0.048	< 0.096	ND	<4.8	<9.3	<46
S-3	4.07.17	0 to 0.5	< 0.023	<0.046	<0.046	<0.092	ND	<4.6	<9.3	<47
				Culvert/E	phemeral Wash Area	Soil Samples			and the second second	a during a second
EW-1	5.16.17	0 to 0.5	<0.025	< 0.049	< 0.049	<0.099	ND	<4.9	<9.4	<47
EW-2	5.16.7	0 to 0.5	<0.018	< 0.037	< 0.037	< 0.073	ND	<3.7	<9.5	<47
	The start of the		2012	and the second second	<b>Excavation Soil Samp</b>		and the second states			
ES-1	4.12.17	0 to 4	< 0.024	<0.048	<0.048	<0.095	ND	<4.8	<9.2	<46
ES-2	4.12.17	0 to 4	< 0.023	<0.047	<0.047	< 0.094	ND	<4.7	<9.1	<46
ES-3	4.12.17	0 to 4	< 0.025	< 0.050	< 0.050	<0.10	ND	<5.0	<9.4	<47
ES-4	4.12.17	4	< 0.024	<0.048	<0.048	<0.097	ND	<4.8	<9.6	<48
ES-5	4.12.17	0 to 8	< 0.023	< 0.047	<0.047	<0.094	ND	<4.7	<9.6	<48
ES-6	4.17.17	8	< 0.019	< 0.038	<0.038	< 0.076	ND	<3.8	<9.4	<47
ES-7	4.17.17	0 to 8	< 0.019	< 0.037	< 0.037	<0.074	ND	<3.7	<9.7	<48
ES-8	4.17.17	4 to 8	<0.018	< 0.035	< 0.035	<0.071	ND	<3.5	<10	<50
ES-9	4.17.17	4 to 8	<0.018	< 0.037	< 0.037	< 0.073	ND	<3.7	<10	<50
ES-10	4.20.17	0 to 4	<0.022	<0.044	<0.044	<0.088	ND	<4.4	<10	<50
ES-11	4.20.17	4	<0.019	< 0.037	< 0.037	< 0.075	ND	<3.7	<9.4	<47
ES-12	4.20.17	0 to 4	<0.024	<0.048	<0.048	<0.097	ND	<4.8	<10	<51
ES-13	4.20.17	0 to 4	<0.021	<0.041	<0.041	<0.082	ND	<4.1	<9.4	<47
ES-14	4.20.17	0 to 9	<0.021	<0.042	<0.042	<0.084	ND	<4.2	<10	<51
ES-15	4.20.17	9	<0.018	< 0.035	<0.035	<0.071	ND	<3.5	<9.4	<47
ES-16	4.20.17	0 to 9	<0.019	<0.038	<0.038	<0.077	ND	<3.8	<9.8	<49
ES-17	4.20.17	0 to 5	<0.023	<0.045	<0.045	<0.091	ND	<4.5	<9.8	<49
ES-18	4.20.17	5	<0.018	< 0.035	< 0.035	<0.071	ND	<3.5	<9.2	<46
ES-19	4.20.17	0 to 5	<0.020	< 0.040	< 0.040	<0.080	ND	<4.0	<10	<50



					TABLE 12C-80 PipelineANALYTICAL SU					
Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH MRO (mg/kg)
Departmen	ergy, Mineral & nt, Oil Conserva nediation Action	The second se	10	NE	NE	NE	50		100	
ES-20	4.20.17	0 to 5	<0.021	<0.042	<0.042	<0.083	ND	<4.2	<9.2	<46
ES-21	4.20.17	5	<0.018	< 0.035	< 0.035	0.16	0.16	8.8	63	<48
ES-22	4.20.17	0 to 5	<0.020	< 0.039	< 0.039	<0.078	ND	<3.9	<9.8	<49
ES-23	4.21.17	0 to 5	<0.020	<0.040	<0.040	<0.081	ND	<4.0	<9.6	<48
ES-24	4.21.17	5	<0.018	< 0.037	< 0.037	< 0.074	ND	<3.7	<10	<50
ES-25	4.21.17	0 to 5	<0.020	< 0.039	< 0.039	<0.078	ND	<3.9	<9.6	<48
ES-26	4.21.17	0 to 4	<0.019	< 0.038	<0.038	<0.077	ND	<3.8	<10	<50
ES-27	4.21.17	4	<0.018	< 0.036	< 0.036	<0.072	ND	<3.6	<9.8	<49
ES-29	4.25.17	0 to 3	<0.022	<0.044	<0.044	<0.088	ND	<4.4	<9.7	<49
ES-30	4.27.17	0 to 4	<0.020	<0.041	<0.041	<0.081	ND	<4.1	13	<48
ES-31	5.15.17	4	<0.026	< 0.051	<0.051	<0.10	ND	<5.1	<9.8	<49
ES-32	5.15.17	0 to 6	<0.026	0.094	<0.053	<0.11	0.094	<5.3	<9.6	<48
ES-33	5.15.17	0 to 4	<0.027	< 0.054	<0.054	<0.11	ND	<5.4	<9.5	<47
ES-34	5.15.17	0 to 4	<0.021	<0.042	<0.042	<0.084	ND	<4.2	<9.4	<47
ES-35	5.15.17	0 to 1	< 0.024	<0.048	<0.048	< 0.096	ND	<4.8	<9.8	<49
ES-36	5.16.17	0 to 5	<0.020	<0.041	<0.041	<0.081	ND	<4.1	<9.7	<48
ES-37	5.16.17	0 to 5	<0.020	<0.041	<0.041	<0.081	ND	<4.1	<10	<50
ES-38	5.16.17	0 to 5	< 0.022	<0.044	<0.044	<0.088	ND	<4.4	<9.8	<49
ES-39	5.17.17	0 to 5	<0.023	<0.047	<0.047	<0.094	ND	<4.7	<10	<50
ES-40	5.17.17	0 to 5	<0.024	<0.049	<0.049	<0.097	ND	<4.9	<9.9	<49
ES-41	5.17.17	0 to 5	<0.025	<0.051	<0.051	<0.10	ND	<5.1	<9.4	<47
ES-42	5.17.17	5	<0.024	<0.048	<0.048	<0.097	ND	<4.8	<9.9	<50
ES-43	5.17.17	0 to 7	<0.025	<0.051	<0.051	<0.10	ND	<5.1	<9.4	<47
ES-44	5.18.17	4	<0.023	<0.047	<0.047	<0.093	ND	<4.7	<10	<50
ES-45	5.18.17	0 to 4	< 0.023	< 0.046	<0.046	< 0.093	ND	<4.6	<10	<50

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

ND = Not Detected above the Practical Quantitation Limits

NE = Not Established

mg/kg = milligram per kilogram



# Appendix E

Laboratory Data Sheets & Chain of Custody Documentation



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

May 01, 2017

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

OrderNo.: 1704C60

Dear Kyle Summers:

RE: Lateral 2C-80

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/28/2017 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 <u>www.hallenvironmental.com</u> 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,

Andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1704C60

## Date Reported: 5/1/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			<b>Client Sampl</b>	e ID: ES	5-30	
Project: Lateral 2C-80			<b>Collection</b>	Date: 4/2	27/2017 11:30:00 AM	
Lab ID: 1704C60-001	Matrix:	SOIL	Received 1	Date: 4/2	28/2017 7:15:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analys	t: JME
Diesel Range Organics (DRO)	13	9.5	mg/Kg	1	4/28/2017 9:25:15 AM	31481
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/28/2017 9:25:15 AM	31481
Surr: DNOP	91.8	70-130	%Rec	1	4/28/2017 9:25:15 AM	31481
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	4/28/2017 9:38:05 AM	31474
Surr: BFB	108	54-150	%Rec	1	4/28/2017 9:38:05 AM	31474
EPA METHOD 8021B: VOLATILES					Analys	t: NSB

EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.020	mg/Kg	1	4/28/2017 9:38:05 AM	31474
Toluene	ND	0.041	mg/Kg	1	4/28/2017 9:38:05 AM	31474
Ethylbenzene	ND	0.041	mg/Kg	1	4/28/2017 9:38:05 AM	31474
Xylenes, Total	ND	0.081	mg/Kg	1	4/28/2017 9:38:05 AM	31474
Surr: 4-Bromofluorobenzene	117	66.6-132	%Rec	1	4/28/2017 9:38:05 AM	31474

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

<b>Client:</b>	APEX TI	TAN									
Project:	Lateral 20	C-80									
Sample ID	MB-31481	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	ID: 31	481	F	RunNo: 4	2424				
Prep Date:	4/28/2017	Analysis Da	ate: 4/	28/2017	S	SegNo: 1	333940	Units: mg/k	(g		
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
-	Organics (DRO)	ND	10	SPR value	SPK Kel Val	%REC	LOWLINI	HighLinni	70RFD	REDLIIIII	Qual
-	ge Organics (DRO)	ND	50								
Surr: DNOP		8.8	50	10.00		88.3	70	130			
Sample ID	LCS-31481	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	LCSS	Batch	ID: 31	481	F	RunNo: 4	2424				
Prep Date:	4/28/2017	Analysis Da	ate: 4/	28/2017	S	SeqNo: 1	333970	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	44	10	50.00	0	87.8	63.8	116			
Surr: DNOP		4.5		5.000		89.8	70	130			
Sample ID	1704C60-001AMS	SampT	ype: MS	6	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	ES-30	Batch	ID: 31	481	F	RunNo: 4	2424				
Prep Date:	4/28/2017	Analysis Da	ate: 4/	28/2017	S	SeqNo: 1	334180	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	58	9.3	46.47	12.83	97.2	51.6	130			
Surr: DNOP		4.4		4.647		94.8	70	130			
Sample ID	1704C60-001AMS	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	ES-30	Batch	ID: 31	481	F	RunNo: 4	2424				
Prep Date:	4/28/2017	Analysis Da	ate: 4/	28/2017	S	SeqNo: 1	334181	Units: mg/k	g		

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual 58 Diesel Range Organics (DRO) 9.8 48.97 12.83 92.7 51.6 130 0.365 20 Surr: DNOP 4.7 4.897 95.1 70 130 0 0

Qualifiers:

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

Page 2 of 4

Р Sample pH Not In Range

J

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

WO#: 1704C60

01-May-17

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1704C60

01-May-17

Client: APEX 7 Project: Lateral 2										
Sample ID MB-31474	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch	ID: 31	474	F	RunNo: 4	2434				
Prep Date: 4/27/2017	Analysis D	ate: 4/	28/2017	S	SeqNo: 1	334707	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	1100		1000		107	54	150			
Sample ID LCS-31474	SampT	ype: LC	S	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batch	ID: 31	474	F	RunNo: 4	2434				
Prep Date: 4/27/2017	Analysis D	ate: 4/	28/2017	5	SeqNo: 1	334708	Units: mg/M	(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	105	76.4	125			
Surr: BFB	1200		1000		120	54	150			

Qualifiers:

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

J

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

Page 3 of 4

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1704C60

Page 4 of 4

01-May-17

Client:	APEX	TITAN									
Project:	Lateral	2C-80									
Sample ID	MB-31474	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batch	ID: 314	474	F	RunNo: 4	2434				
Prep Date:	4/27/2017	Analysis Da	ate: 4/	28/2017	S	SeqNo: 1	334730	Units: mg/k	٢g		
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	1.2		1.000		118	66.6	132			
Sample ID	LCS-31474	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batch	ID: 314	474	F	RunNo: 4	2434				
Prep Date:	4/27/2017	Analysis Da	ate: 4/	28/2017	S	SeqNo: 1	334731	Units: mg/M	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		0.99	0.025	1.000	0	98.5	80	120			
Toluene		0.99	0.050	1.000	0	99.0	80	120			
Ethylbenzene		0.99	0.050	1.000	0	99.3	80	120			
Xylenes, Total		3.1	0.10	3.000	0	102	80	120			
Surr: 4-Brom	ofluorobenzene	1.2		1.000		115	66.6	132			

Qualifiers:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY	TEL: 505-345-3975	4901 Hawkins NE querque, NM 87109	Sam	ple Log-In Check List
Client Name: APEX AZTEC	Work Order Number:	1704C60		RcptNo: 1
Received By: Anne Thome Completed By: Anne Thome Reviewed By: JF 4/28/2017	4/28/2017 7:15:00 AM 4/28/2017 7:40:23 AM	2	Arme H Arme H	
<ul> <li><u>Chain of Custody</u></li> <li>1. Custody seals intact on sample bottles?</li> <li>2. Is Chain of Custody complete?</li> <li>3. How was the sample delivered?</li> </ul>		Yes □ Yes ☑ Courier	No 🗌 No 🗌	Not Present 🗹
Log In 4. Was an attempt made to cool the same	oles?	Yes 🗹	No 🗌	
<ul><li>5. Were all samples received at a tempera</li><li>6. Sample(s) in proper container(s)?</li></ul>	ature of >0° C to 6.0°C	Yes 🗹 Yes 🗹	No 🗌 No 🔲	NA
<ul><li>7. Sufficient sample volume for indicated t</li><li>8. Are samples (except VOA and ONG) pr</li><li>9. Was preservative added to bottles?</li></ul>		Yes ☑ Yes ☑	No 🗌 No 🗍 No 🔽	NA 🗀
10. VOA vials have zero headspace? 11. Were any sample containers received l	proken?	Yes 🗌 Yes	No □ No ☑	No VOA Vials 🗹
<ul> <li>12. Does paperwork match bottle labels? (Note discrepancies on chain of custody</li> <li>13. Are matrices correctly identified on Cha</li> <li>14. Is it clear what analyses were requested</li> <li>15. Were all holding times able to be met?</li> </ul>	in of Custody? I?	Yes ☑ Yes ☑ Yes ☑ Yes ☑	No	bottles checked for pH: (<2 or >12 unless noted) Adjusted? Checked by:
(If no, notify customer for authorization. <u>Special Handling (if applicable)</u> 16. Was client notified of all discrepancies of		Yes 🗌	No 🗆	NA 🗹
Person Notified: By Whom: Regarding: Client Instructions:		_ eMail _ Phon	ne 🗌 Fax	In Person

Additional remarks:
 <u>Cooler Information</u>

-

1	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
	1	1.0	Good	Yes			

Page 1 of 1

								CHAIN OF CUSTODY RECORD		
APEX	Laboratory:	tall Er bugungu	uironm UNM	untal				Lab use only Due Date:		
Office Location <u>Aztec</u> , Nim							/ / /	when received (C°):		
	Contact: A	titiceme	un.			at				
Y Court Mark	Phone:							/ / Page of		
Project Manager K.S.M.Mers	PO/SO #:						///			
Runer Deechilly 6		h		с.	80a1 87	7/				
Project Name			ype of Conta	liners		378				
Matrix Date Time O r Identifying Mar	ks of Sample(s)	End Depth VOA	A/G 11, A/G	Glass Jar P/O				Lab Sample ID (Lab Use Only)		
S 4/27/17/1130 X ES-	-30			)	XX			1704660-001		
				+						
	MES									
						· · · · · · · · · · · · · · · · · · ·				
				+						
	50% Rush 0/00%		SAME	DAY						
Keildung 127177 11	ime: Received by:	1.1.2.0	ters	Date:		NOTES:	11-10-	am Lana (FPPAD)		
Relinquished by (Signature) Date: T Wistu Wells 127/11	ime: Received by:	(Signature)	~	Date: Date: Date:	0115 Time:			im Long (EPEOD) A30036		
Relinquished by (Signature) Date: T	ime: Received by:	(Signature)		Date:	Time:	-	SAM	E D.A.Y		
Matrix WW - Wastewater W - Water S Container VOA - 40 ml vial A/G - Amber / Or	- Soil SD - Solid L Glass 1 Liter	- Liquid A	- Air Bag		arcoal tube Plastic or other	SL - sludge	O - Oil			

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



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

April 25, 2017

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

OrderNo.: 1704A18

Dear Kyle Summers:

RE: Lateral 2C-80

Hall Environmental Analysis Laboratory received 6 sample(s) on 4/22/2017 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 <u>www.hallenvironmental.com</u> 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,

Andia

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** 

#### Lab Order 1704A18

Date Reported: 4/25/2017

4/24/2017 10:26:24 AM 31382

4/24/2017 9:50:07 AM

4/24/2017 9:50:07 AM B42322

Analyst: NSB

Analyst: NSB

SG42322

SG42322

B42322

B42322

B42322

B42322

## Hall Environmental Analysis Laboratory, Inc.

CLIENT:	APEX TITAN		<b>Client Sample ID: ES-23</b>								
Project:	Lateral 2C-80		Collection Date: 4/21/2017 1:00:00 PM								
Lab ID:	1704A18-001	Matrix:	MEOH (SOIL)	Received	Date: 4/22/2017 10:00:00 AM	[					
Analyses	е. П.	Result	PQL Qual	Units	DF Date Analyzed	Batch					
EPA MET	THOD 8015M/D: DIESEL RA	ANGE ORGANIC	s		Analys	st: TOM					
Diesel R	ange Organics (DRO)	ND	9.6	mg/Kg	1 4/24/2017 10:26:24 A	M 31382					

70-130

4.0

54-150

0.020

0.040

0.040

0.081

66.6-132

%Rec

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

1

1

1

1

1

1

1

1

103

ND

104

ND

ND

ND

ND

115

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

**Qualifiers:** 

\*

Surr: DNOP

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

**EPA METHOD 8015D: GASOLINE RANGE** 

Gasoline Range Organics (GRO)

**EPA METHOD 8021B: VOLATILES** 

Surr: 4-Bromofluorobenzene

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

**Analytical Report** 

#### Lab Order 1704A18

1

1

1

1

1

1

1

Date Reported: 4/25/2017

Analyst: NSB

Analyst: NSB

4/24/2017 10:14:25 AM SG42322

4/24/2017 10:14:25 AM SG42322

4/24/2017 10:14:25 AM B42322

## Hall Environmental Analysis Laboratory, Inc.

**EPA METHOD 8015D: GASOLINE RANGE** 

Gasoline Range Organics (GRO)

Surr: 4-Bromofluorobenzene

**EPA METHOD 8021B: VOLATILES** 

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT: APEX TITAN		Client Sample ID: ES-24								
Project: Lateral 2C-80		Collection Date: 4/21/2017 1:10:00 PM								
Lab ID: 1704A18-002	Matrix:	MEOH (SOIL)	Received	Date: 4/2	2/2017 10:00:00 AN	1				
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch				
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	S			Analy	st: TOM				
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/24/2017 10:48:33 A	M 31382				
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/24/2017 10:48:33 A	M 31382				
Surr: DNOP	105	70-130	%Rec	1	4/24/2017 10:48:33 A	M 31382				

3.7

54-150

0.018

0.037

0.037

0.074

66.6-132

mg/Kg

%Rec

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

ND

103

ND

ND

ND

ND

113

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

Quali	ifiers:
-------	---------

\*

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

Analytical Report
Lab Order 1704A18

#### Date Reported: 4/25/2017

4/24/2017 10:38:38 AM B42322

## Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT: APEX TITAN		Client Sample ID: ES-25								
Project: Lateral 2C-80		Collection Date: 4/21/2017 1:20:00 PM								
Lab ID: 1704A18-003	Matrix:	MEOH (SC	OIL) Re	ceived Date: 4/	22/2017 10:00:00 AM					
Analyses	Result	PQL	Qual Uni	ts DF	Date Analyzed	Batch				
EPA METHOD 8015M/D: DIESEL RANG		s			Analyst	ТОМ				
Diesel Range Organics (DRO)	ND	9.6	mg	/Kg 1	4/24/2017 11:10:48 AM	31382				
Motor Oil Range Organics (MRO)	ND	48	mg	/Kg 1	4/24/2017 11:10:48 AM	31382				
Surr: DNOP	104	70-130	%R	ec 1	4/24/2017 11:10:48 AM	31382				
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB				
Gasoline Range Organics (GRO)	ND	3.9	mg	/Kg 1	4/24/2017 10:38:38 AM	SG42322				
Surr: BFB	99.5	54-150	%R	ec 1	4/24/2017 10:38:38 AM	SG42322				
EPA METHOD 8021B: VOLATILES					Analyst	NSB				
Benzene	ND	0.020	mg	/Kg 1	4/24/2017 10:38:38 AM	B42322				
Toluene	ND	0.039	mg	/Kg 1	4/24/2017 10:38:38 AM	B42322				
Ethylbenzene	ND	0.039	mg	/Kg 1	4/24/2017 10:38:38 AM	B42322				
Xylenes, Total	ND	0.078	mg	/Kg 1	4/24/2017 10:38:38 AM	B42322				

66.6-132

%Rec

1

109

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
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

**Analytical Report** 

### Hall Environmental Analysis Laboratory, Inc.

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Lab Order 1704A18 Date Reported: 4/25/2017

4/24/2017 11:02:48 AM B42322

4/24/2017 11:02:48 AM B42322

4/24/2017 11:02:48 AM B42322

CLIENT: APEX TITAN		C	lient Samp	le ID: ES	-26			
Project: Lateral 2C-80	Collection Date: 4/21/2017 1:30:00 PM							
Lab ID: 1704A18-004	Matrix:	MEOH (SOIL)	Received	Date: 4/2	2/2017 10:00:00 AM			
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	5			Analyst	: TOM		
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/24/2017 11:32:58 AM	31382		
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/24/2017 11:32:58 AM	31382		
Surr: DNOP	104	70-130	%Rec	1	4/24/2017 11:32:58 AM	31382		
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	NSB		
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	4/24/2017 11:02:48 AM	SG4232		
Surr: BFB	111	54-150	%Rec	1	4/24/2017 11:02:48 AM	SG4232		
EPA METHOD 8021B: VOLATILES					Analyst	NSB		
Benzene	ND	0.019	mg/Kg	1	4/24/2017 11:02:48 AM	B42322		
Toluene	ND	0.038	mg/Kg	1	4/24/2017 11:02:48 AM	B42322		

0.038

0.077

66.6-132

mg/Kg

mg/Kg

%Rec

1

1

1

ND

ND

112

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	H	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	R	RPD outside accepted recovery limits

- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 9 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

### Analytical Report Lab Order 1704A18 Date Reported: 4/25/2017

### Hall Environmental Analysis Laboratory, Inc.

OF FEMALE ADEX TITAN			Client Samuel	. ID. ES	2.77			
CLIENT: APEX TITAN			<b>Client Sampl</b>					
Project: Lateral 2C-80		Collection Date: 4/21/2017 1:40:00 PM						
Lab ID: 1704A18-005	Matrix:	MEOH (SOIL	) Received I	Date: 4/2	22/2017 10:00:00 AM			
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RA		S			Analys	t: TOM		
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	4/24/2017 11:55:09 AM	1 31382		
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	4/24/2017 11:55:09 AM	1 31382		
Surr: DNOP	103	70-130	%Rec	1	4/24/2017 11:55:09 AM	31382		
EPA METHOD 8015D: GASOLINE R	ANGE				Analys	t: NSB		
Gasoline Range Organics (GRO)	ND	3.6	mg/Kg	1	4/24/2017 11:26:59 AM	SG42322		
Surr: BFB	103	54-150	%Rec	1	4/24/2017 11:26:59 AM	I SG42322		

#### Surr: BFB 103 54-150 %Rec Analyst: NSB **EPA METHOD 8021B: VOLATILES** 4/24/2017 11:26:59 AM B42322 Benzene ND 0.018 mg/Kg 1 0.036 4/24/2017 11:26:59 AM B42322 Toluene ND mg/Kg 1 Ethylbenzene ND 0.036 4/24/2017 11:26:59 AM B42322 mg/Kg 1 4/24/2017 11:26:59 AM B42322 ND 0.072 mg/Kg Xylenes, Total 1 Surr: 4-Bromofluorobenzene 112 66.6-132 %Rec 1 4/24/2017 11:26:59 AM B42322

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

**Analytical Report** Lab Order 1704A18 Date Reported: 4/25/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Project: Lateral 2C-80	Client Sample ID: ES-28 Collection Date: 4/21/2017 1:50:00 PM							
Lab ID: 1704A18-006	Matrix:	MEOH (S	OIL)	Received	Date: 4/2	22/2017 10:00:00 AM		
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	s				Analyst	: TOM	
Diesel Range Organics (DRO)	230	9.6		mg/Kg	1	4/24/2017 12:17:17 PM	31382	
Motor Oil Range Organics (MRO)	.75	48		mg/Kg	1	4/24/2017 12:17:17 PM	31382	
Surr: DNOP	107	70-130		%Rec	1	4/24/2017 12:17:17 PM	31382	
EPA METHOD 8015D: GASOLINE RAM	IGE					Analyst	: NSB	
Gasoline Range Organics (GRO)	79	20		mg/Kg	5	4/24/2017 11:51:04 AM	SG4232	
Surr: BFB	150	54-150		%Rec	5	4/24/2017 11:51:04 AM	SG4232	
EPA METHOD 8021B: VOLATILES						Analyst	: NSB	
Benzene	ND	0.10		mg/Kg	5	4/24/2017 11:51:04 AM	B42322	
Toluene	0.90	0.20		mg/Kg	5	4/24/2017 11:51:04 AM	B42322	
Ethylbenzene	0.26	0.20		mg/Kg	5	4/24/2017 11:51:04 AM	B42322	
Xylenes, Total	1.9	0.41		mg/Kg	5	4/24/2017 11:51:04 AM	B42322	
Surr: 4-Bromofluorobenzene	112	66.6-132		%Rec	5	4/24/2017 11:51:04 AM	B42322	

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
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 9 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

WO#: 1704A18

Page 7 of 9

25-Apr-17

Client: Project:	APEX TI Lateral 20										
Sample ID	LCS-31382	SampTy	pe: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	ID: 31	382	F	RunNo: 4	2310				
Prep Date:	4/24/2017	Analysis Da	ate: 4/	24/2017	5	SeqNo: 1	329720	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	49	10	50.00	0	97.9	63.8	116			-
Surr: DNOP		4.8		5.000	a:	96.8	70	130			
Sample ID	MB-31382	SampTy	ype: MI	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	ID: 31	382	F	RunNo: 4	2310				
Prep Date:	4/24/2017	Analysis Da	ate: 4	24/2017	5	SeqNo: 1	329721	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	ND	10								
Motor Oil Rang	e Organics (MRO)	ND	50								
Surr: DNOP		10		10.00		101	70	130			
Sample ID	1704A18-001AMS	SampTy	ype: MS	5	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	ES-23	Batch	ID: 31	382	F	RunNo: 4	2310				
Prep Date:	4/24/2017	Analysis Da	ate: 4/	24/2017	5	SeqNo: 1	330299	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (	Organics (DRO)	41	9.5	47.39	0	87.5	51.6	130			
Surr: DNOP		4.3		4.739		90.2	70	130			
Sample ID	1704A18-001AMS	SampTy	ype: MS	SD	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	ES-23	Batch	ID: 31	382	F	RunNo: 4	2310				
Prep Date:	4/24/2017	Analysis Da	ate: 4	24/2017	S	SeqNo: 1	330300	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
•	Organics (DRO)	42	9.3	46.25	0	90.3	51.6	130	0.722	20	
Surr: DNOP		4.3		4.625		92.6	70	130	0	0	

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

Client:	APEX T										
Project:	Lateral 2	C-80									
Sample ID	RB	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID:	PBS	Batch	n ID: <b>SG</b>	642322	F	RunNo: 4	2322				
Prep Date:		Analysis D	Date: 4/	24/2017	S	SeqNo: 1	330420	Units: mg/K	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	ge Organics (GRO)	ND 1000	5.0	1000		101	54	150			
Sample ID	2.5UG GRO LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID:	LCSS	Batch	n ID: 50	642322	F	RunNo: 4	2322				
Prep Date:		Analysis D	ate: 4	24/2017	s	SeqNo: 1	330421	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rand	ge Organics (GRO)	24	5.0	25.00	0	97.7	76.4	125			
	conganics (Orto)		0.0		0						
Surr: BFB	je organica (orko)	1100	0.0	1000	Ŭ	111	54	150			
Surr: BFB	1704A18-001AMS	1100	уре: М	1000		111	54		oline Rang	e	
Surr: BFB	1704A18-001AMS	1100 SampT		1000 S	Tes	111	54 PA Method	150	line Rang	e	
Surr: BFB Sample ID	1704A18-001AMS ES-23	1100 SampT	ype: MS	1000 5 542322	Tes	111 tCode: El	54 PA Method 2322	150		e	
Surr: BFB Sample ID Client ID:	1704A18-001AMS ES-23	1100 SampT Batch	ype: MS	1000 S G42322 (24/2017	Tes	111 tCode: El RunNo: 4	54 PA Method 2322	150 8015D: Gaso		e RPDLimit	Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte	1704A18-001AMS ES-23	1100 SampT Batch Analysis D	ype: MS h ID: SC Date: 4/	1000 S G42322 (24/2017	Tes F S	111 tCode: El RunNo: 4 SeqNo: 1	54 PA Method 2322 330422	150 8015D: Gaso Units: mg/M	(g		Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte	1704A18-001AMS ES-23	1100 SampT Batch Analysis D Result	ype: MS h ID: SO Date: 4/ PQL	1000 5 542322 124/2017 SPK value	Tes F S SPK Ref Val	111 tCode: El RunNo: 4 SeqNo: 1 %REC	54 PA Method 2322 330422 LowLimit	150 <b>8015D: Gaso</b> Units: <b>mg/K</b> HighLimit	(g		Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB	1704A18-001AMS ES-23	1100 SampT Batch Analysis D Result 21 910	ype: MS h ID: SO Date: 4/ PQL	1000 5 542322 124/2017 SPK value 20.14 805.8	Tes F S SPK Ref Val 0	111 tCode: El RunNo: 4 SeqNo: 1 %REC 102 113	54 PA Method 2322 330422 LowLimit 61.3 54	150 8015D: Gaso Units: mg/K HighLimit 150	رو RPD	RPDLimit	Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB	1704A18-001AMS ES-23 ge Organics (GRO) 1704A18-001AMS	1100 SampT Batch Analysis D Result 21 910 D SampT	ype: MS h ID: SC Date: 4/ PQL 4.0	1000 5 542322 724/2017 SPK value 20.14 805.8 5D	Tes F SPK Ref Val 0 Tes	111 tCode: El RunNo: 4 SeqNo: 1 %REC 102 113	54 PA Method 2322 330422 LowLimit 61.3 54 PA Method	150 8015D: Gaso Units: mg/k HighLimit 150 150	رو RPD	RPDLimit	Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID	1704A18-001AMS ES-23 ge Organics (GRO) 1704A18-001AMS ES-23	1100 SampT Batch Analysis D Result 21 910 D SampT	Type: MS h ID: SO Date: 4/ PQL 4.0 Type: MS h ID: SO	1000 5 542322 724/2017 SPK value 20.14 805.8 50 542322	Tes F SPK Ref Val 0 Tes F	111 tCode: EI RunNo: 4 SeqNo: 1 %REC 102 113 tCode: EI	54 PA Method 2322 330422 LowLimit 61.3 54 PA Method 2322	150 8015D: Gaso Units: mg/k HighLimit 150 150	Kg %RPD	RPDLimit	Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID Client ID:	1704A18-001AMS ES-23 ge Organics (GRO) 1704A18-001AMS ES-23	1100 SampT Batch Analysis D Result 21 910 D SampT Batch	Type: MS h ID: SO Date: 4/ PQL 4.0 Type: MS h ID: SO	1000 5 542322 724/2017 SPK value 20.14 805.8 5D 542322 724/2017	Tes F SPK Ref Val 0 Tes F	111 tCode: EI RunNo: 4 SeqNo: 1 %REC 102 113 tCode: EI RunNo: 4 SeqNo: 1	54 PA Method 2322 330422 LowLimit 61.3 54 PA Method 2322	150 8015D: Gaso Units: mg/k HighLimit 150 150 8015D: Gaso	Kg %RPD	RPDLimit	Qual
Surr: BFB Sample ID Client ID: Prep Date: Analyte Gasoline Rang Surr: BFB Sample ID Client ID: Prep Date: Analyte	1704A18-001AMS ES-23 ge Organics (GRO) 1704A18-001AMS ES-23	1100 SampT Batch Analysis D Result 21 910 D SampT Batch Analysis D	ype: MS h ID: SC Date: 4/ PQL 4.0 ype: MS h ID: SC Date: 4/	1000 5 542322 724/2017 SPK value 20.14 805.8 5D 542322 724/2017	Tes F SPK Ref Val 0 Tes F S	111 tCode: EI RunNo: 4 SeqNo: 1 %REC 102 113 tCode: EI RunNo: 4 SeqNo: 1	54 PA Method 2322 330422 LowLimit 61.3 54 PA Method 2322 330423	150 8015D: Gaso Units: mg/k HighLimit 150 150 8015D: Gaso Units: mg/k	Kg %RPD Dine Rang	RPDLimit e	

Qualifiers:

11

17

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
  - Analyte detected below quantitation limits
- P Sample pH Not In Range

J

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

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WO#: 1704A18

25-Apr-17

Client: Project:	APEX TI Lateral 20											
Sample ID	RB	SampT	Type: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	PBS	Batcl	h ID: <b>B4</b>	2322	RunNo: 42322							
Prep Date:		Analysis Date: 4/24/2017			S	SeqNo: 1	330439	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-Brom	ofluorobenzene	1.1		1.000		113	66.6	132				
Sample ID	100NG BTEX LCS	Samp	Type: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	LCSS	Batc	h ID: <b>B4</b>	2322	F	RunNo: 4	2322					
Prep Date:		Analysis [	Date: 4/	24/2017	5	SeqNo: 1	330440	Units: mg/l	۲g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.93	0.025	1.000	0	92.7	80	120				
Toluene		0.94	0.050	1.000	0	93.7	80	120				
Ethylbenzene		0.94	0.050	1.000	0	93.9	80	120				
Xylenes, Total		2.9	0.10	3.000	0	95.2	80	120				
Surr: 4-Brom	ofluorobenzene	1.1		1.000		114	66.6	132		н К.		
Sample ID	1704A18-002AMS	SampT	Гуре: МS	3	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	ES-24	Batc	h ID: <b>B4</b>	2322	F	RunNo: 4	2322					
Prep Date:		Analysis [	Date: 4/	24/2017	5	SeqNo: 1	330441	Units: mg/l	٨g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.69	0.018	0.7396	0	93.7	61.5	138				
Toluene		0.71	0.037	0.7396	0.006730	95.1	71.4	127				
Ethylbenzene		0.72	0.037	0.7396	0	97.2	70.9	132				
Xylenes, Total		2.2	0.074	2.219	0	98.6	76.2	123				
Surr: 4-Brom	nofluorobenzene	0.83		0.7396		113	66.6	132				
Sample ID	1704A18-002AMS	Samp	Type: MS	D	Tes	tCode: E	PA Method	8021B: Vola	tiles			
Client ID:	ES-24	Batc	h ID: <b>B4</b>	2322	F	RunNo: 4	2322					
Prep Date:		Analysis [	Date: 4/	24/2017	5	SeqNo: 1	330442	Units: mg/l	٨g			
Analyte		Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.67	0.018	0.7396	0	91.0	61.5	138	2.91	20		
Toluene		0.68	0.037	0.7396	0.006730	91.2	71.4	127	4.16	20		
Ethylbenzene		0.70	0.037	0.7396	0	94.5	70.9	132	2.88	20		
Xylenes, Total		2.1	0.074	2.219	0	95.4	76.2	123	3.25	20		
Surr: 4-Brom	ofluorobenzene	0.83		0.7396		112	66.6	132	0	0		

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

R RPD outside accepted recovery limits

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

W Sample container temperature is out of limit as specified

Page 9 of 9

WO#: 1704A18

25-Apr-17

HALL ENVIRONMENTAL ANALYSIS LABORATORY	<i>TEL: 505-</i> .	onmental Analys 490 Albuquerq 345-3975 FAX: www.hallenvir	l Hawkins uz, NM 87 505-345-4	NE 109 Sa 107	ole Log-In Ch	eck List	
Client Name: APEX AZTEC	Work Order	Number: 1704	A18	•		RcptNo:	
Received By: Lindsay Mar Completed By: Lindsay Mar				Struby H. Struby H.	aged Aged		
Reviewed By:	04/24/17			UU	0		
Chain of Custody							
1. Custody seals intact on san		Yes		No		Not Present 🗸	
2. Is Chain of Custody comple			✓.	No		Not Present	
<ol><li>How was the sample deliver</li></ol>	red?	Cou	rier				
Log In							
4. Was an attempt made to co	ool the samples?	Yes	~	No		NA	
5. Were all samples received	at a temperature of >0° C to 6.0			No		NA	
6. Sample(s) in proper contain	ner(s)?	Yes	×.	No			
7. Sufficient sample volume for	r indicated test(s)?	Yes	V	No			
8. Are samples (except VOA a	and ONG) properly preserved?	Yes	<b>V</b>	No			
9. Was preservative added to	bottles?	Yes	13	No	¥	NA	
10.VOA vials have zero heads	pace?	Yes	•.	No		No VOA Vials 💉	
11. Were any sample contained	rs received broken?	Yes	3	No	<b>V</b>	# of preserved	* • •
12. Does paperwork match bott (Note discrepancies on cha		Yes	~	No		bottles checked for pH: (<2 or	>12 unless noted)
13. Are matrices correctly ident		Yes	Vi	No	:	Adjusted?	
14. Is it clear what analyses we	re requested?	Yes	V	No			
15. Were all holding times able (If no, notify customer for au		Yes	V	No .	ł	Checked by:	
Special Handling (if appl	icable)						
16. Was client notified of all dis		Yes	··· *	No	•	NA 🗸	
Person Notified:	n na antara 1996, ka kata kata kata kata kata na kata na mana kata na kata kata kata kata kata kat	Date:	18146-120782-12067483	kā āsās i scīstargak okļātāja	ac. 10 4		
By Whom:	ર્વન શેન્દ્ર કે કે દેવિયાના નાંગ માટે જ છે. છે. છે. છે. છે. છે. દેવી પરંતનાં છે. છે. છે. છે. છે. છે. છે. છે. છે જેમ છે.	Via: eN	ail P	hone I	Fax	In Person	
Regarding:	nandan ar ar an ann an ann an an an an an an an an a	a an		- area's of scattering with a	16 M IB I I I I I	na na sana ana ana ana ana ana ana ana a	
Client Instructions:		·····································	a · · Autor 15' wata	net sencinger spinstala	er Boliki Seri 'e	annan a tha shina ann a bha ann ann an bhailte	

17. Additional remarks:

-

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Page 1 of 1

															8		CHAIN	OFC	CUSTODY REC	OHD
2						Laboratory:	H	11					ANALYSI		[]]]		11	//	Lab use only Due Date:	
AI	PEX					Address:			-11/	N				1 600/020/Man	/ /					
	e Locatio		nto	Dí .	MUM	Audiess		pu	1121	.,				12	11	/ /	1/	/	Temp. of coolers when received (C°):	1.3
Olic	e Localio	······	-6-13	af		Contact:	A	F. Fr	o m	10				19	111	1			1 2 3 4	5
						Phone:	-		entra	A 1 (				1.2		/	$\left  \right $	/	Pagel_of_/	
Proie	ect Manag	ier	K.S	MAG	Annevs	PO/SO #:							A	14/		11			-	
Sampl	er's Name					Sampler's Sign	ature	0				and the second se	E C	Tota /	111		11			
R	unee T	Deechi	110	1	4	Rub	h	4					10	11			/ /			
Proj. N	and the second se			ect Na				-	No/Ty	pe of C	Containe	rs	LUQI BIEN	HIQL STO		/				
			-		teral ?	26-80							/ /	1	11	/ /	/			
Matrix	Date	Time	COED	Grab	Identifying Ma	irks of Sample(s)	Start	End Depth	VOA	A/G	250 ml	Jar PrD	11				/		ample ID (Lab Use On)	
S	4/21/17	1300	X		E	5-23						1	XX				17	04	A18-00	21
S	1	1310	X		B	5-24						)	XX						-00	Z
S	Y	13:20	X		E	5-25						1	XX						-00	3
5		1330	X		ES	5-26				_		1	XX						-00	4
5		1340	X		E	5-27						1	XX						-00	5
5	V	1350	X		E	5-28						1	XX						-00	6
-						NES														
									/	-										
Turn a	round time	D Nor	mal		25% Rush	350% Rush	100%	Rush	<	ito	NE	DAY								
	Webed by (	the second se		T	Date:	Time: Receiv		(Signa	the second s		1	)ate:	Time:	NOTES:				,	~	
Reling	uished by (	Signature)	,		Date	030 A	ed/by:	Signa	ture)		)(	21/17 Dale:	1630 Time:		Bill to	To	m Lon	9 (1	EPEOD)	
*h	laste	talt	-	4		856	11	X			04/2	dA	1000 Time:				A300			
Reling	uished by (	Signature)			Date:	Time: Receiv	eq by	loigna	ture)		1	Date:	time:							
Relino	uished by (	Signature)			Date:	Time: Receiv	red by:	(Signa	ture)		1	Date:	Time:		SAG	NE	DAY			
Matrix		V - Wastewa		1	W - Water	S - Soil SD - So Ir Glass 1 Liter	lid	L - Liquio	A I	- Air B		C . Ch	arcoal tube	SL · sludge	O - Oil					

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



April 27, 2017

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

OrderNo.: 1704B28

Hall Environmental Analysis Laboratory

TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

4901 Howkins NE

Albuquerque, NM 87109

Dear Kyle Summers:

RE: Lateral 2C 80

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/26/2017 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 <u>www.hallenvironmental.com</u> 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,

andial

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** Lab Order 1704B28

Date Reported: 4/27/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN				lient Samp			
Project: Lateral 2C 80				Collection	Date: 4/2	25/2017 9:30:00 AM	
Lab ID: 1704B28-001	Matrix: MEOH (SOIL) Received Date: 4/26/2017 7:00					26/2017 7:00:00 AM	
Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analyst	: том
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/26/2017 9:44:29 AM	31426
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/26/2017 9:44:29 AM	31426
Surr: DNOP	85.0	70-130		%Rec	1	4/26/2017 9:44:29 AM	31426
EPA METHOD 8015D: GASOLINE RAM	IGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	4/26/2017 9:42:46 AM	SG4237
Surr: BFB	102	54-150		%Rec	1	4/26/2017 9:42:46 AM	SG4237
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.022		mg/Kg	1	4/26/2017 9:42:46 AM	B42379
Toluene	ND	0.044		mg/Kg	1	4/26/2017 9:42:46 AM	B42379
Ethylbenzene	ND	0.044		mg/Kg	1	4/26/2017 9:42:46 AM	B42379
Xylenes, Total	ND	0.088		mg/Kg	1	4/26/2017 9:42:46 AM	B42379
Surr: 4-Bromofluorobenzene	108	66.6-132		%Rec	1	4/26/2017 9:42:46 AM	B42379

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

Qua	alifi	ers:
-----	-------	------

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % 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 1 of 5 J
- Sample pH Not In Range Ρ
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

Client: Project:	APEX TI Lateral 20										
Sample ID L	_CS-31426	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: L	CSS	Batch	ID: 31	426	F	RunNo: 42	2362				
Prep Date:	4/26/2017	Analysis D	ate: 4/	26/2017	5	SeqNo: 1	331951	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or Surr: DNOP	ganics (DRO)	48 4.7	10	50.00 5.000	0	95.8 93.5	63.8 70	116 130			
Sample ID	WB-31426	SampT	ype: ME	3LK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	Organics	
Client ID: F			D: 31			RunNo: 4					
Prep Date:		Analysis D				SeqNo: 1		Units: mg/k	۲g		
Analyte		Result	PQL		SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	rganics (DRO)	ND	10	Si it value	or it nor var	//IIICO	LowLind	, ingrittinit	, or (1 )	. a Denna	Guul
-	Organics (MRO)	ND	50								
Surr: DNOP		9.8		10.00		98.2	70	130			
Sample ID	LCS-31439	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: I	LCSS	Batch	n ID: 31	439	F	RunNo: 4	2363				
Prep Date:	4/26/2017	Analysis D	ate: 4/	26/2017	S	SeqNo: 1	332305	Units: %Re	с		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	24	4.3		5.000	n la	86.0	70	130			
Sample ID	MB-31439	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	PBS	Batch	n ID: 31	439	F	RunNo: 4	2363				
Prep Date:	4/26/2017	Analysis D	ate: 4	26/2017	5	SeqNo: 1	332306	Units: %Re	с		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		8.1		10.00		80.6	70	130			
Sample ID 1	1704B28-001AMS	SampT	ype: MS	6	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	S-1	Batch	n ID: 31	426	F	RunNo: 4	2363				
Prep Date:	4/26/2017	Analysis D	ate: 4	26/2017	S	SeqNo: 1	332920	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	rganics (DRO)	42	9.3	46.30	8.817	72.6	51.6	130			
Surr: DNOP		4.1		4.630		88.0	70	130			
Sample ID 1	1704B28-001AMS	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	S-1	Batch	n ID: 31	426	F	RunNo: 4	2363				
Prep Date:	4/26/2017	Analysis D	ate: 4	26/2017	S	SeqNo: 1	332921	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Or	rganics (DRO)	46	10	50.71	8.817	74.0	51.6	130	8.76	20	

#### **Qualifiers:**

12

\* Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL

**Reporting Detection Limit** 

W Sample container temperature is out of limit as specified Page 2 of 5

WO#: 1704B28

27-Apr-17

# QC SUMMARY REPORT

WO#: 1704B28

27-Apr-17

## Hall Environmental Analysis Laboratory, Inc.

Client:	APEX TI										
Project:	Lateral 20	0 80									
Sample ID	1704B28-001AMS	SampTy	be: M	SD	Test	Code: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	S-1	Batch I	D: 31	426	R	unNo:	42363				
Prep Date:	4/26/2017	Analysis Da	te: 4	/26/2017	S	eqNo:	1332921	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.5		5.071		89.5	70	130	0	0	
Sample ID	LCS-31410	SampTy	be: LC	cs	Test	Code: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID:	LCSS	Batch I	D: 31	410	R	unNo:	42363				
Prep Date:	4/25/2017	Analysis Da	te: 4	/26/2017	S	eqNo: '	1332922	Units: %Red	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Our DUOD											
Surr: DNOP		4.5		5.000		89.5	70	130			
	MB-31410	4.5 SampTy	pe: M		Test			130 8015M/D: Die	esel Range	e Organics	
	MB-31410 PBS			BLK			PA Method		esel Rang	e Organics	
Sample ID		SampTy	D: 31	BLK 410	R	Code: E	PA Method			e Organics	
Sample ID Client ID:	PBS	SampTy Batch I	D: 31	BLK 410 /26/2017	R	Code: E	EPA Method 42363 1332923	8015M/D: Die		e Organics RPDLimit	Qual

Qualifiers:

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

Page 3 of 5

Client: Project:	APEX TI Lateral 20										
Froject:	Lateral 20	C 80									ξ
Sample ID	RB	SampTy	pe: ME	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	PBS	Batch	ID: <b>SO</b>	642379	F	RunNo: 4	2379				
Prep Date:		Analysis Da	ate: 4/	26/2017	5	SeqNo: 1	332720	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	ND	5.0							2	
Surr: BFB		1000		1000		101	54	150		*	
Sample ID	2.5UG GRO LCS	SampTy	pe: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	LCSS	Batch	ID: <b>S</b>	642379	F	RunNo: 4	2379				
Prep Date:		Analysis Da	ate: 4/	26/2017	5	SeqNo: 1	332721	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	25	5.0	25.00	0	98.7	76.4	125	_		
Surr: BFB		1200		1000		116	54	150			
Sample ID	1704B28-001AMS	SampTy	pe: MS	6	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	S-1	Batch	ID: SO	642379	F	RunNo: 4	2379				
Prep Date:		Analysis Da	ate: 4/	26/2017	5	SeqNo: 1	332722	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	22	4.4	21.97	0	102	61.3	150			
Surr: BFB		1000		878.7		117	54	150			
Sample ID	1704B28-001AMS	D SampTy	pe: MS	SD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	S-1	Batch	ID: 50	642379	F	RunNo: 4	2379				
Prep Date:		Analysis Da	ate: 4/	26/2017	5	SeqNo: 1	332723	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	22	4.4	21.97	0	98.3	61.3	150	3.91	20	

878.7

1000

Qualifiers:

Surr: BFB

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

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

116

54

150

0

0

- 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

WO#: 1704B28

27-Apr-17

Page 4 of 5

Client:	APEX TITA	AN									
Project:	Lateral 2C 8	30									
Sample ID RB		SampTy	pe: ME	BLK	Tes	Code: El	PA Method	8021B: Volat	tiles		
Client ID: PBS		Batch	ID: <b>B4</b>	2379	F	unNo: 4	2379				
Prep Date:	A	nalysis Da	ate: 4/	26/2017	S	eqNo: 1	332736	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-Bromofluorob	enzene	1.1		1.000		112	66.6	132			
Sample ID 100NG	BTEX LCS	SampTy	pe: LC	s	Tes	Code: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS		Batch	ID: <b>B4</b>	2379	F	unNo: 4	2379				
Prep Date:	A	nalysis Da	ate: 4/	26/2017	S	eqNo: 1	332737	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		0.92	0.050	1.000	0	91.6	80	120			
Ethylbenzene		0.92	0.050	1.000	0	92.3	80	120			
Xylenes, Total		2.8	0.10	3.000	0	93.9	80	120			
Surr: 4-Bromofluorob	enzene	1.1		1.000		110	66.6	132			

**Qualifiers:** 

1

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

WO#: 1704B28

27-Apr-17

Page 5 of 5

ANAL	RONMENTAL YSIS RATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.hai	4901 Hawkins querque, NM 87 FAX: 505-345-4	NE 109 Samj	Sample Log-In Check List				
Client Name:	APEX AZTEC	Work Order Number:	1704828		RcptNo: 1				
Received By:	Sophia Campuzano	4/26/2017 7:00:00 AM		Septier Cargin	-				
Completed By:	Lindsay Mangin	4/26/2017 7:34:44 AM		toucher Alertan					
Reviewed By:	ENM	04/26/17		0.9.00					
Chain of Cus	stody								
1.	als intact on sample bottles?		Yes 🗹	No 🗌	Not Present				
	Custody complete?		Yes 🖌	No 🗔	Not Present				
	e sample delivered?	,	Courier						
<u>Log In</u>									
4. Was an att	empt made to cool the sample	es?	Yes 🗹	No 🗌	NA				
5. Were all sa	imples received at a temperat	ure of >0° C to 6.0°C	Yes 🗹	No 🗌					
6. Sample(s)	in proper container(s)?		Yes 🗹	No 🗌					
7. Sufficient sa	ample volume for Indicated te	st(s)?	Yes 🖌	No 🗌					
8. Are sample	s (except VOA and ONG) pro	perly preserved?	Yes 🖌	No 🗌					
9. Was preser	rvative added to bottles?		Yes 🗌	No 🗹	NA 🗆				
10.VOA vials h	nave zero headspace?		Yes 🗋	No 🗌	No VOA Vials 🗹				
11. Were any s	sample containers received br	oken?	Yes 🗆	No 🗹	# of preserved bottles checked				
	work match bottle labels? epancies on chain of custody)		Yes 🗹	No 🗌	for pH:	>12 unless noted)			
13. Are matrice	s correctly identified on Chain	of Custody?	Yes 🖌	No 🗌	Adjusted?				
14. Is it clear w	hat analyses were requested?	?	Yes 🗹	No 🗌					
	olding times able to be met? y customer for authorization.)		Yes 🗹	No 🗌	Checked by:				
Special Hon	dling (if applicable)								
	notified of all discrepancies w	ith this order?	Yes	No 🗆	NA 🗹				
[	CONTRACTOR CONTRACTOR								
	on Notified:	Date:							
By W	and the second s	Via:	_] eMail [_] F	Phone Fax					
Rega	rding:	A CARACTER DE CARACTERISTA A REALIZE MARCHINE MARCHINE DE CARACTERISTA DE	COLORING LE COLORID LO COLORID LO COLORID LO COLORID DE COLORID DE COLORID DE COLORID DE COLORID DE COLORID DE	MANDALAR MANDALAR MANDALAR MANDALAR	ALTER STATES CONTRACTOR STORE STATES STATES STATES				
	<b>\$</b>			•					
17. Additional	remarks:								
18. <u>Cooler Inf</u>	ormation No Temp °C Condition	Seal Intact Seal No	Seal Date	Signed By	I				

Page 1 of 1

3.4

Good

Yes

1

1

	· · · · · · · · · · · · · · · · · · ·			CHAIN OF CUSTODY RECOR
APEX	Laboratory:	all DINM	ANALYSIS REQUESTED	Lab use only Due Date:
Office LocationArtec_NM	Contact:A Fr	erman	HEQUESTED DAW DO AND A	when received (C°): 3.4 1 2 3 4 5 Page of
Rance Deechilly	PO/SO #: Sampler's Signature Russhull		BOILS TPH	
Proj. No. Project Name		No/Type of Containers		
Matrix Date Time $\begin{bmatrix} G & G \\ m & a \\ p & b \end{bmatrix}$ Identifying Mai	rks of Sample(s) trata of Sample (s) trata of Sam	VOA 1LL 1LL Jar Jar PrO	XX	Lab Sample ID (Lab Use Only)
				1 FUILIS COL
	AVES			
Turn around time	150% Rush	SAME DAY		
Relinquished by (Signature) RADUL USIT K Relinquished by (Signature) With Valt 44517 18	Time: Received by: (Signa	ture) Date: ULL ULL ture) Date:	Time: NOTES: 1535 Time: Bill to To 0700 Time: APE #	m lang (EPROD) + A 30036 SAMEDAY
Relinquished by (Signature) Date:	Time: Received by: (Signal	ture) Date:	Time:	

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



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

April 27, 2017

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

OrderNo.: 1704B29

Dear Kyle Summers:

RE: Lateral 2C 80

Hall Environmental Analysis Laboratory received 1 sample(s) on 4/26/2017 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 <u>www.hallenvironmental.com</u> 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,

Andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** 

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1704B29 Date Reported: 4/27/2017

CLIENT: APEX TITAN			Client Samp	ole ID: ES	-29	
Project: Lateral 2C 80			-		5/2017 9:20:00 AM	
Lab ID: 1704B29-001	Matrix:	MEOH (SOIL)			6/2017 7:00:00 AM	
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	4/26/2017 10:11:52 AM	31426
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	4/26/2017 10:11:52 AM	31426
Surr: DNOP	85.8	70-130	%Rec	1	4/26/2017 10:11:52 AM	31426
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	4/26/2017 10:06:55 AM	SG4237
Surr: BFB	96.6	54-150	%Rec	1	4/26/2017 10:06:55 AM	SG4237
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.022	mg/Kg	1	4/26/2017 10:06:55 AM	B42379
Toluene	ND	0.044	mg/Kg	1	4/26/2017 10:06:55 AM	B42379
Ethylbenzene	ND	0.044	mg/Kg	1	4/26/2017 10:06:55 AM	B42379
Xylenes, Total	ND	0.088	mg/Kg	1	4/26/2017 10:06:55 AM	B42379
Surr: 4-Bromofluorobenzene	105	66.6-132	%Rec	1	4/26/2017 10:06:55 AM	B42379

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

10

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 4
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Client: APEX T Project: Lateral 2				5
Sample ID LCS-31426	SampType: LCS		8015M/D: Diesel Range Organics	
Client ID: LCSS	Batch ID: 31426	RunNo: 42362		
Prep Date: 4/26/2017	Analysis Date: 4/26/2017	SeqNo: 1331951	Units: mg/Kg	
Analyte		SPK Ref Val %REC LowLimit 0 95.8 63.8	HighLimit %RPD RPDLimit	Qual
Diesel Range Organics (DRO) Surr: DNOP	48 10 50.00 4.7 5.000		116 130	
Sample ID MB 21426	CompTuno: MDI K	TostCodo: EDA Mathad	2015M/D: Discol Pango Organico	
Sample ID MB-31426	SampType: MBLK		8015M/D: Diesel Range Organics	
Client ID: PBS	Batch ID: 31426	RunNo: 42362		
Prep Date: 4/26/2017	Analysis Date: 4/26/2017	SeqNo: 1331952	Units: mg/Kg	
Analyte		SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	ND 10 ND 50			
Surr: DNOP	9.8 10.00	98.2 70	130	
Sample ID LCS-31439	SampType: LCS	TestCode: EDA Mothod	8015M/D: Diesel Range Organics	
Client ID: LCSS	Batch ID: 31439	RunNo: 42363	oursmile. Dieser Kange Organics	
Prep Date: 4/26/2017	Analysis Date: 4/26/2017	SeqNo: 1332305	Units: %Rec	
Analyte Surr: DNOP	Result PQL SPK value 4.3 5.000	SPK Ref Val %REC LowLimit 86.0 70	HighLimit %RPD RPDLimit 130	Qual
Sample ID MB-31439	SampType: MBLK		8015M/D: Diesel Range Organics	
Client ID: PBS	Batch ID: 31439	RunNo: 42363		
Prep Date: 4/26/2017	Analysis Date: 4/26/2017	SeqNo: 1332306	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Surr: DNOP	8.1 10.00	80.6 70	130	
Sample ID LCS-31410	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics	· · · · · ·
Client ID: LCSS	Batch ID: 31410	RunNo: 42363		
Prep Date: 4/25/2017	Analysis Date: 4/26/2017	SeqNo: 1332922	Units: %Rec	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
Surr: DNOP	4.5 5.000	89.5 70	130	
Sample ID MB-31410	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Client ID: PBS	Batch ID: 31410	RunNo: 42363		
Prep Date: 4/25/2017	Analysis Date: 4/26/2017	SeqNo: 1332923	Units: %Rec	
Analyte			HighLimit %RPD RPDLimit	Qual
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	FIGULINIE WRED REDUNN	

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

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

E Value above quantitation range

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

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

Page 2 of 4

WO#: 1704B29

27-Apr-17

Client: APEX TITAN

Project: Lateral 2	C 80									
Sample ID RB	Samp	Type: MI	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID: PBS	Batc	h ID: <b>S</b> (	G42379	F	RunNo: 4	2379				
Prep Date:	Analysis [	Date: 4	/26/2017	5	SeqNo: 1	332720	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	54	150			
Sample ID 2.5UG GRO LCS	Samp	Type: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batc	h ID: <b>S</b> (	G42379	F	RunNo: 4	2379				
Prep Date:	Analysis D	Date: 4	/26/2017	5	SeqNo: 1	332721	Units: mg/M	٢g		
Analyte		DOI	SDK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte	Result	PQL	SPR value	SFR Rei val	/01 LO	LOWLINI	i nginemiti	JOIN D	IN DENING	acutai
Gasoline Range Organics (GRO)	Result 25	5.0		0	98.7	76.4	125		TH DEIM	duur
							0	/// 0	TH DEIM	Guui

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

Page 3 of 4

WO#: 1704B29

27-Apr-17

**Client:** APEX TITAN Lateral 2C 80 **Project:** Sample ID RB SampType: MBLK TestCode: EPA Method 8021B: Volatiles Client ID: PBS Batch ID: B42379 RunNo: 42379 Prep Date: Analysis Date: 4/26/2017 SeqNo: 1332736 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 0.050 Ethylbenzene ND Xylenes, Total ND 0.10 1.000 Surr: 4-Bromofluorobenzene 1.1 112 66.6 132 Sample ID 100NG BTEX LCS SampType: LCS TestCode: EPA Method 8021B: Volatiles Client ID: LCSS Batch ID: B42379 RunNo: 42379 Prep Date: Analysis Date: 4/26/2017 SeqNo: 1332737 Units: mg/Kg SPK value SPK Ref Val Analyte Result PQL %REC LowLimit HighLimit %RPD **RPDLimit** Qual 0.90 0.025 Benzene 1.000 0 90.5 80 120 Toluene 0.92 0.050 1.000 0 91.6 80 120 Ethylbenzene 0.92 0.050 1.000 0 92.3 80 120 Xylenes, Total 2.8 0.10 3.000 0 93.9 80 120 Surr: 4-Bromofluorobenzene 1.000 1.1 110 66.6 132 Sample ID 1704B29-001AMS SampType: MS TestCode: EPA Method 8021B: Volatiles Client ID: ES-29 Batch ID: B42379 RunNo: 42379 Prep Date: Analysis Date: 4/26/2017 SeqNo: 1332738 Units: mg/Kg Analyte Result POL SPK value SPK Ref Val %REC LowLimit %RPD **RPDLimit** HighLimit Qual Benzene 0.80 0.022 0.8780 91.2 0 61.5 138 Toluene 0.81 0.044 0.8780 0 92.8 71.4 127 Ethylbenzene 0.83 0.044 0.8780 0 94.0 70.9 132 Xylenes, Total 2.5 0.088 2.634 0 96.0 76.2 123 Surr: 4-Bromofluorobenzene 1.0 0.8780 119 66.6 132 Sample ID 1704B29-001AMSD SampType: MSD TestCode: EPA Method 8021B: Volatiles Client ID: **ES-29** Batch ID: B42379 RunNo: 42379 Prep Date: Analysis Date: 4/26/2017 SeqNo: 1332739 Units: mg/Kg PQL SPK value SPK Ref Val Analyte Result %REC %RPD **RPDLimit** LowLimit HighLimit Qual Benzene 0.78 0.022 0.8780 0 89.0 61.5 2.44 20 138 Toluene 0.79 0.044 0.8780 0 90.4 71.4 127 2.62 20 70.9 Ethylbenzene 0.81 0.044 0.8780 0 92.3 20 132 1.90 Xylenes, Total 2.5 0.088 2.634 0 93.5 76.2 123 2.56 20 Surr: 4-Bromofluorobenzene 1.0 0.8780 117 66.6 132 0 0

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

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

W Sample container temperature is out of limit as specified

1704B29

27-Apr-17

WO#:

Page 4 of 4

ANALY	CONMENTAL YSIS RATORY	Hall Environmental A Albur TEL: 505-345-3975 Website: www.hal	4901 Ha guerque, 1 FAX: 505-	Samp	ple Log-In Check List			
Client Name:	APEX AZTEC	Work Order Number:	1704B2	9		RcptNo:	1	
Received By:	Sophia Campuzano	4/26/2017 7:00:00 AM		Ş.	jhia Capa-			
Completed By:	Lindsay Mangin	4/26/2017 7:37:45 AM		. 0	time if the popo			
Reviewed By:	ENM	04/26/17		U.				
Chain of Cus	tody			,				
1. Custody sea	als intact on sample bottles?		Yes N		No 🗌	Not Present		
2. Is Chain of (	Custody complete?		Yes 🖌		No 🗔	Not Present		
3. How was the	e sample delivered?		Courier	:				
<u>Log In</u>								
4. Was an atte	empt made to cool the sampl	es?	Yes		No 🗌	NA		
5. Were all sar	mples received at a temperat	ure of >0° C to 6.0°C	Yes 🔽	•	No 🗀			
6. Sample(s) i	n proper container(s)?		Yes		No []			
7. Sufficient sa	mple volume for indicated te	st(s)?	Yes		No 🗌			
8. Are samples	s (except VOA and ONG) pro	perly preserved?	Yes a	2	No 🗌			
9. Was presen	vative added to bottles?	*	Yes [	].	No 🗹	NA		
10. VOA vials h	ave zero headspace?		Yes [		No 🗌	No VOA Vials 🗹		
11. Were any s	ample containers received b	roken?	Yes		No 🗹	# of preserved		
	work match bottle labels? pancies on chain of custody)		Yes		No 🗆	for pH:	>12 unless noted)	
13 Are matrices	s correctly Identified on Chair	of Custody?	Yes		No 🗌	Adjusted?	5c	
14. Is it clear wh	nat analyses were requested	?	Yes		No 🗌			
	ding times able to be met? customer for authorization.)		Yes a		No	Checked by:		
Special Hand	lling (if applicable)							
	notified of all discrepancies w	ith this order?	Yes		No 🗌	NA 🗹		
Perso By Wi	n Notified:	Date:	] eMail	Phon	e 🗍 Fax	in Person		

	Client Instructions:		04/1005	Checksonia III	active metasological state		
		<b>B</b>	×.	8		3	
17.	Additional remarks:						

### 18. Cooler Information

Regarding:

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.4	Good	Yes			

Page 1 of 1

	-																			CHAI	NOF	CUSIC	DDY REC	COHD
								1						ANALY			[]	7	/	//	1	Lab us	se only ate:	
						Laboratory:					_		_	TIEQU	ESTED	12	/	/	/ /	/ /	/ /	/		
A	PEX					Address:		ABC	1016	M					,	MEC	/	/ /	/ /	/	1.1	Temp.	of coolers	
Offic	e Locatio	nA	zte	CI	MU								_		/	de la	/		/	/ /	/ /	when n	eceived (C°):	3.4
		•				Contact:		AF	re	mai	2		_		/-	3	/ /		/	/ /	/	1 2	3 4	5
						Phone:					'		_		. 13	21	/ /	/	11	/ /	/	Page_	of	1
Proje	ect Manag	gerK	.Su	mn	ners	PO/SO #: _							_		AL D	7 /		/ /	/ /	/	/			
Samp	er's Name					Sampler's Signa		٨٨						č	A A		/	/ /	/	1	/			
R	ane T	Jeech	ill	V	-	Kint	J/2	ĮĮY						1000	BUL THE CON	/			/	/ /				
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				L	ateral &	26-80							_	/	7 /	/ /	/	/ /	/ /	/				
Matrix	Date	Time	CoEp	Grab	Identifying Mar	ks of Sample(s)	Start Depth	End	VOA	A/G 1 LL.	Sg E	Glass Jar	P/O		//		/ /	/ /		/	Lab	Sample ID	(Lab Use On	ily)
5	4/25/17	920	X		- ES-	29						1		XX						17	04	BZC	<u>7-00</u>	21
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K.	wished by	US				ime: Receiv	ti	la	ture)		U	Pate: 28	17	Time:	NO	TES:	2.11	th	Tan	1.	. /.	(hage=	\	
Beling	uished by (	Signature	)	-	Date:	ime: Beceiv	ed by:	(Signa	ture)			Date:		Time: 0700			Difi	. 10	(01		")("			
	uished by (					147 Soph Ime: Receiv	ed by:	(Signa	ture)			Date:		Time:				AF	F#	A	300	950		
Reling	uished by (	Signature	)		Date: 7	īme: Receiv	ed by:	(Signa	ture)			Date:		Time:	-					S	ame	= P2013 436 20A	Y	
Matrix Contair		V - Wastewa A - 40 ml vi			W - Water S A/G - Amber / Or	- Soil SD - Sol Glass 1 Liter	id L	- Liquid 50 ml -	I A Glass v	- Air Ba vide mo	g			coal tube astic or othe		sludge	(	) - Oil						

•••

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



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

May 22, 2017

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

OrderNo.: 1705A35

Dear Kyle Summers:

RE: Lateral 2C-80

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/19/2017 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 <u>www.hallenvironmental.com</u> 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,

Andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** 

### Lab Order 1705A35

Date Reported: 5/22/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Sampl	le ID: ES	-44	-
Project: Lateral 2C-80			Collection	Date: 5/1	8/2017 11:00:00 AM	
Lab ID: 1705A35-001	Matrix:	SOIL	Received	<b>Date: 5</b> /1	9/2017 7:15:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/19/2017 10:35:38 AM	31836
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/19/2017 10:35:38 AM	31836
Surr: DNOP	98.1	70-130	%Rec	1	5/19/2017 10:35:38 AM	31836
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	5/19/2017 9:50:23 AM	31812
Surr: BFB	93.2	54-150	%Rec	1	5/19/2017 9:50:23 AM	31812
EPA METHOD 8021B: VOLATILES			a		Analyst	: NSB
Benzene	ND	0.023	mg/Kg	1	5/19/2017 9:50:23 AM	31812
Toluene	ND	0.047	mg/Kg	1	5/19/2017 9:50:23 AM	31812
Ethylbenzene	ND	0.047	mg/Kg	1	5/19/2017 9:50:23 AM	31812
Xylenes, Total	ND	0.093	mg/Kg	1	5/19/2017 9:50:23 AM	31812
Surr: 4-Bromofluorobenzene	107	66.6-132	%Rec	1	5/19/2017 9:50:23 AM	31812

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

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

- alyte detected below quantitation limits Page 1 of 5
- ple pH Not In Range
- orting Detection Limit
- Sample container temperature is out of limit as specified W

**Analytical Report** 

### Lab Order 1705A35

#### Date Reported: 5/22/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Sampl	e ID: ES	-45	
Project: Lateral 2C-80			<b>Collection</b>	Date: 5/1	8/2017 11:10:00 AM	
Lab ID: 1705A35-002	Matrix:	SOIL	Received	Date: 5/1	9/2017 7:15:00 AM	
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG		6			Analyst	TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/19/2017 10:57:48 AM	31836
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/19/2017 10:57:48 AM	31836
Surr: DNOP	98.7	70-130	%Rec	1	5/19/2017 10:57:48 AM	31836
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	5/19/2017 10:14:23 AM	31812
Surr: BFB	94.4	54-150	%Rec	1	5/19/2017 10:14:23 AM	31812
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	5/19/2017 10:14:23 AM	31812
Toluene	ND	0.046	mg/Kg	1	5/19/2017 10:14:23 AM	31812
Ethylbenzene	ND	0.046	mg/Kg	1	5/19/2017 10:14:23 AM	31812
Xylenes, Total	ND	0.093	mg/Kg	1	5/19/2017 10:14:23 AM	31812
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	5/19/2017 10:14:23 AM	31812

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 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 Envi	conmental Analysis Laboratory, Inc.	
Client:	APEX TITAN	_

Project: Lateral 2	C-80	
Sample ID LCS-31836 Client ID: LCSS	SampType: LCS Batch ID: 31836	TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 42914
Prep Date: 5/19/2017	Analysis Date: 5/19/2017	SeqNo: 1350527 Units: mg/Kg
Analyte	Result PQL SPK va	alue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO) Surr: DNOP		0.00         0         87.7         73.2         114           000         90.0         70         130
Sample ID MB-31836	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 31836	RunNo: <b>42914</b>
Prep Date: 5/19/2017	Analysis Date: 5/19/2017	SeqNo: 1350528 Units: mg/Kg
Analyte	Result PQL SPK va	alue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10	
Motor Oil Range Organics (MRO)	ND 50	200 70 100
Surr: DNOP	9.6 10	0.00 96.3 70 130
Sample ID LCS-31814	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 31814	RunNo: 42914
Prep Date: 5/18/2017	Analysis Date: 5/19/2017	SeqNo: 1351129 Units: %Rec
Analyte	Result PQL SPK va	alue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	4.7 5.0	000 93.3 70 130
Sample ID MB-31814	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 31814	RunNo: 42914
Prep Date: 5/18/2017	Analysis Date: 5/19/2017	SeqNo: 1351130 Units: %Rec
Analyte		alue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	9.7 10	0.00 97.0 70 130

**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

R RPD outside accepted recovery limits

- S % 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
- Р Sample pH Not In Range

J

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

Page 3 of 5

WO#: 1705A35

22-May-17

## QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

Client: APEX T Project: Lateral 2							2Å				
Sample ID MB-31812	SampType	B: MBLK	Те	TestCode: EPA Method 8015D: Gasoline Range							
Client ID: PBS	Batch ID	31812		RunNo: 4	2919						
Prep Date: 5/18/2017	Analysis Date	nalysis Date: 5/19/2017 SeqNo: 1351043 Units: mg/Kg									
Analyte	Result P	QL SPK va	lue SPK Ref Va	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	910	10	000	90.9	54	150					
Sample ID LCS-31812	SampType	: LCS	Те	stCode: El	PA Method	8015D: Gaso	line Rang	e			
Client ID: LCSS	Batch ID	31812		RunNo: 4	2919						
Prep Date: 5/18/2017	Analysis Date	5/19/2017		SeqNo: 1	351044	Units: mg/K	(g				
Analyte	Result P	QL SPK va	lue SPK Ref Va	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	24	5.0 25	.00 0	96.5	76.4	125					
Surr: BFB	1100	10	000	105	54	150					

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

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WO#: 1705A35

22-May-17

**Client:** 

**Project:** 

Client ID:

Analyte

Benzene

Toluene

Sample ID MB-31812

Prep Date: 5/18/2017

PBS

APEX TITAN Lateral 2C-80 SampType: MBLK TestCode: EPA Method 8021B: Volatiles RunNo: 42919 Batch ID: 31812 SeqNo: 1351066 Analysis Date: 5/19/2017 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual ND 0.025 ND 0.050

Ethylbenzene Xylenes, Total	ND ND	0.050								
Surr: 4-Bromofluorobenzene	1.1		1.000		107	66.6	132			
Sample ID LCS-31812	LCS-31812 SampType: LCS TestCode: EPA Method 8021B: Volatiles									
Client ID: LCSS	Batc	h ID: 31	812	F	RunNo: 4	2919				
Prep Date: 5/18/2017	Analysis D	Date: 5/	19/2017	S	SeqNo: 1					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.025	1.000	0	99.0	80	120			
Toluene	1.0	0.050	1.000	0	99.7	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

Page 5 of 5

22-May-17

ANAL	RONMENTAL YSIS RATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.hai	4901 querqu FAX: S	Hawkins NE e, NM 87109 05-345-4107	San	nple Log-In Check	List
Client Name:	APEX AZTEC	Work Order Number:	1705	A35		RcptNo: 1	
Received By:	Anne Thome	5/19/2017 7:15:00 AM		6	Done Mr.		
Completed By:	Anne Thome	5/19/2017 7:40:16 AM			Anne Hr. Anne Hr.		
Reviewed By:	ENM	05/19/17		2	line Ar	~	
Chain of Cus	stodv						
	als intact on sample bottles?		Yes		No 🗆	Not Present	
	Custody complete?		Yes		No 🗌	Not Present	
3. How was the	e sample delivered?		Cou	rier			
<u>Log In</u>							
4. Was an atte	empt made to cool the sample	s?	Yes		No 🗌	NA 🗌	
5. Were all sar	mples received at a temperatu	rre of >0° C to 6.0°C	Yes		No 🗌		
6. Sample(s) i	in proper container(s)?		Yes		No 🗆		
7. Sufficient sa	ample volume for indicated tes	t(s)?	Yes		No 🗆		
8. Are samples	s (except VOA and ONG) prop	erly preserved?	Yes		No 🗌		
9. Was presen	vative added to bottles?		Yes		No 🗹	NA 🗌	
10. VOA vials h	ave zero headspace?		Yes		No 🗌	No VOA Vials	
11. Were any s	ample containers received bro	oken?	Yes		No 🗹		
					_	# of preserved bottles checked	
	work match bottle labels?		Yes		No	for pH: (<2 or >12 unle	es noted)
	epancies on chain of custody) s correctly identified on Chain	of Custody?	Yes		No 🗌	Adjusted?	·······································
	hat analyses were requested?	• • • • •	Yes				
	Iding times able to be met?		Yes		No 🗌	Checked by:	
(If no, notify	customer for authorization.)					•	
Special Hand	dling (if applicable)						
16. Was client n	notified of all discrepancies wit	h this order?	Yes		No 🗆	NA 🗹	
Perso	n Notified:	Date				r	
By Wr	hom:	Via: [	eMa	ail 🗌 Phor	ne 🗌 Fax	in Person	
Regar	rding:				<u>1994 MARAN C 1994 M</u> ARA	der is dank om som lid i benden beide mannad f	
Client	Instructions:	anta da mandela di seconda de contra de contra de la contra		1999-1999-1999-1999-1999-1999-1999-199	a meranaka a cean	idd i Leolain hallach tha hann làndha dha bhailte an Landhailte 1942 -	
17. Additional r	emarks:						
18. <u>Cooler Info</u> Cooler N 1	Io         Temp °C         Condition         I           1.0         Good         Y	Seal Intact Seal No	Seal D	ate Sig	ned By	-	
Page 1 o	of 1						

							C	HAIN OF CUSTODY RECOR
						ANALYSIS	1111	Lab use only Due Date:
	Laboratory:	fall				REQUESTED		
APEX	Address:		NM			la l	P	, / Temp. of coolers / U
Office Location Aztec, NM		-1				No state		when received (C"):
•	Contact: A	Free	man			a		1 2 3 4 5
	Phone:					17	/////	Pageof
Project Manager K.Summers	PO/SO #:					23		
Sampler's Name	Sampler's Signature	0.						/ /
Ranee Deechilly	Kandh	S				AA	1111	/
Proj. No. Project Name	04 44	N	o/Type of Co	ntainers		HEGOLESTED HOLESTED H		
Luteral						8 8		/
Matrix Date Time Or a Identifying Ma	rks of Sample(s) trat	Depth	AG 4/G	Glass	Pro		11/1	Lab Sample ID (Lab Use Only)
	5-44			1		XX		1705A35-00
	5-45			1		XX		-202
	NES							
	11.2							
							5.	
	50% Rush \$200% I		SAM			Terr NOTES		
Belinquished by (Signature) Date: SISIF	Time: Received by:	(Signature	"al	57	te:	Time: NOTES:	DU LAT	and in (Emp)
Reltiquished by (Signature) Date	Time: Received by	(Signature	ery	Da	te: //9/	Time:	DIII TO I	im Long (EPROD) A36036
	Time: Received by:		e)		te:	Time:	ATE#	A36036
Relinguished by (Signature) Date:	Time: Received by:	(Signature	8)	Da	te:	Time:	SAMET	NAU
Territoria a forginada o forgi		19.9.101011	-,					
Matrix WW - Wastewater W - Water Container VOA - 40 ml vial A/G - Amber / C		- Liquid	A - Air Bag ass wide mou	) ith	C - Cha	rcoal tube SL - sludge astic or other	e 0 - 0il	

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



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

April 13, 2017

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

RE: Lateral 2C 80

OrderNo.: 1704322

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/8/2017 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** Lab Order 1704322 Date Reported: 4/13/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Samp	e ID: S-2	2	41
Project: Lateral 2C 80			Collection	Date: 4/7	//2017 10:00:00 AM	
Lab ID: 1704322-001	Matrix:	SOIL	Received	Date: 4/8	8/2017 8:35:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: том
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	4/11/2017 6:42:12 PM	31157
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	4/11/2017 6:42:12 PM	31157
Surr: DNOP	91.9	70-130	%Rec	1	4/11/2017 6:42:12 PM	31157
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/11/2017 6:04:08 PM	31164
Surr: BFB	91.4	54-150	%Rec	1	4/11/2017 6:04:08 PM	<mark>31164</mark>
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.024	mg/Kg	1	4/11/2017 6:04:08 PM	31164
Toluene	ND	0.048	mg/Kg	1	4/11/2017 6:04:08 PM	31164
Ethylbenzene	ND	0.048	mg/Kg	1	4/11/2017 6:04:08 PM	31164
Xylenes, Total	ND	0.096	mg/Kg	1	4/11/2017 6:04:08 PM	31164
Surr: 4-Bromofluorobenzene	115	66.6-132	%Rec	1	4/11/2017 6:04:08 PM	31164

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
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 1 of 5 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Analytical Report
Lab Order 1704322

Date Reported: 4/13/2017

### Hall Environmental Analysis Laboratory, Inc.

	• •			Dute Reported. 4/15/20					
	Client Sample ID: S-3								
	Collection Date: 4/7/2017 10:10								
Matrix:	SOIL	Received	Received Date: 4/8/2017 8:35:00 AM						
Result	PQL	Qual Units	DF	Date Analyzed	Batch				
IGE ORGANICS	5			Analyst	: TOM				
ND	9.3	mg/Kg	1	4/11/2017 7:10:33 PM	31157				
ND	47	mg/Kg	1	4/11/2017 7:10:33 PM	31157				
93.7	70-130	%Rec	1	4/11/2017 7:10:33 PM	31157				
NGE				Analyst	: NSB				
ND	4.6	mg/Kg	1	4/11/2017 6:27:29 PM	31164				
89.8	54-150	%Rec	1	4/11/2017 6:27:29 PM	31164				
				Analyst	: NSB				
ND	0.023	mg/Kg	1	4/11/2017 6:27:29 PM	31164				
ND	0.046	mg/Kg	1	4/11/2017 6:27:29 PM	31164				
ND	0.046	mg/Kg	1	4/11/2017 6:27:29 PM	31164				
ND	0.092	mg/Kg	1	4/11/2017 6:27:29 PM	31164				
112	66.6-132	%Rec	1	4/11/2017 6:27:29 PM	31164				
	Matrix: 3 Result IGE ORGANICS ND 93.7 NGE ND 89.8 ND 89.8 ND ND ND ND ND ND ND	Matrix:         SOIL           Result         PQL           IGE ORGANICS         ND           ND         9.3           ND         47           93.7         70-130           NGE         ND         4.6           89.8         54-150           ND         0.023           ND         0.046           ND         0.046           ND         0.092	Client Samp Collection Matrix: SOIL Received Result PQL Qual Units IGE ORGANICS ND 9.3 mg/Kg 93.7 70-130 %Rec NGE ND 4.6 mg/Kg 89.8 54-150 %Rec ND 0.023 mg/Kg ND 0.046 mg/Kg ND 0.046 mg/Kg ND 0.046 mg/Kg ND 0.092 mg/Kg	Client Sample ID: S-3           Collection Date: 4/7           Matrix: SOIL         Received Date: 4/8           Result         PQL         Qual         Units         DF           IGE ORGANICS         ND         9.3         mg/Kg         1           ND         9.3         mg/Kg         1           93.7         70-130         %Rec         1           NGE         ND         4.6         mg/Kg         1           ND         4.6         mg/Kg         1           ND         0.023         mg/Kg         1           ND         0.023         mg/Kg         1           ND         0.046         mg/Kg         1           ND         0.046         mg/Kg         1           ND         0.092         mg/Kg         1	Client Sample ID: S-3           Collection Date: 4/7/2017 10:10:00 AM           Matrix: SOIL         Received Date: 4/8/2017 8:35:00 AM           Result         PQL         Qual         Units         DF         Date Analyzed           IGE ORGANICS         Analyst           ND         9.3         mg/Kg         1         4/11/2017 7:10:33 PM           ND         47         mg/Kg         1         4/11/2017 7:10:33 PM           93.7         70-130         %Rec         1         4/11/2017 7:10:33 PM           NGE         Analyst           ND         4.6         mg/Kg         1         4/11/2017 6:27:29 PM           89.8         54-150         %Rec         1         4/11/2017 6:27:29 PM           ND         0.023         mg/Kg         1         4/11/2017 6:27:29 PM           ND         0.046         mg/Kg </td				

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

Qualifiers:	
-------------	--

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

Client: APEX T Project: Lateral 2												
Sample ID LCS-31157	ample ID LCS-31157 SampType: LCS				TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 31157			RunNo: <b>42017</b>								
Prep Date: 4/10/2017	Analysis D	ate: 4/	11/2017	5	SeqNo: 1319773			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	50	10	50.00	0	99.1	63.8	116					
Surr: DNOP	5.1		5.000		102	70	130					
Sample ID MB-31157	Imple ID MB-31157 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics											
Client ID: PBS	Batch	ID: 31	157	F	unNo: 4	2017						
Prep Date: 4/10/2017	Analysis D	ate: 4/	11/2017	5	eqNo: 1	319775	Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	ND	10										
Motor Oil Range Organics (MRO)	ND	50										
Surr: DNOP	11		10.00		110	70	130					

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

Page 3 of 5

WO#: 1704322

13-Apr-17

950

963.4

APEX TITAN

Lateral 2C 80

TAN C 80									
SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range									
Batch	n ID: 31	164	R	unNo: 4	2032				
Analysis D	ate: 4	11/2017	S	eqNo: 1	320307	Units: mg/K	g		
Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000	×	90.4	54	150			
Sample ID LCS-31164	SampTy	ype: LC	s	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: LCSS	Batch	ID: 31	164	F	RunNo: 4	2032				
Prep Date: 4/10/2017	Analysis Da	ate: 4/	11/2017	S	eqNo: 1	320310	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.2	76.4	125			
Surr: BFB	980		1000		97.9	54	150			
Sample ID 1704322-002AMS	Sample ID 1704322-002AMS SampType: MS TestCode: EPA Method 8015D: Gasoline Range									
Client ID: S-3	Batch	ID: 31	164	F	RunNo: 4	2032				
Prep Date: 4/10/2017	Analysis Da	ate: 4/	11/2017	5	SeqNo: 1	320313	Units: mg/h	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.7	23.58	0	120	61.3	150			
Surr: BFB	960		943.4		102	54	150			
Sample ID 1704322-002AMSD SampType: MSD TestCode: EPA Method 8015D: Gasoline Range										
Client ID: S-3	Batch	ID: 31	164	RunNo: 42032						
Prep Date: 4/10/2017	Analysis Da	ate: 4/	11/2017	SeqNo: 1320314 Units: mg/Kg				(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	24.08	0	109	61.3	150	7.68	20	-

**Qualifiers:** 

Surr: BFB

**Client:** 

**Project:** 

Client ID:

Analyte

Sample ID MB-31164

Prep Date: 4/10/2017

PBS

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

98.2

54

150

0

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

WO#: 1704322

13-Apr-17

Page 4 of 5

0

-	<b>MMARY</b> vironmenta				ory, Inc.					WO#:	170432 13-Apr-1
Client: Project:	APEX TI Lateral 20										• •
Sample ID	MB-31164	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	PBS	Batcl	n ID: 31	164	F	RunNo: 4	2032				
Prep Date:	4/10/2017	Analysis D	ate: 4/	11/2017	S	SeqNo: 1	320337	Units: mg/k	٨g		
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		113	66.6	132			
Sample ID	LCS-31164	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batcl	n ID: 31	164	F	RunNo: 4	2032				
Prep Date:	4/10/2017	Analysis D	ate: 4/	11/2017	S	SeqNo: 1	320338	Units: mg/ł	٨g		
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	102	80	120			
Ethylbenzene		1.0	0.050	1.000	0	101	80	120			
Xylenes, Total		2.8	0.10	3.000	0	93.2	80	120			
Surr: 4-Brom	ofluorobenzene	1.1		1.000		114	66.6	132			
Sample ID	1704322-001AMS	SampT	ype: MS	6	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	S-2	Batc	n ID: 31	164	F	RunNo: 4	2032				
Prep Date:	4/10/2017	Analysis E	ate: 4/	11/2017	5	SeqNo: 1	320340	Units: mg/l	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.3	0.024	0.9443	0	142	61.5	138			S
Toluene		1.3	0.047	0.9443	0	136	71.4	127			S
Ethylbenzene		1.3	0.047	0.9443	0	134	70.9	132			S
Xylenes, Total		3.6	0.094	2.833	0.01969	125	76.2	123			S
Surr: 4-Brom	ofluorobenzene	1.1		0.9443		121	66.6	132			
Sample ID	1704322-001AMS	D Samp1	ype: MS	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID:	S-2	Batc	n ID: 31	164	F	RunNo: 4	2032				
Prep Date:	4/10/2017	Analysis [	ate: 4/	11/2017	5	SeqNo: 1	320341	Units: mg/l	Kg		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.3	0.023	0.9398	0	138	61.5	138	3.57	20	
Toluene		1.2	0.047	0.9398	0	127	71.4	127	7.74	20	
Ethylbenzene		1.2	0.047	0.9398	0	125	70.9	132	7.71	20	
Xylenes, Total		3.2	0.094	2.820	0.01969	115	76.2	123	9.04	20	

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Surr: 4-Bromofluorobenzene

Н Holding times for preparation or analysis exceeded

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

S % Recovery outside of range due to dilution or matrix

1.1

В Analyte detected in the associated Method Blank

66.6

132

0

0

Page 5 of 5

E Value above quantitation range

119

W Sample container temperature is out of limit as specified

J Analyte detected below quantitation limits Р Sample pH Not In Range RL **Reporting Detection Limit** 

0.9398

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental A Albuc TEL: 505-345-3975 I Website: www.hal	4901 Hawk querque, NM FAX: 505-345	ins NE 87109 Sam 5-4107	ple Log-In C	heck List
Client Name: APEX AZTEC	Work Order Number:	1704322		RcptNo:	1
Received By: Lindsay Mangin	4/8/2017 8:35:00 AM		Jullip		
Completed By: Ashley Gallegos	4/10/2017 8:37:50 AM		AJ		
Reviewed By: 2	04/10/17		,		
Chain of Custody					
1. Custody seals intact on sample bottles?		Yes 🗆	No 🗌	Not Present	
2. Is Chain of Custody complete?		Yes 🗹	No	Not Present	
3. How was the sample delivered?		Courier			
<u>Log In</u>					
4. Was an attempt made to cool the samples	?	Yes 🗹	No 🗌	NA 🗌	
5. Were all samples received at a temperatur	e of >0° C to 6.0°C	Yes 🗹	No 🗆		
6. Sample(s) In proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test	(s)?	Yes 🔽	No 🗌		
8. Are samples (except VOA and ONG) prope	erly preserved?	Yes 🗹	No 🗌		
9. Was preservative added to bottles?		Yes 🗌	No 🗹	NA 🗌	
10.VOA vials have zero headspace?		Yes 🗆	No 🗌	No VOA Vials 🗹	
11. Were any sample containers received brok	xen?	Yes	No 🗹	# of preserved	
12. Does paperwork match bottle labels?		Yes 🗹	No 🗌	bottles checked for pH:	
(Note discrepancies on chain of custody)		ies 🖭			or >12 unless noted)
13. Are matrices correctly identified on Chain of	f Custody?	Yes 🖌	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?		Yes 🗹	No 🗌		
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No	Checked by:	
Special Handling (If applicable)					
	Able ender O	Vec 🗖	No. 🗖	NO 50	
16. Was client notified of all discrepancies with Person Notified:		Yes 🗌	No 🗌	NA 🗹	7
By Whom:	Date   Via: [	eMail	] Phone 🗌 Fax	In Person	
Regarding:					
Client Instructions:			an a	ayaan karayaa aayaa ahayaa ahayaa ahaa ahaa aha	1
17. Additional remarks:					<u> </u>
18. Cooler Information					
		ieal Date	Signed By		

Page 1 of 1

				CHAIN OF CUSTODY RECORD
			ANALYSIS / / /	Lab use only
	Laboratory: Hall		REQUESTED	/ / Due Date:
APEX	Address: ABQ, N	m	REQUESTED Pahytoscot	/ / / /
	Address. ADQ, N	1. 1	3//	Temp. of coolers when received (C <sup>2</sup> ): 1,5
Office Location Aztec, NM	Contrast A TD -		*	
	Contact: A. Fru	emerg		
14 -	Phone:		1 3 4 / /	/ / Pageot
Project Manager K.Summers	PO/SO#:		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Sampler's Name	Sampler's Signature			
Ranee Deechilly -=	R-Dhl		Suzi BIEN	
Proj. No. Project Name		Nc/Type of Containers	7 7 9 / / / / /	
Lateral 2				/ /
Matrix Date Time C G m a Identifying Man P b	rks of Sample(s)	VOA 1LL 1LL 250 ml Glass Jar		Lab Sample ID (Lab Use Only)
5 41717 1000 × 5-	2	1	XX	1704322-001
S 4/7/17/10/10 X S-			XY	-002
	-DUFS			
	1at			
Turn around time "SKNormal 25% Rush	50% Rush ] 100% Rush			
Reinquished by (Signature) Date:	Time: Received by Signa	iture) Date:	Time: NOTES:	``````````````````````````````````````
In 2/12/17/14		11-11-1	Time: NOTES:	along (EPROD)
	Time: Received by: (Signa	Date:	Time: Bill to 160	n Long (EPROD) IFE A30036
hot water 4/7/12 18	Time: Received by: (Signa	041 08/A		FE A30036
Relinquished by (Signature) Date: 7	Time: Received by: (Signa	iture) Date:	Time:	
Matrix WW - Wastewater W - Water S Container VOA - 40 m vial A/G - Amber / Or	S - Soli SD - Solid L - Liqui	d A - Air Bag C - Chi Glass wide mouth P/O - P	arcoal tube SL - sludge O - Oil Pastic or other	

Apex TITAN. Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



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

April 19, 2017

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

OrderNo.: 1704616

Dear Kyle Summers:

RE: Lateral 2C 80

Hall Environmental Analysis Laboratory received 5 sample(s) on 4/14/2017 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 1704616 Date Reported: 4/19/2017

CLIENT: APEX TITAN			Client Samp	e ID: ES	-1			
Project: Lateral 2C 80			Collection	Date: 4/1	2/2017 3:00:00 PM			
Lab ID: 1704616-001	Matrix:	Received	Received Date: 4/14/2017 7:15:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: TOM		
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	4/17/2017 11:51:47 AM	31240		
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	4/17/2017 11:51:47 AM	31240		
Surr: DNOP	98.5	70-130	%Rec	1	4/17/2017 11:51:47 AM	31240		
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst	NSB		
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/17/2017 1:34:55 PM	31248		
Surr: BFB	91.5	54-150	%Rec	1	4/17/2017 1:34:55 PM	31248		
EPA METHOD 8021B: VOLATILES					Analyst	NSB		
Benzene	ND	0.024	mg/Kg	1	4/17/2017 1:34:55 PM	31248		
Toluene	ND	0.048	mg/Kg	1	4/17/2017 1:34:55 PM	31248		
Ethylbenzene	ND	0.048	mg/Kg	1	4/17/2017 1:34:55 PM	31248		
Xylenes, Total	ND	0.095	mg/Kg	1	4/17/2017 1:34:55 PM	31248		
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/17/2017 1:34:55 PM	31248		

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1704616

Date Reported: 4/19/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Sampl	e ID: ES	-2			
Project: Lateral 2C 80			<b>Collection</b>	Date: 4/1	2/2017 3:10:00 PM			
Lab ID: 1704616-002	Matrix:	Received 1	Received Date: 4/14/2017 7:15:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RANG		6			Analyst	: TOM		
Diesel Range Organics (DRO)	ND	9.1	mg/Kg	1	4/17/2017 12:16:47 PM	31240		
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	4/17/2017 12:16:47 PM	31240		
Surr: DNOP	96.2	70-130	%Rec	1	4/17/2017 12:16:47 PM	31240		
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB		
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/17/2017 1:58:27 PM	31248		
Surr: BFB	92.5	54-150	%Rec	1	4/17/2017 1:58:27 PM	31248		
EPA METHOD 8021B: VOLATILES					Analyst	: NSB		
Benzene	ND	0.023	mg/Kg	1	4/17/2017 1:58:27 PM	31248		
Toluene	ND	0.047	mg/Kg	1	4/17/2017 1:58:27 PM	31248		
Ethylbenzene	ND	0.047	mg/Kg	1	4/17/2017 1:58:27 PM	31248		
Xylenes, Total	ND	0.094	mg/Kg	1	4/17/2017 1:58:27 PM	31248		
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/17/2017 1:58:27 PM	31248		

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

Qualifiers:

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 2 of 8 J
- Sample pH Not In Range Р
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1704616

#### Date Reported: 4/19/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Sampl	e ID: ES	-3			
Project: Lateral 2C 80			Collection ]	Date: 4/1	2/2017 3:20:00 PM			
Lab ID: 1704616-003	Matrix:	Received	Received Date: 4/14/2017 7:15:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analys	t: TOM		
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	4/17/2017 12:41:42 PM	31240		
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/17/2017 12:41:42 PM	31240		
Surr: DNOP	100	70-130	%Rec	1	4/17/2017 12:41:42 PM	31240		
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	: NSB		
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	4/17/2017 2:21:49 PM	31248		
Surr: BFB	91.5	54-150	%Rec	1	4/17/2017 2:21:49 PM	31248		
EPA METHOD 8021B: VOLATILES					Analys	III NSB		
Benzene	ND	0.025	mg/Kg	1	4/17/2017 2:21:49 PM	31248		
Toluene	ND	0.050	mg/Kg	1	4/17/2017 2:21:49 PM	31248		
Ethylbenzene	ND	0.050	mg/Kg	1	4/17/2017 2:21:49 PM	31248		
Xylenes, Total	ND	0.10	mg/Kg	1	4/17/2017 2:21:49 PM	31248		
Surr: 4-Bromofluorobenzene	104	66.6-132	%Rec	1	4/17/2017 2:21:49 PM	31248		

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1704616 Date Reported: 4/19/2017

CLIENT: APEX TITAN			Client Samp	e ID: ES	-4	
Project: Lateral 2C 80			Collection	Date: 4/1	2/2017 3:30:00 PM	
Lab ID: 1704616-004	Matrix:	SOIL	Received	<b>Date:</b> 4/1		
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE		s			Analyst	том
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	4/17/2017 1:06:50 PM	31240
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/17/2017 1:06:50 PM	31240
Surr: DNOP	98.4	70-130	%Rec	1	4/17/2017 1:06:50 PM	31240
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/17/2017 2:45:11 PM	31248
Surr: BFB	93.3	54-150	%Rec	1	4/17/2017 2:45:11 PM	31248
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.024	mg/Kg	1	4/17/2017 2:45:11 PM	31248
Toluene	ND	0.048	mg/Kg	1	4/17/2017 2:45:11 PM	31248
Ethylbenzene	ND	0.048	mg/Kg	1	4/17/2017 2:45:11 PM	31248
Xylenes, Total	ND	0.097	mg/Kg	1	4/17/2017 2:45:11 PM	31248
Surr: 4-Bromofluorobenzene	112	66.6-132	%Rec	1	4/17/2017 2:45:11 PM	31248

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
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range E
- Analyte detected below quantitation limits Page 4 of 8 J
- Sample pH Not In Range Ρ RL
- **Reporting Detection Limit** W
- Sample container temperature is out of limit as specified

**Analytical Report** Lab Order 1704616 Date Reported: 4/19/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			<b>Client Sampl</b>	e ID: ES	-5	
Project: Lateral 2C 80			<b>Collection</b>	Date: 4/1	2/2017 3:40:00 PM	
Lab ID: 1704616-005	Matrix:	<b>Received</b>	Date: 4/1	4/2017 7:15:00 AM		
Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN		6			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	4/17/2017 1:31:40 PM	31240
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/17/2017 1:31:40 PM	31240
Surr: DNOP	86.2	70-130	%Rec	1	4/17/2017 1:31:40 PM	31240
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/17/2017 3:08:36 PM	31248
Surr: BFB	91.7	54-150	%Rec	1	4/17/2017 3:08:36 PM	31248
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	4/17/2017 3:08:36 PM	31248
Toluene	ND	0.047	mg/Kg	1	4/17/2017 3:08:36 PM	31248
Ethylbenzene	ND	0.047	mg/Kg	1	4/17/2017 3:08:36 PM	31248
Xylenes, Total	ND	0.094	mg/Kg	1	4/17/2017 3:08:36 PM	31248
Surr: 4-Bromofluorobenzene	107	66.6-132	%Rec	1	4/17/2017 3:08:36 PM	31248

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
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 8 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

# **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

Client: APEX T Project: Lateral 2										
Sample ID MB-31240	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: PBS	Batcl	n ID: 31	240	F	RunNo: 4	2155				
Prep Date: 4/14/2017	Analysis D	Date: 4/	17/2017	S	eqNo: 1	324298	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	8.7		10.00		87.0	70	130			
Sample ID LCS-31240	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batc	h ID: 31	240	F	RunNo: 4	2147				
Prep Date: 4/14/2017	Analysis D	Date: 4/	17/2017	5	SeqNo: 1	324408	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	80.8	63.8	116			
Surr: DNOP	4.2		5.000		83.3	70	130			

Qualifiers:

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

WO#: 1704616

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19-Apr-17

Hall Environmental Analysis Laboratory, Inc.

Client: APEX 7	TITAN								
Project: Lateral	2C 80								
Sample ID MB-31248	SampType: N	IBLK	Test	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: PBS	Batch ID: 3	1248	R	RunNo: 4	2172				
Prep Date: 4/14/2017	Analysis Date:	4/17/2017	S	eqNo: 1	324670	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	)		(a.)					
Surr: BFB	910	1000		90.9	54	150			
Sample ID LCS-31248	SampType: L	cs	Test	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batch ID: 3	1248	R	RunNo: 4	2172				
Prep Date: 4/14/2017	Analysis Date:	4/17/2017	S	SeqNo: 1	324671	Units: <b>mg/k</b>	g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	<b>HighLimit</b>	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24 5.	25.00	0	96.5	76.4	125			
Surr: BFB	990	1000		99.1	54	150			

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
- RPD outside accepted recovery limits R
- 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
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

WO#: 1704616

19-Apr-17

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Hall Environmental Analysis Laboratory, Inc.

Client: A Project: L

APEX TITAN Lateral 2C 80

Liojeett Luteral										
Sample ID MB-31248	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batch	ID: 31	248	F	RunNo: 42172					
Prep Date: 4/14/2017	Analysis D	ate: 4/	17/2017	S	eqNo: 1	324705	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	<b>HighLimit</b>	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			
Sample ID LCS-31248	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batch	n ID: 31	248	F	RunNo: 4	2172				
Prep Date: 4/14/2017	Analysis D	ate: 4/	17/2017	S	eqNo: 1	324709	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	110	80	120			
Toluene	1.0	0.050	1.000	0	104	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		114	66.6	132			

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

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WO#: 1704616

19-Apr-17

ANALY	ONMENTAL (SIS Ratory	Hall Environmen A TEL: 505-345-39 Website: www.	4901 Ilbuquerqu 075 FAX: 5	Hawk e, NM 05-34.	ins NE 87109 5-4107	Sam	ple Log-In	Check List
Client Name:	APEX AZTEC	Work Order Numb	er: 1704	616			Rcpl	tNo: 1
Received By: Completed By:	Lindsay Mangin Lindsay Mangin AT	4/14/2017 7:15:00 A 4/14/2017 8:14:03 A CU   14   17			Street,	4/11/14/1920 1x,111/14/1920		
Reviewed By:	tody						Not Present	
	Is intact on sample bottles?		Yes		N		Not Present	•
	Custody complete? e sample delivered?		Yes <u>Cou</u>			0	Not Fresent	
<u>Log In</u>								
4. Was an atte	mpt made to cool the sample	s?	Yes	✓:	N	lo	NA	
5. Were all sam	nples received at a temperatu	re of >0° C to 6.0°C	Yes	1	N	D	NA	
6. Sample(s) in	n proper container(s)?		Yes	V	Ν	lo		
7. Sufficient sa	mple volume for indicated tes	l(s)?	Yes	~	N	0		
8. Are samples	(except VOA and ONG) prop	erly preserved?	Yes	V	N	0		
9. Was preserv	ative added to bottles?		Yes		N	0 🗸	NA	
10.VOA vials ha	ave zero headspace?		Yes		N	ο.	No VOA Vials	v
11. Were any sa	ample containers received bro	ken?	Yes		N	10 🗸	# of preserved bottles checked	
	vork match bottle labels? pancies on chain of custody)		Yes	~	N	0		(<2 or >12 unless noted)
13. Are matrices	correctly identified on Chain	of Custody?	Yes	~	N	0	Adjusted	?
	at analyses were requested?		Yes	~	N	0 : .		
	ling times able to be met? customer for authorization.)		Yes	<b>V</b>	N	0	Checked	by:
Special Hand	ling (if applicable)							
	otified of all discrepancies wit	h this order?	Yes		N	0	NA	~
Person	Notified:	Date		-Rulling As	2 - 2 2 - 2 2 - 2 2 - 2 - 2 - 2 - 2 - 2	e		
By Wh	om:	Via:	eM	ail	Phone	Fax	In Person	
Regard	ling:	en en anterin film film anna 1949 a 17 de 1923 (d. 1921) 17 de 1973 (d. 1922) 1924 (d. 1923) 1935 - De 1975 (d. 1923) 1935 - De 1975 (d. 1923) 1937 (d. 1937) 1937 (d. 1937) 1937 (d. 1937) 1937 (d. 1937)		art date it	and a state for the		e Manifalisan kalana sili ka sangarapa dag bir kapitaka 1921-1934	1946 - 1
	Instructions:	nen men men mediaten inter men pengerga miligi 12 x Kadikadan (nadigi di gerang galambig	reacht, Utballe, i eildigigt 20-	mayan (81) (95)	nen melet konstitten fillen	* e* 1948 194 dani (1962) 5 3	યત્ર આ આપવારી તે ન અમેદા છે કે પ્રશ્ન છે છે. પ્રશ્ન છે	an <b>9</b>
<ol><li>Additional re</li></ol>	marks:							

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.8	Good	Yes			:
					· .	

Page 1 of 1

																CHAIN OF CUSTODY RECO
	A					1.4	aboratory:	H	-mail	F	NIM	121/06/2	inta		ANALYSIS REQUESTED	Lab use only Due Date:
Δ	PEX	, ,										nine a	GA (197)	2	15	2 / / / / / / /
		-	_ [		M	A	ddress: _		ABC	1/1/1/1	. /			-	2	Temp. of coolers when received (C°): (, S
Offic	e Locatio	n	121	ect	NM		antaat.	^	T					-	B	
							ontact:	F	11th	am	ay			-	12	
			VS				hone:							-	(a)	Page of
	ect Mana ler's Name	ger	1.2	umn	ins		0/SO #: _							-	型土	
F	Caneel	Deechil	ly				npler's Sign		1						Bust BTEN Bust BTEN BEN	
Proj. I	No.			ect Na		26-	sù		/	No/Ty	ype of (	Containe	ers		E.	
Matrix	Date	Time	COED	Grab	Identifyir	ng Marks c	f Sample(s)	Starl	Depth	VOA	AG 1LL	1 50 al	Jar	2		Lab Sample ID (Lab Use Only)
5	4/12/17	1500	X			ES-1			_				1		XX	1704616-001
5	1	1510	X			ES-2							1			-002
S		ISRO	X			15-3							1			-003
5		1530	V			B-4							)			-004
5	V	1540	X			ES-5							)		VV	-005
-														_		
					$\rightarrow$	VES									-	
								-	/					-		
Turn a	round time	O No	rmal	02	5% Rush	50%	Rush	100%	Rush	se	0,0	ote	5	-		
\$a	nuished by	9			Date:		Receiv	ved by:	(Signa	iture)		4u	ate:	1	Time: NOTES	
h	uished by	ilcet	6	L		Time L G du Time	V	ved by:	TA	-		0411	Date:	7	07)5 Time:	Bill to Tom Long (EPDOD) AFE A30036
Come	aloneo by	o'gnatore,			-uio.	11116	. Hoven		-gild	and y						Need Samples back
Relind	uished by	Signature	)	(	Date:	Time	: Receiv	ved by:	(Signa	iture)			Date:		Time: T	uesday 4/18/17 by 3pm
Matrix		V - Wastewa A - 40 ml via			W - Water	S - S er / Or Gla	oil SD - So	lid L	- Liquid	Glass	- Air Ba	g			oal tube SL - sludg	ige O - Cil

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



April 19, 2017

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

RE: Lateral 2C-80

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

OrderNo.: 1704734

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/18/2017 for the analyses presented in the following report.

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

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

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

Sincerely,

andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**Analytical Report** Lab Order 1704734 Date Reported: 4/19/2017

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Project: Lateral 2C-80 Lab ID: 1704734-001	Matrix	( MEOH (SOIL)		Date: 4/1	-6 7/2017 11:00:00 AM 8/2017 6:48:00 AM	
Analyses	Result	. ,	Units	Date: 4/1		Batch
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	4/18/2017 10:17:04 AM	31287
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/18/2017 10:17:04 AM	31287
Surr: DNOP	94.0	70-130	%Rec	1	4/18/2017 10:17:04 AM	31287
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	4/18/2017 11:32:42 AM	31284
Surr: BFB	93.1	54-150	%Rec	1	4/18/2017 11:32:42 AM	31284
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.019	mg/Kg	1	4/18/2017 11:32:42 AM	31284
Toluene	ND	0.038	mg/Kg	1	4/18/2017 11:32:42 AM	31284
Ethylbenzene	ND	0.038	mg/Kg	1	4/18/2017 11:32:42 AM	31284
Xylenes, Total	ND	0.076	mg/Kg	1	4/18/2017 11:32:42 AM	31284
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/18/2017 11:32:42 AM	31284

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

Qualifiers:

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 7 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

#### Lab Order 1704734

Date Reported: 4/19/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Samp	le ID: ES	-7	
Project: Lateral 2C-80			Collection	Date: 4/1	7/2017 11:10:00 AM	ſ
Lab ID: 1704734-002	Matrix:	MEOH (SOI	L) Received	Date: 4/1	8/2017 6:48:00 AM	
Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S			Analy	st: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	4/18/2017 10:41:45 A	M 31287
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/18/2017 10:41:45 A	M 31287
Surr: DNOP	89.5	70-130	%Rec	1	4/18/2017 10:41:45 A	M 31287
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	4/18/2017 11:56:15 A	M 31284
Surr: BFB	92.6	54-150	%Rec	1	4/18/2017 11:56:15 A	M 31284
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.019	mg/Kg	1	4/18/2017 11:56:15 A	M 31284
Toluene	ND	0.037	mg/Kg	1	4/18/2017 11:56:15 A	M 31284
Ethylbenzene	ND	0.037	mg/Kg	1	4/18/2017 11:56:15 A	M 31284
Xylenes, Total	ND	0.074	mg/Kg	1	4/18/2017 11:56:15 A	M 31284
Surr: 4-Bromofluorobenzene	109	66.6-132	%Rec	1	4/18/2017 11:56:15 A	M 31284

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 2 of 7 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

## Hall Environmental Analysis Laboratory, Inc.

Lab Order 1704734 Date Reported: 4/19/2017

CLIENT: APEX TITAN		C	lient Samp	le ID: ES	-8	
Project: Lateral 2C-80			Collection	Date: 4/1	7/2017 11:20:00 AM	
Lab ID: 1704734-003	Matrix:	MEOH (SOIL)	Received	<b>Date: 4</b> /1	8/2017 6:48:00 AM	
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG		6			Analyst	TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/18/2017 11:06:19 AM	31287
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/18/2017 11:06:19 AM	31287
Surr: DNOP	90.8	70-130	%Rec	1	4/18/2017 11:06:19 AM	31287
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	4/18/2017 12:19:46 PM	31284
Surr: BFB	92.5	54-150	%Rec	1	4/18/2017 12:19:46 PM	31284
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	4/18/2017 12:19:46 PM	31284
Toluene	ND	0.035	mg/Kg	1	4/18/2017 12:19:46 PM	31284
Ethylbenzene	ND	0.035	mg/Kg	1	4/18/2017 12:19:46 PM	31284
Xylenes, Total	ND	0.071	mg/Kg	1	4/18/2017 12:19:46 PM	31284
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	4/18/2017 12:19:46 PM	31284

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

- Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded Η
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 7 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

#### Analytical Report Lab Order 1704734 Date Reported: 4/19/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN		(	Client Samp	le ID: ES	-9	
Project: Lateral 2C-80			Collection	Date: 4/1	7/2017 11:30:00 AM	
Lab ID: 1704734-004	Matrix:	MEOH (SOIL)	Received	<b>Date:</b> 4/1	8/2017 6:48:00 AM	
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE		s			Analyst	TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/18/2017 11:31:14 AM	31287
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/18/2017 11:31:14 AM	31287
Surr: DNOP	94.0	70-130	%Rec	1	4/18/2017 11:31:14 AM	31287
EPA METHOD 8015D: GASOLINE RANG	E				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	4/18/2017 12:43:17 PM	31284
Surr: BFB	93.7	54-150	%Rec	1	4/18/2017 12:43:17 PM	31284
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	4/18/2017 12:43:17 PM	31284
Toluene	ND	0.037	mg/Kg	1	4/18/2017 12:43:17 PM	31284
Ethylbenzene	ND	0.037	mg/Kg	1	4/18/2017 12:43:17 PM	31284
Xylenes, Total	ND	0.073	mg/Kg	1	4/18/2017 12:43:17 PM	31284
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/18/2017 12:43:17 PM	31284

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 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.

Client:APEX TITANProject:Lateral 2C-80

Sample ID MB-31240	SampTyp	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch II	D: 31240		R	unNo: 4	2155					
Prep Date: 4/14/2017	Analysis Date: 4/17/2017			SeqNo: 1324298			Units: %Rec				
Analyte	Result	PQL SPK	value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	8.7		10.00		87.0	70	130				

#### Qualifiers:

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

WO#: 1704734

**19-Apr-1**7

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QC SUMMART REFORT	
Hall Environmental Analysis Laboratory, Inc.	

WO#: 1704734

19-Apr-17

Client:	APEX												
Project:	Lateral	2C-80											
Sample ID	MB-31284 SampType: MBLK				Tes	TestCode: EPA Method 8015D: Gasoline Range							
Client ID:	PBS	Batch	ID: 31	284	F	RunNo: 4	2191						
Prep Date:	4/17/2017	Analysis D	ate: 4	/18/2017	5	SeqNo: 1	325839	Units: mg/K	g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
	e Organics (GRO)	ND	5.0										
Surr: BFB		930		1000		<b>93</b> .1	54	150					
Sample ID	LCS-31284 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range												
Client ID:	LCSS Batch ID: 31284			RunNo: 42191									
Prep Date:	4/17/2017	Analysis D	ate: 4	/18/2017	5	SeqNo: 1	325840	Units: mg/K	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	95.1	76.4	125					
Surr: BFB		1000		1000		99.8	54	150					
Sample ID	MB-31275	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e			
Client ID:	PBS	Batch	ID: 31	275	RunNo: 42191								
Prep Date:	4/17/2017	Analysis D	ate: 4	/18/2017	5	SeqNo: 1	325850	Units: %Rec					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: BFB		930		1000		92.8	54	150					
Sample ID	LCS-31275	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e			
Client ID:	LCSS	Batch	ID: 31	275	F	RunNo: 4	2191						
Prep Date:	4/17/2017	Analysis D	ate: 4	/18/2017	5	SeqNo: 1	325851	Units: %Rec					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: BFB		1000		1000		101	54	150					

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

Page 6 of 7

WO#: 1704734

Page 7 of 7

19-Apr-17

Client: APEX T Project: Lateral 2										
Troject. Lateral 2	C-00									
Sample ID MB-31284	SampT	SampType: MBLK TestCode: EPA Method 8021B: Volatiles				iles				
Client ID: PBS	Batch	n ID: 31	284	R	RunNo: 4	2191				
Prep Date: 4/17/2017	Analysis D	ate: 4/	18/2017	S	eqNo: 1	325867	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. <mark>00</mark> 0		113	66.6	132			
Sample ID LCS-31284	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	iles		*
Client ID: LCSS	Batch	n ID: 31	284	F	RunNo: 4	2191				
Prep Date: 4/17/2017	Analysis D	ate: 4/	18/2017	S	eqNo: 1	325868	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	116	80	120			
Toluene	1.1	0.050	1.000	0	106	80	120			
Ethylbenzene	1.0	0.050	1.000	0	102	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.9	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	66.6	132			

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
  - value above qualititation 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

ANAL	CONMENTAL YSIS RATORY	Hall Environmental Albi TEL: 505-345-3975 Website: www.ha	4901 Hav iquerque, N. FAX: 505-3	vkins NE M 87109 San 445-4107	n <b>ple Log-In C</b>	heck List
Client Name:	APEX AZTEC	Work Order Number:	1704734		RcptNo:	1
Received By:	Lindsay Mangin	4/18/2017 6:48:00 AM	, ·	Junity Holy	מ	,
Completed By: Reviewed By:	Lindsay Mangln ENM	4/18/2017 7:28:52 AM OUVIS /17		Strucky Herby	Ø	
Chain of Cus	tody					
1. Custody sea	als intact on sample bottles?		Yes 🗌	No []	Not Present	
2. Is Chain of (	Custody complete?		Yes 🔽	No []	Not Present	
3. How was the	e sample delivered?		Courier			
Log In						
4. Was an atte	empt made to cool the sample	es?	Yes 🗸	No 🗌	NA	
5. Were all sar	mples received at a temperati	ure of >0° C to 6.0°C	Yes 🜌	No	NA 🗔	
6. Sample(s) I	n proper container(s)?		Yes 🖌	No 🗌		
7. Sufficient sa	ample volume for indicated tes	st(s)?	Yes 🖌	No		
8. Are samples	s (except VOA and ONG) prop	perly preserved?	Yes 🖌	No		
9. Was presen	vative added to bottles?		Yes []	No 🖌	NA	
10.VOA viais h	ave zero headspace?		Yes	No 🗌	No VOA Vials 🗹	
11. Were any s	ample containers received bro	oken?	Yes	No 🗹	# of preserved bottles checked	
	work match bottle labels?		Yes 🗹	No	for pH:	or >12 unless noted)
13. Are matrices	s correctly identified on Chain	of Custody?	Yes 🖌	No []]	Adjusted?	
14. Is it clear wh	nat analyses were requested?		Yes 🖌	No []		
	ding times able to be met? customer for authorization.)		Yes 🗹	No []]	Checked by:	· · · · · · · · · · · · · · · · ·
	Illing (if applicable) notified of all discrepancies wit	th this order?	Yes []	No 🗔	NA 🗹	
[·····						-1
	n Notified:	Date:	7		(1) I	
By Wr Regar	Participation of the second se			Phone Fax	( [ ] In Person	
	Instructions:	a de la desenie a construir a construir de la c	encorentrinduct eronor	an a		
17. Additional r			• • • • •			
18. <u>Cooler Info</u>	ormation Temp °C Condition		Seal Date	Signed By	4	
<u></u>	1.7 Good ()	(es		<u> </u>		

Page 1 of 1

-

	CHAIN OF CUSTODY RECORD
Laboratory: Hall	ANALYSIS REQUESTED
APEX A Address: ABR	- / / / / / / Temp. of coolers
APEX Office Location Aztec Address: ABQ	when received (C°): 1, 7
Contact: A. Freeman	
Phone:	Page
Project Manager R. Stemmens PO/SO #:	
Sampler's Name Sampler's Signature	
Ryle Summers 12/	
Proj. No. Project Name Lateral 2C-80 No/Type of Containers	LUNS / / /
Matrix Date Time O G G I Identifying Marks of Sample(s) T G G U G C C C C C C C C C C C C C C C C	
5 47/17/100 × ES-6 1	XX 1704734-001
11101 ES-7	02
1120 ES-8 11	-602
V V 1130 V ES-9 1	
- NFC	
1 de la companya de l	
I I I I I I I I I I I I I I I I I I I	
Tum around time 🔲 Normal 🔲 25% Rush 🗋 50% Rush 🕼 100% Rush	
Reliptovished by (Signature) Date: Time: Received by: (Signature) Date: 4/17/12	
Refinquished by (Signature) Date: Time: Received by (Signature) Date: What all Units 2020 Of K, 17	NoLS AFE#A JUUSE
Relinquished by (Signature) Date: Time: Received by: (Signature) Date:	Time: Samo Pary
	The NG "The I
Relinquished by (Signature) Date: Time: Received by: (Signature) Date:	Time:
	harcoal tube SL - sludge O - Oil

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



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

April 24, 2017

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

RE: Lateral 2C-80

OrderNo.: 1704961

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 13 sample(s) on 4/21/2017 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1704961 Date Reported: 4/24/2017

CLIENT: APEX TITAN			<b>Client Sampl</b>	e ID: ES	-10			
Project: Lateral 2C-80	Collection Date: 4/20/2017 12:00:00 PM							
Lab ID: 1704961-001	Matrix:	MEOH (SOIL	) Received 1	Date: 4/2	21/2017 7:38:00 AM			
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	JME		
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/21/2017 9:23:31 AM	31360		
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/21/2017 9:23:31 AM	31360		
Surr: DNOP	84.6	70-130	%Rec	1	4/21/2017 9:23:31 AM	31360		
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB		
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	4/21/2017 9:42:53 AM	31352		
Surr: BFB	95.7	54-150	%Rec	1	4/21/2017 9:42:53 AM	31352		
EPA METHOD 8021B: VOLATILES					Analyst	NSB		
Benzene	ND	0.022	mg/Kg	1	4/21/2017 9:42:53 AM	31352		
Toluene	ND	0.044	mg/Kg	1	4/21/2017 9:42:53 AM	31352		
Ethylbenzene	ND	0.044	mg/Kg	1	4/21/2017 9:42:53 AM	31352		
Xylenes, Total	ND	0.088	mg/Kg	1	4/21/2017 9:42:53 AM	31352		
Surr: 4-Bromofluorobenzene	113	66.6-132	%Rec	1	4/21/2017 9:42:53 AM	31352		

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

**Qualifiers:** 

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 1 of 16 J
- Sample pH Not In Range Р
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

#### Lab Order 1704961

Date Reported: 4/24/2017

4/21/2017 10:06:25 AM 31352

#### Hall Environmental Analysis Laboratory, Inc.

Benzene

Toluene

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

<b>CLIENT:</b>	APEX TITAN	Client Sample ID: ES-11							
<b>Project:</b>	Lateral 2C-80	Collection Date: 4/20/2017 12:10:00 PM							
Lab ID:	1704961-002	Matrix:	MEOH (SOIL)	Received	<b>Date:</b> 4/2	21/2017 7:38:00 AM			
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	Batch		
EPA MET	HOD 8015M/D: DIESEL RANG	GE ORGANIC	s			Analyst	TOM		
Diesel Ra	ange Organics (DRO)	ND	9.4	mg/Kg	1	4/21/2017 10:21:39 AM	31360		
Motor Oil	Range Organics (MRO)	ND	47	mg/Kg	1	4/21/2017 10:21:39 AM	31360		
Surr: D	NOP	106	70-130	%Rec	1	4/21/2017 10:21:39 AM	31360		
EPA MET	HOD 8015D: GASOLINE RAN	IGE				Analyst	NSB		
Gasoline	Range Organics (GRO)	ND	3.7	mg/Kg	1	4/21/2017 10:06:25 AM	31352		
Surr: B	FB	95.9	54-150	%Rec	1	4/21/2017 10:06:25 AM	31352		
EPA MET	HOD 8021B: VOLATILES					Analyst	NSB		

0.019

0.037

0.037

0.075

66.6-132

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%Rec

1

1

1

1

1

ND

ND

ND

ND

113

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

exceeded

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	н	Holding times for preparation or analysis excee
	ND	Not Detected at the Reporting Limit

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 16 J
- Р Sample pH Not In Range
- **Reporting Detection Limit** RL
- W Sample container temperature is out of limit as specified

#### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1704961 Date Reported: 4/24/2017

CLIENT: APEX TITAN	Client Sample ID: ES-12						
Project: Lateral 2C-80			Collection	Date: 4/2	20/2017 12:20:00 PM		
Lab ID: 1704961-003	Matrix:	MEOH (SOIL)	Received	<b>Date:</b> 4/2	21/2017 7:38:00 AM		
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch	
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	том	
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/21/2017 10:43:44 AM	31360	
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1	4/21/2017 10:43:44 AM	31360	
Surr: DNOP	106	70-130	%Rec	1	4/21/2017 10:43:44 AM	31360	
EPA METHOD 8015D: GASOLINE RANG	GE				Analyst	NSB	
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	4/21/2017 10:29:50 AM	31352	
Surr: BFB	94.6	54-150	%Rec	1	4/21/2017 10:29:50 AM	31352	
EPA METHOD 8021B: VOLATILES					Analyst:	NSB	
Benzene	ND	0.024	mg/Kg	1	4/21/2017 10:29:50 AM	31352	
Toluene	ND	0.048	mg/Kg	1	4/21/2017 10:29:50 AM	31352	
Ethylbenzene	ND	0.048	mg/Kg	1	4/21/2017 10:29:50 AM	31352	
Xylenes, Total	ND	0.097	mg/Kg	1	4/21/2017 10:29:50 AM	31352	
Surr: 4-Bromofluorobenzene	111	66.6-132	%Rec	1	4/21/2017 10:29:50 AM	31352	

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
- Η Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 3 of 16 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

#### **Analytical Report** Lab Order 1704961

#### Date Reported: 4/24/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT:	IENT: APEX TITAN Client Sample ID: ES-13								
<b>Project:</b>	Lateral 2C-80		Collection Date: 4/20/2017 12:30:00 PM						
Lab ID:	1704961-004	Matrix:	MEOH (SOIL)	Received	Date: 4/2	21/2017 7:38:00 AM			
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	Batch		
EPA MET	HOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	t: TOM		
Diesel Ra	ange Organics (DRO)	ND	9.4	mg/Kg	1	4/21/2017 11:05:46 AM	31360		
Motor Oil	Range Organics (MRO)	ND	47	mg/Kg	1	4/21/2017 11:05:46 AM	31360		
Surr: D	NOP	100	70-130	%Rec	1	4/21/2017 11:05:46 AM	31360		
EPA MET	HOD 8015D: GASOLINE RAN	IGE				Analys	: NSB		
Gasoline	Range Organics (GRO)	ND	4.1	mg/Kg	1	4/21/2017 10:53:22 AM	31352		

	cubbinte runge erganiee (erte)	110					
	Surr: BFB	95.2	54-150	%Rec	1	4/21/2017 10:53:22 AM	31352
I	EPA METHOD 8021B: VOLATILES					Analyst:	NSB
	Benzene	ND	0.021	mg/Kg	1	4/21/2017 10:53:22 AM	31352
	Toluene	ND	0.041	mg/Kg	1	4/21/2017 10:53:22 AM	31352
	Ethylbenzene	ND	0.041	mg/Kg	1	4/21/2017 10:53:22 AM	31352
	Xylenes, Total	ND	0.082	mg/Kg	1	4/21/2017 10:53:22 AM	31352
	Surr: 4-Bromofluorobenzene	111	66.6-132	%Rec	1	4/21/2017 10:53:22 AM	31352

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 4 of 16 J
- Р Sample pH Not In Range
- **Reporting Detection Limit** RL
- W Sample container temperature is out of limit as specified

#### Lab Order 1704961

Date Reported: 4/24/2017

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN	Client Sample ID: ES-14							
Project: Lateral 2C-80	Collection Date: 4/20/2017 12:40:00 PM							
Lab ID: 1704961-005	Matrix:	MEOH (SOIL)	Received	Date: 4/2	21/2017 7:38:00 AM			
Analyses	Result	PQL Qua	Units	DF	Date Analyzed	Batch		
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: TOM		
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/21/2017 11:27:54 AM	31360		
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1	4/21/2017 11:27:54 AM	31360		
Surr: DNOP	107	70-130	%Rec	1	4/21/2017 11:27:54 AM	31360		
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	: NSB		
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	4/21/2017 11:16:55 AM	31352		
Surr: BFB	95.7	54-150	%Rec	1	4/21/2017 11:16:55 AM	31352		
EPA METHOD 8021B: VOLATILES					Analyst	NSB		
Benzene	ND	0.021	mg/Kg	1	4/21/2017 11:16:55 AM	31352		
Toluene	ND	0.042	mg/Kg	1	4/21/2017 11:16:55 AM	31352		
Ethylbenzene	ND	0.042	mg/Kg	1	4/21/2017 11:16:55 AM	31352		
Xylenes, Total	ND	0.084	mg/Kg	1	4/21/2017 11:16:55 AM	31352		
Surr: 4-Bromofluorobenzene	112	66.6-132	%Rec	1	4/21/2017 11:16:55 AM	31352		

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 16
- 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.

Lab Order 1704961 Date Reported: 4/24/2017

CLIENT: APEX TITAN Project: Lateral 2C-80 Lab ID: 1704061 006	Client Sample ID: ES-15 Collection Date: 4/20/2017 12:50:00 PM Matrix: MEOH.(SOIL) Received Date: 4/21/2017 7:38:00 AM					
Lab ID: 1704961-006						D ( )
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	4/21/2017 11:49:51 AM	31360
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	4/21/2017 11:49:51 AM	31360
Surr: DNOP	106	70-130	%Rec	1	4/21/2017 11:49:51 AM	31360
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	4/21/2017 11:40:29 AM	31352
Surr: BFB	95.9	54-150	%Rec	1	4/21/2017 11:40:29 AM	.31352
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	4/21/2017 11:40:29 AM	31352
Toluene	ND	0.035	mg/Kg	1	4/21/2017 11:40:29 AM	31352
Ethylbenzene	ND	0.035	mg/Kg	1	4/21/2017 11:40:29 AM	31352
Xylenes, Total	ND	0.071	mg/Kg	1	4/21/2017 11:40:29 AM	31352
Surr: 4-Bromofluorobenzene	112	66.6-132	%Rec	1	4/21/2017 11:40:29 AM	31352

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
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- R RPD outside accepted recovery limits
- S % 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 6 of 16 J
- Sample pH Not In Range Р
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1704961

Date Reported: 4/24/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITANProject: Lateral 2C-80Lab ID: 1704961-007	Client Sample ID: ES-16           Collection Date: 4/20/2017 1:00:00 PM           Matrix: MEOH (SOIL)         Received Date: 4/21/2017 7:38:00 AM					
Analyses	Result	PQL Qua	d Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	4/21/2017 12:11:52 PM	31360
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	4/21/2017 12:11:52 PM	31360
Surr: DNOP	109	70-130	%Rec	1	4/21/2017 12:11:52 PM	31360
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	4/21/2017 12:04:02 PM	31352
Surr: BFB	95.5	54-150	%Rec	1	4/21/2017 12:04:02 PM	31352
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.019	mg/Kg	1	4/21/2017 12:04:02 PM	31352
Toluene	ND	0.038	mg/Kg	1	4/21/2017 12:04:02 PM	31352
Ethylbenzene	ND	0.038	mg/Kg	1	4/21/2017 12:04:02 PM	31352
Xylenes, Total	ND	0.077	mg/Kg	1	4/21/2017 12:04:02 PM	31352
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/21/2017 12:04:02 PM	31352

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 7 of 16
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

#### Lab Order 1704961

Date Reported: 4/24/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN		C	lient Samp		5-17 20/2017 1:10:00 PM	
Project: Lateral 2C-80 Lab ID: 1704961-008	Motriv	MEOH (SOIL)			21/2017 7:38:00 AM	
Lab ID: 1704901-008	Wiati ix:	WEOII (SOIL)	Receiveu	Date: 4/2	21/2017 7.38.00 Alvi	8
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG		S		×	Analyst	TOM
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	4/21/2017 12:33:50 PM	31360
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	4/21/2017 12:33:50 PM	31360
Surr: DNOP	111	70-130	%Rec	1	4/21/2017 12:33:50 PM	31360
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	4/21/2017 12:27:29 PM	31352
Surr: BFB	95.2	54-150	%Rec	1	4/21/2017 12:27:29 PM	31352
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	4/21/2017 12:27:29 PM	31352

ND 0.045 mg/Kg 1 4/21/2017 12:27:29 PM 31352 Ethylbenzene ND 0.045 4/21/2017 12:27:29 PM 31352 mg/Kg 1 Xylenes, Total ND 0.091 4/21/2017 12:27:29 PM 31352 mg/Kg 1 Surr: 4-Bromofluorobenzene 4/21/2017 12:27:29 PM 31352 109 66.6-132 %Rec 1

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

Qualifiers:

\*

Toluene

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range E
- Analyte detected below quantitation limits Page 8 of 16 J
- Р Sample pH Not In Range
- **Reporting Detection Limit** RL
- W Sample container temperature is out of limit as specified

#### Lab Order 1704961

#### Date Reported: 4/24/2017

#### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN		C	lient Samp	le ID: ES	-18	
Project: Lateral 2C-80			Collection	<b>Date:</b> 4/2	20/2017 1:20:00 PM	
Lab ID: 1704961-009	Matrix:	MEOH (SOIL)	Received	<b>Date:</b> 4/2	21/2017 7:38:00 AM	
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	TOM
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	4/21/2017 12:56:03 PM	31360
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	4/21/2017 12:56:03 PM	31360
Surr: DNOP	112	70-130	%Rec	1	4/21/2017 12:56:03 PM	31360
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	4/21/2017 12:50:56 PM	31352
Surr: BFB	95.2	54-150	%Rec	1	4/21/2017 12:50:56 PM	31352
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.018	mg/Kg	1	4/21/2017 12:50:56 PM	31352
Toluene	ND	0.035	mg/Kg	1	4/21/2017 12:50:56 PM	31352
Ethylbenzene	ND	0.035	mg/Kg	1	4/21/2017 12:50:56 PM	31352
Xylenes, Total	ND	0.071	mg/Kg	1	4/21/2017 12:50:56 PM	31352
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1	4/21/2017 12:50:56 PM	31352

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

Q	ua	lifi	er	s:	
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- 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
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits Page 9 of 16 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

**Analytical Report** Lab Order 1704961

#### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2C-80

1704961-010

Lab ID:

Date Reported: 4/24/2017 **Client Sample ID: ES-19** Collection Date: 4/20/2017 1:30:00 PM Matrix: MEOH (SOIL) Received Date: 4/21/2017 7:38:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	st: TOM
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	4/21/2017 1:18:12 PM	31360
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	4/21/2017 1:18:12 PM	31360
Surr: DNOP	108	70-130	%Rec	1	4/21/2017 1:18:12 PM	31360
EPA METHOD 8015D: GASOLINE RAN	NGE				Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	4/21/2017 1:14:24 PM	31352
Surr: BFB	95.2	54-150	%Rec	1	4/21/2017 1:14:24 PM	31352
EPA METHOD 8021B: VOLATILES					Analys	st: NSB
Benzene	ND	0.020	mg/Kg	1	4/21/2017 1:14:24 PM	31352
Toluene	ND	0.040	mg/Kg	1	4/21/2017 1:14:24 PM	31352
Ethylbenzene	ND	0.040	mg/Kg	1	4/21/2017 1:14:24 PM	31352
Xylenes, Total	ND	0.080	mg/Kg	1	4/21/2017 1:14:24 PM	31352
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	4/21/2017 1:14:24 PM	31352

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits Page 10 of 16 J
- 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.

Lab Order 1704961 Date Reported: 4/24/2017

CLIENT: APEX TITAN			<b>Client Sampl</b>	e ID: ES	-20	
Project: Lateral 2C-80			Collection 1	Date: 4/2	0/2017 1:40:00 PM	
Lab ID: 1704961-011	Matrix:	MEOH (SOIL)	) Received I	Date: 4/2	1/2017 7:38:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	6			Analyst	том
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	4/21/2017 1:40:13 PM	31360
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	4/21/2017 1:40:13 PM	31360
Surr: DNOP	112	70-130	%Rec	1	4/21/2017 1:40:13 PM	31360
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	4/21/2017 11:15:25 AM	SG422
Surr: BFB	98.8	54-150	%Rec	1	4/21/2017 11:15:25 AM	SG422
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.021	mg/Kg	1	4/21/2017 11:15:25 AM	B4228
Toluene	ND	0.042	mg/Kg	1	4/21/2017 11:15:25 AM	B4228
Ethylbenzene	ND	0.042	mg/Kg	1	4/21/2017 11:15:25 AM	B4228
Xylenes, Total	ND	0.083	mg/Kg	1	4/21/2017 11:15:25 AM	B4228
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	4/21/2017 11:15:25 AM	B4228

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

|--|

- Value exceeds Maximum Contaminant Level. Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limitsPage 11 of 16 J
- Sample pH Not In Range Р
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

#### Lab Order 1704961

Date Reported: 4/24/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Project: Lateral 2C-80 Lab ID: 1704961-012	Client Sample ID: ES-21 Collection Date: 4/20/2017 1:50:00 PM Matrix: MEOH (SOIL) Received Date: 4/21/2017 7:38:00 AM											
Analyses	Result	PQL (				Date Analyzed	Batch					
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	s				Analyst	том					
Diesel Range Organics (DRO)	63	9.5		mg/Kg	1	4/21/2017 2:02:35 PM	31360					
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/21/2017 2:02:35 PM	31360					
Surr: DNOP	112	70-130		%Rec	1	4/21/2017 2:02:35 PM	31360					
EPA METHOD 8015D: GASOLINE RAN	GE					Analyst	NSB					
Gasoline Range Organics (GRO)	8.8	3.5		mg/Kg	1	4/21/2017 11:39:37 AM	SG4228					
Surr: BFB	176	54-150	S	%Rec	1	4/21/2017 11:39:37 AM	SG4228					
EPA METHOD 8021B: VOLATILES						Analyst	NSB					
Benzene	ND	0.018		mg/Kg	1	4/21/2017 11:39:37 AM	B42287					
Toluene	ND	0.035		mg/Kg	1	4/21/2017 11:39:37 AM	B42287					
Ethylbenzene	ND	0.035		mg/Kg	1	4/21/2017 11:39:37 AM	B42287					
Xylenes, Total	0.16	0.070		mg/Kg	1	4/21/2017 11:39:37 AM	B42287					
Surr: 4-Bromofluorobenzene	104	66.6-132		%Rec	1	4/21/2017 11:39:37 AM	B42287					

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 12 of 16 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1704961 Date Reported: 4/24/2017

CLIENT: APEX TITAN	Client Sample ID: ES-22											
Project: Lateral 2C-80	Collection Date: 4/20/2017 2:00:00 PM											
Lab ID: 1704961-013	Matrix:	MEOH (SOIL)	Received	<b>Date:</b> 4/2	1/2017 7:38:00 AM							
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch						
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	TOM						
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	4/21/2017 2:24:57 PM	31360						
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	4/21/2017 2:24:57 PM	31360						
Surr: DNOP	115	70-130	%Rec	1	4/21/2017 2:24:57 PM	31360						
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst	NSB						
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	4/21/2017 12:03:54 PM	SG422						
Surr: BFB	95.1	54-150	%Rec	1	4/21/2017 12:03:54 PM	SG422						
EPA METHOD 8021B: VOLATILES					Analyst	NSB						
Benzene	ND	0.020	mg/Kg	1	4/21/2017 12:03:54 PM	B42287						
Toluene	ND	0.039	mg/Kg	1	4/21/2017 12:03:54 PM	B4228						
Ethylbenzene	ND	0.039	mg/Kg	1	4/21/2017 12:03:54 PM	B4228						
Xylenes, Total	ND	0.078	mg/Kg	1	4/21/2017 12:03:54 PM	B4228						
Surr: 4-Bromofluorobenzene	102	66.6-132	%Rec	1	4/21/2017 12:03:54 PM	B4228						

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
  - Н Holding times for preparation or analysis exceeded
  - ND Not Detected at the Reporting Limit
  - R RPD outside accepted recovery limits
  - S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits Page 13 of 16 J
- Sample pH Not In Range Р
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

Analysis L	aboratory,	Inc.
	Analysis L	Analysis Laboratory,

APEX TITAN **Client: Project:** 

I II LIII	I I I I I I I	
Lateral	2C-80	

Sample ID LCS-31359	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics							
Client ID: LCSS	Batch ID: 31359	RunNo: 42271							
Prep Date: 4/21/2017	Analysis Date: 4/21/2017	SeqNo: 1328164	Units: %Rec						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual						
Surr: DNOP	4.7 5.000	93.5 70	130						
Sample ID MB-31359	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 31359	RunNo: 42271							
Prep Date: 4/21/2017	Analysis Date: 4/21/2017	SeqNo: 1328165	Units: %Rec						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual						
Surr: DNOP	11 10.00	108 70	130						
Sample ID MB-31360	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 31360	RunNo: 42274							
Prep Date: 4/21/2017	Analysis Date: 4/21/2017	SeqNo: 1328407	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	89.0 70	130						
Sample ID LCS-31360	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 31360	RunNo: 42274							
Prep Date: 4/21/2017	Analysis Date: 4/21/2017	SeqNo: 1328408	Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual						
Diesel Range Organics (DRO)	44 10 50.00	0 87.9 63.8	116						
Surr: DNOP	4.5 5.000	89.6 70	130						

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % 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
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

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WO#: 1704961

24-Apr-17

QC SUMMARY REPORT	
Hall Environmental Analysis Laboratory, Inc.	

WO#: 1704961

24-Apr-17

Client: Project:	APEX TI Lateral 20									T	
Sample ID M	B-31352	SampT	ype: MI	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: P	PBS	Batch	ID: 31	352	F	RunNo: 42286					
Prep Date:	4/20/2017	Analysis D	ate: 4	21/2017	S	SeqNo: 1	329583	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			2					
Surr: BFB		950		1000		95.5	54	150			
Sample ID L	_CS-31352	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: L	css	Batch	ID: 31	352	F	RunNo: 4	2286				
Prep Date:	4/20/2017	Analysis Date: 4/21/2017				SeqNo: 1329584 Units: mg/Kg					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range	Organics (GRO)	24	5.0	25.00	0	95.8	76.4	125			
Surr: BFB		1000		1000		103	54	150			
Sample ID R	RB	SampT	ype: MI	BLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: P	BS	Batch	ID: SO	642287	RunNo: 42287						
Prep Date:		Analysis D	ate: 4	21/2017	S	SeqNo: 1	329608	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		940		1000		93.9	54	150			
Sample ID 2	2.5UG GRO LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: L	LCSS	Batch	ID: 50	642287	F	RunNo: 4	2287				
Prep Date:		Analysis D	ate: 4	21/2017	S	SeqNo: 1	329609	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Analyte Gasoline Range ( Surr: BFB	Organics (GRO)	Result 22 1100	PQL 5.0	SPK value 25.00 1000	SPK Ref Val 0	%REC 88.6 106	LowLimit 76.4 54	HighLimit 125 150	%RPD	RPDLimit	Qual

Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Ρ Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

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QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: 1704961

24-Apr-17

APEX TITAN **Client:** Lateral 2C-80 **Project:** 

Sample ID MB-31352	MB-31352     SampType:     MBLK     TestCode:     EPA Method 8021B:     Volatiles												
Client ID: PBS	Batcl	h ID: 31	352	R	RunNo: 4								
Prep Date: 4/20/2017	Analysis E	Date: 4/	21/2017	SeqNo: 1329596			Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	ND	0.025											
Toluene	ND	0.050											
Ethylbenzene	ND	0.050											
Xylenes, Total	ND	0.10											
Surr: 4-Bromofluorobenzene	1.2		1.000	×	115	66.6	132						
Sample ID LCS-31352	Samp	ype: LC	S	Tes	tCode: El	PA Method	8021B: Volat	tiles					
Client ID: LCSS	Batc	h ID: 31	352	R	RunNo: 4	2286							
Prep Date: 4/20/2017	Analysis E	Date: 4/	21/2017	S	SeqNo: 1	329597	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	107	80	120						
Toluene	1.0	0.050	1.000	0	100	80	120						
Ethylbenzene	1.0	0.050	1.000	0	100	80	120						
Xylenes, Total	2.8	0.10	3.000	0	92.9	80	120						
Surr: 4-Bromofluorobenzene	1.2		1.000		117	66.6	132						
Sample ID RB	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles					
Sample ID RB Client ID: PBS		Type: ME h ID: B4			tCode: El RunNo: 4		8021B: Volat	tiles					
		h ID: <b>B4</b>	2287	R		2287	8021B: Volat						
Client ID: PBS	Batc	h ID: <b>B4</b>	2287 21/2017	R	RunNo: 4 SeqNo: 1	2287			RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date:	Batc Analysis [	h ID: <b>B4</b> Date: <b>4</b> /	2287 21/2017	F	RunNo: 4 SeqNo: 1	2287 329623	Units: mg/K	(g	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte	Batcl Analysis I Result	h ID: <b>B4</b> Date: <b>4</b> / PQL	2287 21/2017	F	RunNo: 4 SeqNo: 1	2287 329623	Units: mg/K	(g	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene	Batcl Analysis I Result ND	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025	2287 21/2017	F	RunNo: 4 SeqNo: 1	2287 329623	Units: mg/K	(g	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene	Batc Analysis I Result ND ND	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050	2287 21/2017	F	RunNo: 4 SeqNo: 1	2287 329623	Units: mg/K	(g	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene	Batc Analysis I Result ND ND ND	h ID: <b>B4</b> Date: <b>4</b> / <u>PQL</u> 0.025 0.050 0.050	2287 21/2017	F	RunNo: 4 SeqNo: 1	2287 329623	Units: mg/K	(g	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	Batc Analysis E Result ND ND ND ND 1.0	h ID: <b>B4</b> Date: <b>4</b> / <u>PQL</u> 0.025 0.050 0.050	2287 21/2017 SPK value 1.000	F S SPK Ref Val	RunNo: 4 SeqNo: 1 %REC 104	2287 329623 LowLimit 66.6	Units: <b>mg/K</b> HighLimit	<b>%</b> RPD	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	Batc Analysis I Result ND ND ND ND 1.0	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050 0.050 0.10	2287 21/2017 SPK value 1.000	F SPK Ref Val	RunNo: 4 SeqNo: 1 %REC 104	2287 329623 LowLimit 66.6	Units: <b>mg/K</b> HighLimit 132	<b>%</b> RPD	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	Batc Analysis I Result ND ND ND ND 1.0	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050 0.050 0.10	2287 21/2017 SPK value 1.000 S 2287	F SPK Ref Val Tes F	RunNo: 4 SeqNo: 1 %REC 104 tCode: El	2287 329623 LowLimit 66.6 PA Method 2287	Units: <b>mg/K</b> HighLimit 132	ig %RPD	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>100NG BTEX L</b> Client ID: <b>LCSS</b>	Batcl Analysis I Result ND ND ND ND 1.0	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050 0.050 0.10	2287 21/2017 SPK value 1.000 S 2287 21/2017	F SPK Ref Val Tes F	RunNo: 4 SeqNo: 1 %REC 104 tCode: El RunNo: 4 SeqNo: 1	2287 329623 LowLimit 66.6 PA Method 2287	Units: mg/K HighLimit 132 8021B: Volat	ig %RPD	RPDLimit	Qual			
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>100NG BTEX L</b> Client ID: <b>LCSS</b> Prep Date:	Batc Analysis D ND ND ND ND 1.0 CS Samp Batc Analysis D	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050 0.050 0.10 Fype: <b>LC</b> h ID: <b>B4</b> Date: <b>4</b> /	2287 21/2017 SPK value 1.000 S 2287 21/2017	F SPK Ref Val Tes F S	RunNo: 4 SeqNo: 1 %REC 104 tCode: El RunNo: 4 SeqNo: 1	2287 329623 LowLimit 66.6 PA Method 2287 329624	Units: mg/K HighLimit 132 8021B: Volat Units: mg/K	(g %RPD tiles					
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>100NG BTEX L</b> Client ID: <b>LCSS</b> Prep Date: Analyte	Batc Analysis I ND ND ND ND 1.0 CS Samp Batc Analysis I Result	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050 0.050 0.10 Fype: <b>LC</b> h ID: <b>B4</b> Date: <b>4</b> / PQL	2287 21/2017 SPK value 1.000 S 2287 21/2017 SPK value	F SPK Ref Val Tes SPK Ref Val	RunNo: 4 SeqNo: 1 %REC 104 tCode: El RunNo: 4 SeqNo: 1 %REC	2287 329623 LowLimit 66.6 PA Method 2287 329624 LowLimit	Units: mg/K HighLimit 132 8021B: Volat Units: mg/K HighLimit	(g %RPD tiles					
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>100NG BTEX L</b> Client ID: <b>LCSS</b> Prep Date: Analyte Benzene	Batcl Analysis I Result ND ND ND 1.0 CS Samp Batcl Analysis I Result 0.90	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050 0.050 0.10 Type: <b>LC</b> h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025	2287 21/2017 SPK value 1.000 S 2287 21/2017 SPK value 1.000	F SPK Ref Val Tes S SPK Ref Val 0	RunNo: 4 SeqNo: 1 %REC 104 tCode: El RunNo: 4 SeqNo: 1 %REC 90.5	2287 329623 LowLimit 66.6 PA Method 2287 329624 LowLimit 80	Units: mg/K HighLimit 132 8021B: Volat Units: mg/K HighLimit 120	(g %RPD tiles					
Client ID: <b>PBS</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>100NG BTEX I</b> Client ID: <b>LCSS</b> Prep Date: Analyte Benzene Toluene	Batcl Analysis I Result ND ND ND 1.0 -CS Samp Batcl Analysis I Result 0.90 0.92	h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050 0.050 0.10 Fype: <b>LC</b> h ID: <b>B4</b> Date: <b>4</b> / PQL 0.025 0.050	2287 21/2017 SPK value 1.000 S 2287 21/2017 SPK value 1.000 1.000	F SPK Ref Val Tes S SPK Ref Val 0 0	RunNo: 4 SeqNo: 1 %REC 104 tCode: El RunNo: 4 SeqNo: 1 %REC 90.5 91.6	2287 329623 LowLimit 66.6 PA Method 2287 329624 LowLimit 80 80	Units: mg/K HighLimit 132 8021B: Volat Units: mg/K HighLimit 120 120	(g %RPD tiles					

#### **Qualifiers:**

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**

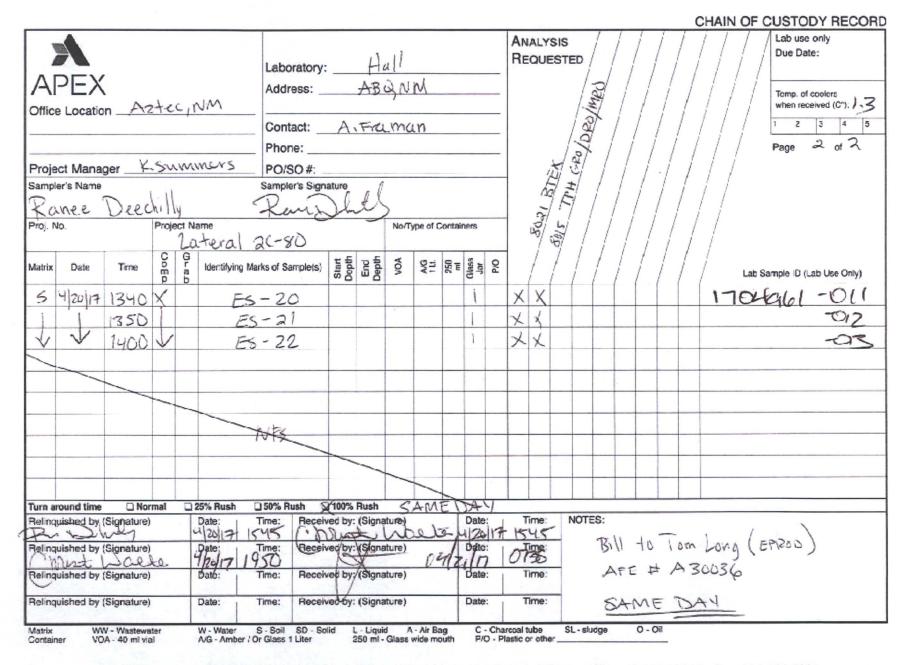
W Sample container temperature is out of limit as specified

Page 16 of 16

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental A Albuq TEL: 505-345-3975 I Website: www.hali	4901 querque PAX: 50	Hawkin , NM 8 15-345-	ns NE 87109 -4107	Sample Log-In Check List				
Client Name: APEX AZTEC	Work Order Number:	17049	61				RcptNo: 1		
Received By: Lindsay Mangin Completed By: Lindsay Mangin	4/21/2017 7:38:00 AM 4/21/2017 8:04:33 AM			O de a	alyt. alyt	llan Ilan			
Reviewed By: 572e -04/20/17 04/21/1	7 ske								
Chain of Custody									
1. Custody seals intact on sample bottles?		Yes		I	No		Not Present V		
2. Is Chain of Custody complete?		Yes	~	1	No		Not Present		
3. How was the sample delivered?		Cour	er						
Log In									
4. Was an attempt made to cool the samples'	?	Yes	~		No		NA		
5. Were all samples received at a temperature	e of >0° C to 6.0°C	Yes	V	ľ	No	2	NA		
6. Sample(s) in proper container(s)?		Yes	1		No	* ·			
7. Sufficient sample volume for indicated test(	s)?	Yes	$\mathbf{v}$		No				
8. Are samples (except VOA and ONG) prope	rly preserved?	Yes	~		No				
9. Was preservative added to bottles?		Yes			No	V	NA		
10.VOA vials have zero headspace?		Yes			No		No VOA Vials 🗸		
11. Were any sample containers received brok	en?	Yes			No	~	# of preserved bottles checked		
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes			No		for pH: (<2 or >12 unle	ess noted)	
13. Are matrices correctly identified on Chain of	Custody?	Yes	~		No	:	Adjusted?		
14. Is it clear what analyses were requested?		Yes	~		No	:			
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	~		No	: :	Checked by:		
Special Handling (if applicable)									
16. Was client notified of all discrepancies with	this order?	Yes			No		NA 🗸		
Person Notified: By Whom: Regarding: Client Instructions:		e Mi e Mi natur at de instat tanada R i Milane		Phone		Fax	In Person Inconserve et deuts statute person automotion du care en enconserve de et		
17. Additional remarks:									
18. <u>Cooler Information</u> <u>Cooler No</u> Temp °C Condition S 1 1.3 Good Ye Page 1 of 1		Seal D	ate	Sign	ed E	By			

															CHAIN OF CUSTODY RECORD
												1	ANALYSIS	111	Lab use only
						Laboratory:	ital	1				F	REQUESTED	1     .	Due Date:
	PEX					Address:			٨			-	2	111	////
			<b>b</b> -	has	0.000	AUU1855	1701	* Mail	-			-	101	111	when received (C°):1.3
Offici	e Locatio	n	NU	TEL	NM	Contact:	A Tour		~				These	111	1 2 3 4 5
						Phone:			urt_			-	101		Page of_2
		Y		Amer	nurs							-	X S		
	ct Manag er's Name	ger	>	outte	iun y	PO/SO #: _ Sampler's Sign						-	EH /	111	
	well D	eech 1			4	Rnd	mill						Soal BIFY		
Proj. N	lo.	,	Praj	ect Na				No/Ty	pe of C	Containe	ns		2013	111	
			C		ateral	2 C-80						_	100 /	111	
Matrix	Date	Time	CoEo	Grad	Identitying Ma	arks of Sample(s)	Start Depth End Depth	VOA	AG	250 ml	Jer	P/Q			Lab Sample ID (Lab Use Only)
5	4/20/17	1260	X		ES	5-10					1	>	XX		1704961-001
	t	1210	1		ES	-11					1		11		-002
		1220			Es	5-12									_003
		1230			Es	5-13									-004
		1240			Es	5-14		-						_	-005
		1250			2-5	5-15							G		-006
		1300			and the second se	-16							-		-001
		1310				-17					1				200-
		1320				5-18									-009
Y	1	1330	V	1		5-19					1		VV		-00
Turn a	round time	Q Nor	mal				400% Rush	SA	IME	DA	FY I				
Beling	uished by (	Signature)	)			SUS WO	ved by: (Sign	te			Date:	+1	Time: NOTES:	P:11 4	Tom Low (EDDAD)
	uished by (				Date:	Time: Receiv	vot by (sign	eture)		N	ate:	128	Time:	UIII	HO TOM Long (EPROD) HE A30036
Reling	uished by (	Signature)	)		1 million	-7	ved by (Sign	ature)		m	Date	170	Time:	AFE	# A30036
Relina	uished by (	Signature			Date:	Time: Receiv	ved by: (Sign	ature)			Date:	_	Time:	SAM	E DAY
, tom q		e.g. ano e)												-	
Matrix		V - Wastewa A - 40 ml via				S - Soil SD - So Dr Glass 1 Liter		id A	- Air Ba				cal tube SL - sludge tic or other	O - Oil	

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



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

May 17, 2017

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

OrderNo.: 1705778

Dear Kyle Summers:

RE: Lateral 2C-80

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> 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,

andia

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705778 Date Reported: 5/17/2017

CLIENT: APEX TITAN	Client Sample ID: ES-31											
Project: Lateral 2C-80	Collection Date: 5/15/2017 2:00:00 PM											
Lab ID: 1705778-001	Matrix:	SOIL	Received	Date: 5/1	6/2017 7:20:00 AM							
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch						
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	том						
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/16/2017 8:54:28 AM	31757						
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/16/2017 8:54:28 AM	31757						
Surr: DNOP	85.0	70-130	%Rec	1	5/16/2017 8:54:28 AM	31757						
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB						
Gasoline Range Organics (GRO)	ND	5.1	mg/Kg	1	5/16/2017 10:00:45 AM	31750						
Surr: BFB	92.9	54-150	%Rec	1	5/16/2017 10:00:45 AM	31750						
EPA METHOD 8021B: VOLATILES					Analyst	NSB						
Benzene	ND	0.026	mg/Kg	1	5/16/2017 10:00:45 AM	31750						
Toluene	ND	0.051	mg/Kg	1	5/16/2017 10:00:45 AM	31750						
Ethylbenzene	ND	0.051	mg/Kg	1	5/16/2017 10:00:45 AM	31750						
Xylenes, Total	ND	0.10	mg/Kg	1	5/16/2017 10:00:45 AM	31750						
Surr: 4-Bromofluorobenzene	105	66.6-132	%Rec	1	5/16/2017 10:00:45 AM	31750						

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

Qual	ifiers:
------	---------

\*

- 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
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 1 of 8 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705778 Date Reported: 5/17/2017

CLIENT: APEX TITAN			Client Sampl	e ID: ES	-32	
Project: Lateral 2C-80			Collection	Date: 5/1	5/2017 2:10:00 PM	
Lab ID: 1705778-002	Matrix:	SOIL	Received	Date: 5/1	6/2017 7:20:00 AM	
Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	6			Analyst	том
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/16/2017 9:16:33 AM	31757
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/16/2017 9:16:33 AM	31757
Surr: DNOP	83.6	70-130	%Rec	1	5/16/2017 9:16:33 AM	31757
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	5.3	mg/Kg	1	5/16/2017 10:24:58 AM	31750
Surr: BFB	95.8	54-150	%Rec	1	5/16/2017 10:24:58 AM	31750
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.026	mg/Kg	1	5/16/2017 10:24:58 AM	31750
Toluene	0.094	0.053	mg/Kg	1	5/16/2017 10:24:58 AM	31750
Ethylbenzene	ND	0.053	mg/Kg	1	5/16/2017 10:24:58 AM	31750
Xylenes, Total	ND	0.11	mg/Kg	1	5/16/2017 10:24:58 AM	31750
Surr: 4-Bromofluorobenzene	106	66.6-132	%Rec	1	5/16/2017 10:24:58 AM	31750

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 2 of 8 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Date Reported: 5/17/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Samp	e ID: ES	-33	
Project: Lateral 2C-80			<b>Collection</b>	Date: 5/1	5/2017 2:20:00 PM	
Lab ID: 1705778-003	Matrix:	SOIL	Received	Date: 5/1	6/2017 7:20:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG		6			Analys	t: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/16/2017 9:38:27 AM	31757
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	5/16/2017 9:38:27 AM	31757
Surr: DNOP	85.2	70-130	%Rec	1	5/16/2017 9:38:27 AM	31757
EPA METHOD 8015D: GASOLINE RAN	GE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	5.4	mg/Kg	1	5/16/2017 10:48:59 AM	31750
Surr: BFB	92.4	54-150	%Rec	1	5/16/2017 10:48:59 AM	31750
EPA METHOD 8021B: VOLATILES					Analys	: NSB
Benzene	ND	0.027	mg/Kg	1	5/16/2017 10:48:59 AM	31750
Toluene	ND	0.054	mg/Kg	1	5/16/2017 10:48:59 AM	31750
Ethylbenzene	ND	0.054	mg/Kg	1	5/16/2017 10:48:59 AM	31750
Xylenes, Total	ND	0.11	mg/Kg	1	5/16/2017 10:48:59 AM	31750
Surr: 4-Bromofluorobenzene	105	66.6-132	%Rec	1	5/16/2017 10:48:59 AM	31750

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 3 of 8 J
- Sample pH Not In Range Р
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705778 Date Reported: 5/17/2017

CLIENT: APEX TITAN			<b>Client Sampl</b>	e ID: ES	-34	
Project: Lateral 2C-80			Collection ]	Date: 5/1	5/2017 2:30:00 PM	
Lab ID: 1705778-004	Matrix:	SOIL	Received 1	Date: 5/1	6/2017 7:20:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	6			Analyst	том
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	5/16/2017 10:00:38 AM	31757
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	5/16/2017 10:00:38 AM	31757
Surr: DNOP	85.3	70-130	%Rec	1	5/16/2017 10:00:38 AM	31757
EPA METHOD 8015D: GASOLINE RAM	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	5/16/2017 11:13:00 AM	31750
Surr: BFB	91.7	54-150	%Rec	1	5/16/2017 11:13:00 AM	31750
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.021	mg/Kg	1	5/16/2017 11:13:00 AM	31750
Toluene	ND	0.042	mg/Kg	1	5/16/2017 11:13:00 AM	31750
Ethylbenzene	ND	0.042	mg/Kg	1	5/16/2017 11:13:00 AM	31750
Xylenes, Total	ND	0.084	mg/Kg	1	5/16/2017 11:13:00 AM	31750
Surr: 4-Bromofluorobenzene	104	66.6-132	%Rec	1	5/16/2017 11:13:00 AM	31750

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % 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 4 of 8 J
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified W

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705778 Date Reported: 5/17/2017

		Client Sampl	e ID: ES	-35	
		Collection I	Date: 5/1	5/2017 2:40:00 PM	
Matrix:	SOIL	Received I	Date: 5/1	6/2017 7:20:00 AM	
Result	PQL Qu	al Units	DF	Date Analyzed	Batch
GE ORGANICS	3			Analyst	TOM
ND	9.8	mg/Kg	1	5/16/2017 10:22:35 AM	31757
ND	49	mg/Kg	1	5/16/2017 10:22:35 AM	31757
85.8	70-130	%Rec	1	5/16/2017 10:22:35 AM	31757
NGE				Analyst	NSB
ND	4.8	mg/Kg	1	5/16/2017 11:37:10 AM	31750
90.9	54-150	%Rec	1	5/16/2017 11:37:10 AM	31750
				Analyst	NSB
ND	0.024	mg/Kg	1	5/16/2017 11:37:10 AM	31750
ND	0.048	mg/Kg	1	5/16/2017 11:37:10 AM	31750
ND	0.048	mg/Kg	1	5/16/2017 11:37:10 AM	31750
ND	0.096	mg/Kg	1	5/16/2017 11:37:10 AM	31750
102	66.6-132	%Rec	1	5/16/2017 11:37:10 AM	31750
	Result IGE ORGANICS ND ND 85.8 NGE ND 90.9 ND ND ND ND ND ND ND	IGE ORGANICS ND 9.8 ND 49 85.8 70-130 NGE ND 4.8 90.9 54-150 ND 0.024 ND 0.048 ND 0.048 ND 0.048 ND 0.096	Matrix: SOIL         Received I           Result         PQL         Qual         Units           IGE ORGANICS         IGE ORGANICS         IGE ORGANICS         IGE ORGANICS           ND         9.8         mg/Kg         mg/Kg           ND         49         mg/Kg           85.8         70-130         %Rec           ND         4.8         mg/Kg           90.9         54-150         %Rec           ND         0.024         mg/Kg           ND         0.048         mg/Kg           ND         0.048         mg/Kg           ND         0.096         mg/Kg	Matrix: SOIL         Received Date: 5/1           Result         PQL         Qual         Units         DF           IGE ORGANICS         I         ND         9.8         mg/Kg         1           ND         49         mg/Kg         1         85.8         70-130         %Rec         1           NGE         ND         4.8         mg/Kg         1         90.9         54-150         %Rec         1           ND         0.024         mg/Kg         1         1         1         1         1           ND         0.048         mg/Kg         1	Result         PQL         Qual         Units         DF         Date Analyzed           IGE ORGANICS         Analyst           ND         9.8         mg/Kg         1         5/16/2017 10:22:35 AM           ND         49         mg/Kg         1         5/16/2017 10:22:35 AM           85.8         70-130         %Rec         1         5/16/2017 10:22:35 AM           NGE         Analyst           ND         4.8         mg/Kg         1         5/16/2017 10:22:35 AM           NGE         Analyst         Analyst           ND         4.8         mg/Kg         1         5/16/2017 11:37:10 AM           90.9         54-150         %Rec         1         5/16/2017 11:37:10 AM           MD         0.024         mg/Kg         1         5/16/2017 11:37:10 AM           ND         0.048         mg/Kg         1         5/16/2017 11:37:10 AM           ND         0.048         mg/Kg         1         5/16/2017 11:37:10 AM           ND         0.048         mg/Kg         1         5/16/2017 11:37:10 AM           ND         0.096         mg/Kg         1         5/16/2017 11:37:10 AM

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

Q	ualifiers:	
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- Value exceeds Maximum Contaminant Level. \* D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 5 of 8 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- Sample container temperature is out of limit as specified W

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1705778

17-May-17

Client: APEX T	ITAN
Project: Lateral 20	2C-80
Sample ID LCS-31757	SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 31757 RunNo: 42805
Prep Date: 5/16/2017	Analysis Date: 5/16/2017 SeqNo: 1346453 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	48 10 50.00 0 96.5 73.2 114
Surr: DNOP	4.7 5.000 93.8 70 130
Sample ID MB-31757	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 31757 RunNo: 42805
Prep Date: 5/16/2017	Analysis Date: 5/16/2017 SeqNo: 1346454 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10
Motor Oil Range Organics (MRO)	ND 50
Surr: DNOP	8.3 10.00 83.4 70 130
Sample ID LCS-31741	SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 31741 RunNo: 42804
Prep Date: 5/15/2017	Analysis Date: 5/16/2017 SeqNo: 1346873 Units: %Rec
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	3.9 5.000 77.5 70 130
Sample ID MB-31741	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 31741 RunNo: 42804
Prep Date: 5/15/2017	Analysis Date: 5/16/2017 SeqNo: 1346874 Units: %Rec
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	8.5 10.00 84.9 70 130

**Qualifiers:** 

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

R RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
  - Analyte detected below quantitation limits
- P Sample pH Not In Range

J

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

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## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	1705778
	17-May-17

Client: APEX 7 Project: Lateral										
Sample ID MB-31750	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gasc	line Rang	e	
Client ID: PBS	Batch	ID: 31	750	F	RunNo: 4	2820				
Prep Date: 5/15/2017	Analysis D	ate: 5/	16/2017	5	SeqNo: 1	347048	Units: mg/M	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	980		1000		97.5	54	150			
Sample ID LCS-31750	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Client ID: LCSS	Batch	ID: 31	750	F	RunNo: 4	2820				
Prep Date: 5/15/2017	Analysis D	ate: 5/	16/2017	5	SeqNo: 1	347049	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	97.9	76.4	125			
Surr: BFB	1100		1000		105	54	150			

Qualifiers:

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

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Hall Environmental Analysis Laboratory, Inc.

Client: A Project: L

APEX TITAN Lateral 2C-80

Sample ID MB-31750	SampT	SampType: MBLK TestCode: EPA Method 8					8021B: Volat	tiles		
Client ID: PBS	Batch	ID: 31	750	R	unNo: 4	2820				
Prep Date: 5/15/2017	Analysis D	ate: 5/	16/2017	S	eqNo: 1	347081	Units: mg/M	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			
Sample ID LCS-31750	SampT	ype: LC	S	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch	ID: 31	750	F	RunNo: 4	2820				
Prep Date: 5/15/2017	Analysis D	ate: 5/	16/2017	S	eqNo: 1	347082	Units: mg/M	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.025	1.000	0	93.7	80	120			-
Toluene	0.95	0.050	1.000	0	94.8	80	· 120			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80	120			
Xylenes, Total	2.9	0.10	3.000	0	97.3	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	66.6	132			

Qualifiers:

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

J

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

WO#: 1705778

17-May-17

Page 8 of 8

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Alba TEL: 505-345-3975 Website: www.ha	4901 Haw uquerque, NN FAX: 505-34	kins NE 4 87109 S 45-4107	amp	e Log-in Ch	neck List
Client Name: APEX AZTEC	Work Order Number	1705778			RcptNo:	1
Received By: Anne Thorne	5/16/2017 7:20:00 AM		Arra , Arra	2-	-	
Completed By: Anne Thome Reviewed By:	5/18/2017 7:40:45 AM 5(16/17		Arre ,	Han		
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes 🗌	No		Not Present	
2. Is Chain of Custody complete?		Yes 🗹	No		Not Present	
3. How was the sample delivered?		<u>Courier</u>				
Log In				_		
4. Was an attempt made to cool the sample	us?	Yes 🗹	No		NA 🗌	
5. Were all samples received at a temperate	ure of >0° C to 6.0°C	Yes 🗹	No			
6. Sample(s) in proper container(s)?		Yes 🗹	No			
7. Sufficient sample volume for indicated tes	at(s)?	Yes 🔽	No			
8. Are samples (except VOA and ONG) prop	perly preserved?	Yes 🗹	No			
9. Was preservative added to bottles?		Yes 🗌	No		NA 🗆	
10. VOA vials have zero headspace?		Yes 🗌	No		No VOA Vials 🗹	
11. Were any sample containers received bro	oken?	Yes	No		# of preserved	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No		bottles checked for pH:	>12 unless noted)
13. Are matrices correctly identified on Chain	of Custody?	Yes 🖌	No		Adjusted?	
14. Is it clear what analyses were requested?		Yes 🗹	No			
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No		Checked by:	
Special Handling (If applicable) 16. Was client notified of all discrepancies will	th this order?	Yes 🗋	No		NA M	
Person Notified:				Misintainda <sup>4</sup>		
By Whom:	Date Via:	eMail [	Phone	Fav	In Person	
Regarding:				- ax		× 1
Client Instructions:				iki di si	ant de 15 hefelde binnerhild binderlik binderlik benarinsge	
17. Additional remarks:						1
18. <u>Cooler Information</u> Cooler No Temp °C Condition	Seal Intact Seal No	Seal Date	Signed I	By		
Page 1 of 1						

		CHAIN OF CUSTO	JDY RECORL
Office Location <u>Aztec NM</u> Conta Project Manager <u>K-Summers</u> PO/SC	atory: <u>A</u> <u>A</u> <u>A</u> <u>A</u> <u>A</u> <u>A</u> <u>A</u> <u>B</u> <u>A</u>	ANALYSIS REQUESTED	se only
Latteral ac-	-Sch	969 / / / / / /	
Matrix Date Time C G G I Identifying Marks of Sam		B     ////////////////////////////////////	(Lab Use Only)
			778-001
1 1410 ES-32			702
1420 ES-33			203
1430 ES-34			204
V V 1440 V ES-35			205
	JES_		
Turn around time INormal I 25% Rush I 50% Rus			
Supland 5115/17 1755	Received by: (Signature) Date: Date: Received by: (Signature) Date: Date:	Time: Bill to I om Long (	(EPPOD)
Refinquished by (Signature) Date: Time:	Received by: (Signature)		
Relinquished by (Signature) Date: Time:	Received by: (Signature) Date:		
Matrix WW - Wastewater W - Water S - Soil 1 Container VOA - 40 ml vial A/G - Amber / Or Glass 1		Charcoal tube SL - sludge O - Oil	

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204

1



May 25, 2017

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

OrderNo.: 1705858

Dear Kyle Summers:

RE: Lateral 2C-80

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/17/2017 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 <u>www.hallenvironmental.com</u> 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,

andig

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

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

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705858 Date Reported: 5/25/2017

CLIENT: APEX TITAN		Client Sample ID: ES-36									
Project: Lateral 2C-80		Collection Date: 5/16/2017 1:20:00 PM									
Lab ID: 1705858-001	Matrix: S	Matrix: SOIL			7/2017 7:30:00 AM						
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch					
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analys	t: AG					
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	5/17/2017 12:00:56 PM	R42857					
Surr: BFB	93.3	70-130	%Rec	1	5/17/2017 12:00:56 PM	A R42857					
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analys	t: TOM					
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/17/2017 10:35:59 AM	1 31779					
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	5/17/2017 10:35:59 AM	1 31779					
Surr: DNOP	73.8	70-130	%Rec	1	5/17/2017 10:35:59 AM	1 31779					
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analys	t: AG					
Benzene	ND	0.020	mg/Kg	1	5/17/2017 12:00:56 PM	A42857					
Toluene	ND	0.041	mg/Kg	1	5/17/2017 12:00:56 PM	A42857					
Ethylbenzene	ND	0.041	mg/Kg	1	5/17/2017 12:00:56 PM	A42857					
Xylenes, Total	ND	0.081	mg/Kg	1	5/17/2017 12:00:56 PM	A42857					
Surr: 1,2-Dichloroethane-d4	97.3	70-130	%Rec	1	5/17/2017 12:00:56 PM	A42857					
Surr: 4-Bromofluorobenzene	106	70-130	%Rec	1	5/17/2017 12:00:56 PM	A42857					
Surr: Dibromofluoromethane	110	70-130	%Rec	1	5/17/2017 12:00:56 PM	A42857					
Surr: Toluene-d8	114	70-130	%Rec	1	5/17/2017 12:00:56 PM	A42857					

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 1 of 8 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705858 Date Reported: 5/25/2017

CLIENT: APEX TITAN		Client Sample ID: ES-37									
Project: Lateral 2C-80		Collection Date: 5/16/2017 1:30:00 PM									
Lab ID: 1705858-002	Matrix: S	Matrix:         SOIL         Received Date: 5/17/2017 7:30:00 AM									
Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch					
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analys	t: AG					
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	5/17/2017 12:30:57 PI	A R42857					
Surr: BFB	95.8	70-130	%Rec	1	5/17/2017 12:30:57 PI	A R42857					
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analys	t: TOM					
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/17/2017 12:26:45 PI	A 31779					
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/17/2017 12:26:45 PI	/ 31779					
Surr: DNOP	75.4	70-130	%Rec	1	5/17/2017 12:26:45 PI	A 31779					
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analys	t: AG					
Benzene	ND	0.020	mg/Kg	1	5/17/2017 12:30:57 PI	A42857					
Toluene	ND	0.041	mg/Kg	1	5/17/2017 12:30:57 PI	A42857					
Ethylbenzene	ND	0.041	mg/Kg	1	5/17/2017 12:30:57 PI	A42857					
Xylenes, Total	ND	0.081	mg/Kg	1	5/17/2017 12:30:57 PI	A42857					
Surr: 1,2-Dichloroethane-d4	104	70-130	%Rec	1	5/17/2017 12:30:57 PI	A42857					
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	1	5/17/2017 12:30:57 PI	A42857					
Surr: Dibromofluoromethane	110	70-130	%Rec	1	5/17/2017 12:30:57 PM	A42857					
Surr: Toluene-d8	113	70-130	%Rec	1	5/17/2017 12:30:57 PM	A42857					

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

Q	u	a	li	fi	e	r	s	:	

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- Н
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % 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 8 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Date Reported: 5/25/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Sampl			
Project: Lateral 2C-80			Collection I	Date: 5/1	6/2017 1:40:00 PM	
Lab ID: 1705858-003	Matrix:	SOIL	Received I	Date: 5/1	7/2017 7:30:00 AM	
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOLINE	RANGE				Analyst:	AG
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	5/17/2017 1:00:16 PM	R42857
Surr: BFB	92.9	70-130	%Rec	1	5/17/2017 1:00:16 PM	R42857
EPA METHOD 8015M/D: DIESEL RANG		5			Analyst:	том
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	5/17/2017 11:20:07 AM	31779
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/17/2017 11:20:07 AM	31779
Surr: DNOP	75.8	70-130	%Rec	1	5/17/2017 11:20:07 AM	31779
EPA METHOD 8260B: VOLATILES SHO	ORT LIST				Analyst:	AG
Benzene	ND	0.022	mg/Kg	1	5/17/2017 1:00:16 PM	A42857
Toluene	ND	0.044	mg/Kg	1	5/17/2017 1:00:16 PM	A42857
Ethylbenzene	ND	0.044	mg/Kg	1	5/17/2017 1:00:16 PM	A42857
Xylenes, Total	ND	0.088	mg/Kg	1	5/17/2017 1:00:16 PM	A42857
Surr: 1,2-Dichloroethane-d4	96.6	70-130	%Rec	1	5/17/2017 1:00:16 PM	A42857
Surr: 4-Bromofluorobenzene	101	70-130	%Rec	1	5/17/2017 1:00:16 PM	A42857
Surr: Dibromofluoromethane	109	70-130	%Rec	1	5/17/2017 1:00:16 PM	A42857
Surr: Toluene-d8	116	70-130	%Rec	1	5/17/2017 1:00:16 PM	A42857

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

Qualifi	iers:
---------	-------

- \* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705858 Date Reported: 5/25/2017

CLIENT: APEX TITAN		Client Sample ID: EW-1									
Project: Lateral 2C-80			Collection ]	Date: 5/1	6/2017 1:50:00 PM						
Lab ID: 1705858-004	Matrix: S	Matrix: SOIL			7/2017 7:30:00 AM						
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch					
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analys	t: AG					
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/17/2017 1:29:21 PM	R42857					
Surr: BFB	91.9	70-130	%Rec	1	5/17/2017 1:29:21 PM	R42857					
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analys	t: TOM					
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	5/17/2017 11:42:11 AM	1 31779					
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	5/17/2017 11:42:11 AM	1 31779					
Surr: DNOP	76.9	70-130	%Rec	1	5/17/2017 11:42:11 AM	1 31779					
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analys	t: AG					
Benzene	ND	0.025	mg/Kg	1	5/17/2017 1:29:21 PM	A42857					
Toluene	ND	0.049	mg/Kg	1	5/17/2017 1:29:21 PM	A42857					
Ethylbenzene	ND	0.049	mg/Kg	1	5/17/2017 1:29:21 PM	A42857					
Xylenes, Total	ND	0.099	mg/Kg	1	5/17/2017 1:29:21 PM	A42857					
Surr: 1,2-Dichloroethane-d4	99.8	70-130	%Rec	1	5/17/2017 1:29:21 PM	A42857					
Surr: 4-Bromofluorobenzene	110	70-130	%Rec	1	5/17/2017 1:29:21 PM	A42857					
Surr: Dibromofluoromethane	107	70-130	%Rec	1	5/17/2017 1:29:21 PM	A42857					
Surr: Toluene-d8	118	70-130	%Rec	1	5/17/2017 1:29:21 PM	A42857					

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

**Qualifiers:** 

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 8 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**

W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705858 Date Reported: 5/25/2017

	Client Sample ID: EW-2										
	Collection Date: 5/16/2017 2:00:00 PM										
Matrix: S	Matrix: SOIL			7/2017 7:30:00 AM							
Result	PQL Qual	Units	DF	Date Analyzed	Batch						
INE RANGE				Analys	t: AG						
ND	3.7	mg/Kg	1	5/17/2017 1:58:15 PM	R42857						
90.4	70-130	%Rec	1	5/17/2017 1:58:15 PM	R42857						
ANGE ORGANICS				Analys	t: TOM						
ND	9.5	mg/Kg	1	5/17/2017 12:04:35 PM	1 31779						
ND	47	mg/Kg	1	5/17/2017 12:04:35 PM	31779						
79.2	70-130	%Rec	1	5/17/2017 12:04:35 PM	31779						
SHORT LIST				Analys	t: AG						
ND	0.018	mg/Kg	1	5/17/2017 1:58:15 PM	A42857						
ND	0.037	mg/Kg	1	5/17/2017 1:58:15 PM	A42857						
ND	0.037	mg/Kg	1	5/17/2017 1:58:15 PM	A42857						
ND	0.073	mg/Kg	1	5/17/2017 1:58:15 PM	A42857						
95.7	70-130	%Rec	1	5/17/2017 1:58:15 PM	A42857						
104	70-130	%Rec	1	5/17/2017 1:58:15 PM	A42857						
109	70-130	%Rec	1	5/17/2017 1:58:15 PM	A42857						
112	70-130	%Rec	1	5/17/2017 1:58:15 PM	A42857						
	Result INE RANGE ND 90.4 ANGE ORGANICS ND ND 79.2 SHORT LIST ND ND ND ND ND ND ND ND ND 104 109	Matrix:         SOIL           Result         PQL         Qual           INE RANGE         3.7         90.4         70-130           ANGE ORGANICS         70-130         70-130         70-130           ND         9.5         70-130         70-130           SHORT LIST         70-130         70-130         70-130           ND         0.037         70-130         70-130           ND         0.037         70-130         70-130           ND         0.073         70-130         70-130           ND         0.073         70-130         70-130           104         70-130         70-130         70-130	Matrix:         SOIL         Collection I           Result         PQL         Qual         Received I           Result         PQL         Qual         Units           INE RANGE	Matrix:         SOIL         Received Date:         5/1           Result         PQL         Qual         Units         DF           INE RANGE         ND         3.7         mg/Kg         1           90.4         70-130         %Rec         1           ANGE ORGANICS         ND         9.5         mg/Kg         1           ND         9.5         mg/Kg         1         1           79.2         70-130         %Rec         1         1           SHORT LIST         ND         0.018         mg/Kg         1           ND         0.037         mg/Kg         1           ND         0.037         mg/Kg         1           ND         0.013         mg/Kg         1           ND         0.037         mg/Kg         1           ND         0.037         mg/Kg         1           ND         0.073         mg/Kg         1           ND         0.073         mg/Kg         1           ND         0.073         mg/Kg         1           ND         0.073         mg/Kg         1           ND         0.7130         %Rec         1	Matrix: SOIL         Collection Date: 5/16/2017 2:00:00 PM           Matrix: SOIL         Received Date: 5/17/2017 7:30:00 AM           Result         PQL         Qual         Units         DF         Date Analyzed           INE RANGE         Analysi         Analysi         Analysi         Analysi           ND         3.7         mg/Kg         1         5/17/2017 1:58:15 PM         Analysi           90.4         70-130         %Rec         1         5/17/2017 1:58:15 PM         Analysi           ANGE ORGANICS          Anage         1         5/17/2017 1:58:15 PM         Analysi           ND         9.5         mg/Kg         1         5/17/2017 1:204:35 PM         Analysi           ND         9.5         mg/Kg         1         5/17/2017 1:204:35 PM         Analysi           ND         9.5         mg/Kg         1         5/17/2017 1:204:35 PM         Analysi           ND         0.018         mg/Kg         1         5/17/2017 1:58:15 PM         Analysi           ND         0.037         mg/Kg         1         5/17/2017 1:58:15 PM         Analysi           ND         0.037         mg/Kg         1         5/17/2017 1:58:15 PM         Analysi         Analysi <td< td=""></td<>						

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

Qualifiers:

- \* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % 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 5 of 8 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1705858

Qual

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25-May-17

	X TITAN al 2C-80								
Sample ID MB-31779	SampT	ype: ME	BLK	Test	tCode: El	PA Method	8015M/D: Die	esel Range	e Organics
Client ID: PBS	Batch	ID: 31	779	R	RunNo: 4	2843			
Prep Date: 5/17/2017	Analysis D	ate: 5/	17/2017	S	eqNo: 1	347977	Units: mg/K	g	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit
Diesel Range Organics (DRO)	ND	10							

Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.3		10.00		73.2	70	130		1	
Sample ID LCS-31779	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	0
Client ID: LCSS	Batch	n ID: 31	779	F	RunNo: 4	2848				
Prep Date: 5/17/2017	Analysis D	ate: 5/	17/2017	5	SeqNo: 1	348461	Units: mg/h	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	49	10	50.00	0	97.8	73.2	114			
Surr: DNOP	4.6		5.000		92.8	70	130			

#### Qualifiers:

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

## **QC SUMMARY REPORT** Hall Environmental Analysis Laboratory, Inc.

**Client: Project:** 

APEX TITAN Lateral 2C-80

Sample ID rb	SampT	Type: ME	BLK	Tes	TestCode: EPA Method 8260B: Volatiles Short List					
Client ID: PBS	Batcl	h ID: A4	2857	F	RunNo: 4	2857				
Prep Date:	Analysis D	Date: 5/	17/2017	S	eqNo: 1	348266	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	0.53		0.5000		105	70	130			
Surr: 4-Bromofluorobenzene	0.56		0.5000		111	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.52		0.5000		104	70	130			
Sample ID 100ng Ics	Samp	Type: LC	S	Tes	tCode: El	PA Method	8260B: Volat	tiles Short	List	
Client ID: LCSS	Batc	h ID: A4	2857	F	RunNo: 4	2857				
Prep Date:	Analysis D	Date: 5/	17/2017	S	SeqNo: 1	348776	Units: mg/K	٤g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.3	0.025	1.000	0	125	70	130			
Toluene	1.2	0.050	1.000	0	116	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		106	70	130			
Surr: 4-Bromofluorobenzene	0.54		0.5000		107	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.50		0.5000		99.4	70	130			

Qualifiers:

Value exceeds Maximum Contaminant Level. \*

D Sample Diluted Due to Matrix

- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W

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25-May-17

- Sample container temperature is out of limit as specified

WO#: 1705858

WO#: 1705858

25-May-17

Client: APEX Project: Lateral										
Sample ID rb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: PBS	Batch	ID: <b>R4</b>	2857	F	RunNo: 4	2857				
Prep Date:	Analysis D	ate: 5/	17/2017	S	SeqNo: 1	348274	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	480		500.0		96.2	70	130			
Sample ID 2.5ug gro lcs	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D Mod:	Gasoline	Range	
Client ID: LCSS	Batch	ID: <b>R4</b>	2857	F	RunNo: 4	2857				
Prep Date:	Analysis D	ate: 5/	17/2017	S	SeqNo: 1	348779	Units: mg/M	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	30	5.0	25.00	0	119	70	130			
Surr: BFB	490		500.0		98.8	70	130			

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

- Page 8 of 8

ANALY	ONMENTAL SIS Atory	Hall Environmental Albu Albu TEL: 505-345-3975 Website: www.hal	4901 querque FAX: 50	Hawkins N 9, NM 8710 95-345-410		Sample Log-In Check Li					
Client Name:	APEX AZTEC	Work Order Number:	17058	58		RcptNo:	1				
Received By:	Anne Thorne	5/17/2017 7:30:00 AM			Anne Hom	-					
Completed By: Reviewed By:	Anne Thorne ENM	5/17/2017 7:52:16 AM 05/17/17			Arre Ham	-					
Chain of Cust	ody										
1. Custody seals	s intact on sample bottles?		Yes		No 🗌	Not Present					
2. Is Chain of Cu	ustody complete?		Yes	$\checkmark$	No 🗌	Not Present					
3. How was the	sample delivered?		Cour	er							
Log In											
4. Was an atten	npt made to cool the sample	s?	Yes	$\checkmark$	No 🗌	NA 🗆					
5. Were all sam	ples received at a temperatu	re of >0° C to 6.0°C	Yes		No 🗌						
6. Sample(s) in	proper container(s)?		Yes		No 🗌						
7. Sufficient sam	nple volume for indicated tes	t(s)?	Yes		No 🗌						
8. Are samples (	(except VOA and ONG) prop	erly preserved?	Yes	$\checkmark$	No 🗌						
9. Was preserva	ative added to bottles?		Yes		No 🗹	NA					
10.VOA vials hav	ve zero headspace?		Yes		No 🗔	No VOA Vials 🗹					
11. Were any sar	mple containers received bro	ken?	Yes		No 🗹 🏾	# of preserved					
	ork match bottle labels? ancies on chain of custody)		Yes		No 🗆	for pH:	>12 unless noted)				
13. Are matrices	correctly identified on Chain	of Custody?	Yes	$\checkmark$	No 🗆	Adjusted?					
14. Is it clear wha	it analyses were requested?		Yes	$\checkmark$	No 🗌						
	ing times able to be met? sustomer for authorization.)		Yes		No 🗌	Checked by:					
Special Handl	ing (if applicable)										
	tified of all discrepancies wit	h this order?	Yes		No 🗔	NA 🗹					
Person	Notified:	Date									
By Who	om:	Via: [	eMa	il 📋 Ph	ione 🗌 Fax	In Person	80 80 91 10				
Regardi	ing:		n <u>in fa-da sa sa sa</u> sa	<u></u>							
Client Ir	nstructions:					······································					
17. Additional ren	marks:										
18. <u>Cooler Infor</u> Cooler No	Temp °C Condition	Seal Intact   Seal No   3	Seal Da	ite i	Signed By						
Page 1 of	1										

																		CH	IAIN OF	CUSTODY RECORD
1	A					Laboratory:	+	11						ANALYSI REQUES	S TED	0	/	//	11	Lab use only Due Date:
Δ	PEX	, ,				Addrose:	-110	1RA	NO	11					E	K/	11	1		
	e Locatio	· .	-+-	-	ANIA	Address: _		100	five	4		Charlon Congre	anadoren .		6au DAN	1		/ /		Temp. of coolers //O when received (C"):
Olik	e Locaio		218		NM	Contact:	A	T	row	NI V	)				L &	·//	1	11	11	1 2 3 4 5
						Phone:	,							Ŕ	U/±	11	1		11	Pagelot
Proi	ect Mana	oer K	SN	NW P	nux	PO/SO #: _								C C	tel.		11		/ /	
Sam	ler's Name				0	Sampler's Sign	ature							15	11/	1.		/ /	/	
R	ance	-Decc	hill	v,	Ame	Deechil	lu							SUAL RT	30%		/		/	
Proj.				ect Na	ume		1		No/Ty	/pe of (	Contain	ers		70	0/	/ /	/ /		/	
			-		atera	26-80	-				, ,					/ /	/ /	/ /		
Matrix	Date	Time	CoEp	Grab	Identifying Ma	irks of Sample(s)	Start	End	VOA	AG	250 ml	Glass	D/d		//			11	Lab S	ample ID (Lab Use Only)
5	5/10/17	1320	X		ES	- 36						1		XX						1705555-00
1	1	1330	1		Es	- 37						1		11						-7.02
		1340			E	5-38						1								-763
		1350			E	W-I						1								-704
V	V	1400	V		E	W-2								VV					÷.	-25
-																				
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Y	uished by	er.				37 / 1	ALL	the	Ju	Ł	5	110	17	1037	NOTED		2.0	1	Day I a	ug (EPROD)
	quished by				Date:	Time: Repeir	Dh	(Signa	ture)		~	Date S//	7/1	Time: 07.30		1				
Relinquished by (Signature) Date: Time: Received by: (Sig						ature)	-		Date		Time:					A 3003	-			
Relinquished by (Signature) Date: Time: Received by: (Sign				(Signa	iture)			Date	1	Time:			2	SAM	EDA	Y				
r againt	deronee eA	(oignataro)			outor			10.9.10								3				r
Matrix		V - Wastews A - 40 ml vis				S - Soil SD - So or Glass 1 Liter	lid l	- Liqui 250 ml -	d A Glass	- Air B wide m	ag outh			rccal tube astic or other	SL - sludg	e C	- Oil			

Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204



May 19, 2017

Kyle Summers APEX TITAN 606 S. Rio Grande Unit A Aztec, NM 87410 TEL: (903) 821-5603 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: <u>www.hallenvironmental.com</u>

RE: Lateral 2C 80

OrderNo.: 1705936

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/18/2017 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> 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,

andial

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

#### Date Reported: 5/19/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN	Client Sample ID: ES-39										
Project: Lateral 2C 80			Collection ]	Date: 5/17/2017 11:00:00 AM							
Lab ID: 1705936-001	Matrix:	MEOH (SOIL)	Received 1	Date: 5/18/2017 6:45:00 AM							
Analyses	Result	PQL Qua	l Units	DF Date Analyzed B	Batch						
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S		Analyst: J	JME						
Diesel Range Organics (DRO)	ND	10	mg/Kg	1 5/18/2017 10:18:00 AM 3	31809						
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1 5/18/2017 10:18:00 AM 3	31809						
Surr: DNOP	95.3	70-130	%Rec	1 5/18/2017 10:18:00 AM 3	31809						
EPA METHOD 8015D: GASOLINE RAI	NGE			Analyst: N	ISB						
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1 5/18/2017 12:33:23 PM 0	G4288						
Surr: BFB	102	54-150	%Rec	1 5/18/2017 12:33:23 PM 0	G4288						
EPA METHOD 8021B: VOLATILES				Analyst: N	SB						
Benzene	ND	0.023	mg/Kg	1 5/18/2017 12:33:23 PM E	34288						
Toluene	ND	0.047	mg/Kg	1 5/18/2017 12:33:23 PM E	34288						
Ethylbenzene	ND	0.047	mg/Kg	1 5/18/2017 12:33:23 PM E	34288						
Xylenes, Total	ND	0.094	mg/Kg	1 5/18/2017 12:33:23 PM E	34288						
Surr: 4-Bromofluorobenzene	110	66.6-132	%Rec	1 5/18/2017 12:33:23 PM E	34288						

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

Qualifiers:

\*

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

Date Reported: 5/19/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Project: Lateral 2C 80		Client Sample ID: ES-40 Collection Date: 5/17/2017 11:10:00 AM									
Lab ID: 1705936-002	Matrix:	MEOH (SOIL)	Received	<b>Date: 5/1</b>	18/2017 6:45:00 AM						
Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch					
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analys	t: JME					
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/18/2017 10:40:13 AM	31809					
Motor Oil Range Organics (MRO)	ND	49	mg/Kg	1	5/18/2017 10:40:13 AM	31809					
Surr: DNOP	94.5	70-130	%Rec	1	5/18/2017 10:40:13 AM	31809					
EPA METHOD 8015D: GASOLINE RAN	IGE				Analys	t: NSB					
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	5/18/2017 1:44:20 PM	G42888					
Surr: BFB	102	54-150	%Rec	1	5/18/2017 1:44:20 PM	G42888					
EPA METHOD 8021B: VOLATILES					Analys	t: NSB					
Benzene	ND	0.024	mg/Kg	1	5/18/2017 1:44:20 PM	B42888					
Toluene	ND	0.049	mg/Kg	1	5/18/2017 1:44:20 PM	B42888					
Ethylbenzene	ND	0.049	mg/Kg	1	5/18/2017 1:44:20 PM	B42888					
Xylenes, Total	ND	0.097	mg/Kg	1	5/18/2017 1:44:20 PM	B42888					
Surr: 4-Bromofluorobenzene	109	66.6-132	%Rec	1	5/18/2017 1:44:20 PM	B42888					

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Value above quantitation range Е
- Analyte detected below quantitation limits Page 2 of 9 J
- P Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

#### Date Reported: 5/19/2017

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN		Client Sample ID: ES-41										
Project: Lateral 2C 80			Collection	Date: 5/1	7/2017 11:20:00 AM							
Lab ID: 1705936-003	Matrix:	MEOH (SOIL)	Received	<b>Date: 5</b> /1	8/2017 6:45:00 AM							
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch						
EPA METHOD 8015M/D: DIESEL RAN		S			Analyst	JME						
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	5/18/2017 11:02:19 AM	31809						
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	5/18/2017 11:02:19 AM	31809						
Surr: DNOP	93.2	70-130	%Rec	1	5/18/2017 11:02:19 AM	31809						
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst	NSB						
Gasoline Range Organics (GRO)	ND	5.1	mg/Kg	1	5/18/2017 2:54:54 PM	G42888						
Surr: BFB	102	54-150	%Rec	1	5/18/2017 2:54:54 PM	G42888						
EPA METHOD 8021B: VOLATILES					Analyst	NSB						
Benzene	ND	0.025	mg/Kg	1	5/18/2017 2:54:54 PM	B42888						
Toluene	ND	0.051	mg/Kg	1	5/18/2017 2:54:54 PM	B42888						
Ethylbenzene	ND	0.051	mg/Kg	1	5/18/2017 2:54:54 PM	B42888						
Xylenes, Total	ND	0.10	mg/Kg	1	5/18/2017 2:54:54 PM	B42888						
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	5/18/2017 2:54:54 PM	B42888						

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Ε Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 9 J
- Р Sample pH Not In Range
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705936 Date Reported: 5/19/2017

CLIENT: APEX TITAN	Client Sample ID: ES-42										
Project: Lateral 2C 80			Collection I	Date: 5/1	7/2017 11:30:00 AM						
Lab ID: 1705936-004	Matrix:	MEOH (SOIL)	) Received I	Received Date: 5/18/2017 6:45:00 AM							
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch					
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst	: JME					
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	5/18/2017 11:24:59 AN	31809					
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	5/18/2017 11:24:59 AM	31809					
Surr: DNOP	93.0	70-130	%Rec	1	5/18/2017 11:24:59 AM	31809					
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	: NSB					
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	5/18/2017 3:18:24 PM	G42888					
Surr: BFB	103	54-150	%Rec	1	5/18/2017 3:18:24 PM	G42888					
EPA METHOD 8021B: VOLATILES					Analyst	: NSB					
Benzene	ND	0.024	mg/Kg	1	5/18/2017 3:18:24 PM	B42888					
Toluene	ND	0.048	mg/Kg	1	5/18/2017 3:18:24 PM	B42888					
Ethylbenzene	ND	0.048	mg/Kg	1	5/18/2017 3:18:24 PM	B42888					
Xylenes, Total	ND	0.097	mg/Kg	1	5/18/2017 3:18:24 PM	B42888					
Surr: 4-Bromofluorobenzene	108	66.6-132	%Rec	1	5/18/2017 3:18:24 PM	B42888					

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
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % 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 4 of 9 J
- Sample pH Not In Range P
- RL **Reporting Detection Limit**
- W Sample container temperature is out of limit as specified

### Hall Environmental Analysis Laboratory, Inc.

Lab Order 1705936 Date Reported: 5/19/2017

CLIENT: APEX TITAN		Client Sample ID: ES-43										
Project: Lateral 2C 80			<b>Collection</b> I	Date: 5/1	7/2017 3:00:00 PM							
Lab ID: 1705936-005	Matrix:	MEOH (SOIL	) Received I	Date: 5/1	8/2017 6:45:00 AM							
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch						
EPA METHOD 8015M/D: DIESEL RANG		S			Analyst	JME						
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	5/18/2017 11:47:07 AM	31809						
Motor Oil Range Organics (MRO)	ND	47	mg/Kg	1	5/18/2017 11:47:07 AM	31809						
Surr: DNOP	96.7	70-130	%Rec	1	5/18/2017 11:47:07 AM	31809						
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB						
Gasoline Range Organics (GRO)	ND	5.1	mg/Kg	1	5/18/2017 5:16:25 PM	G42888						
Surr: BFB	102	54-150	%Rec	1	5/18/2017 5:16:25 PM	G42888						
EPA METHOD 8021B: VOLATILES					Analyst	NSB						
Benzene	ND	0.025	mg/Kg	1	5/18/2017 5:16:25 PM	B42888						
Toluene	ND	0.051	mg/Kg	1	5/18/2017 5:16:25 PM	B42888						
Ethylbenzene	ND	0.051	mg/Kg	1	5/18/2017 5:16:25 PM	B42888						
Xylenes, Total	ND	0.10	mg/Kg	1	5/18/2017 5:16:25 PM	B42888						
Surr: 4-Bromofluorobenzene	107	66.6-132	%Rec	1	5/18/2017 5:16:25 PM	B42888						

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

Qualifiers:

\*

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

Value exceeds Maximum Contaminant Level.

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 5 of 9 J
- 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#: 1705936

19-May-17

Client: Project:	APEX TI Lateral 20							9			
Sample ID	LCS-31809	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	ID: 31	809	R	RunNo: 4	2876				
Prep Date:	5/18/2017	Analysis D	ate: 5/	18/2017	S	SeqNo: 1	349092	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	rganics (DRO)	48	10	50.00	0	96.5	73.2	114			
Surr: DNOP		4.6		5.000		91.5	70	130			
Sample ID	MB-31809	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	ID: 31	809	F	RunNo: 4	2876				
Prep Date:	5/18/2017	Analysis D	ate: 5/	18/2017	S	SeqNo: 1	349093	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	rganics (DRO)	ND	10								
	e Organics (MRO)	ND	50			-					
Surr: DNOP		9.0		10.00		89.7	70	130			
Sample ID	MB-31799	SampT	ype: MB	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	ID: 31	799	F	RunNo: 4	2879				
Prep Date:	5/17/2017	Analysis D	ate: 5/	18/2017	S	SeqNo: 1	349181	Units: %Re	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		9.2		10.00		92.1	70	130			in the second
Sample ID	LCS-31799	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	ID: 31	799	F	RunNo: 4	2879				
Prep Date:	5/17/2017	Analysis D	ate: 5/	18/2017	S	SeqNo: 1	349182	Units: %Re	С		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.5		5.000		89.4	70	130			
Sample ID	1705936-001AMS	SampT	ype: MS	5	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	ES-39	Batch	ID: 31	809		RunNo: 4					
Prep Date:	5/18/2017	Analysis D	ate: 5	18/2017	s	SeqNo: 1	349516	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	organics (DRO)	48	9.9	49.31	5.337	85.8	55.8	122			
Surr: DNOP		4.5		4.931		90.7	70	130			
Sample ID	1705936-001AMSE	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	ES-39	Batch	ID: 31	809	F	RunNo: 4	2879				
Prep Date:	5/18/2017	Analysis D	ate: 5	18/2017	s	SeqNo: 1	349517	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diagol Dango (	rganics (DRO)	52	9.9	49.46	5.337	94.0	55.8	122	8.43	20	

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

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

Analyte detected below quantitation limits

P Sample pH Not In Range

J

RL Reporting Detection Limit

W Sample container temperature is out of limit as specified

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## Hall Environmental Analysis Laboratory, Inc.

APEX TITAN **Client: Project:** Lateral 2C 80

Sample ID	1705936-001AMSD	SampTyp	e: MS	D	Test	Code:	EPA Method	8015M/D: Die	sel Range	e Organics	
Client ID:	ES-39	Batch ID	): 318	309	R	unNo:	42879				
Prep Date:	5/18/2017	Analysis Date	e: 5/	18/2017	S	eqNo:	1349517	Units: mg/K	g		
Analyte		Result I	PQL	SPK value	SPK Ref Val	%REC	C LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.7		4.946		94.9	9 70	130	0	0	

#### **Qualifiers:**

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

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1705936

19-May-17

WO#:

WO#: 1705936

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19-May-17

### Hall Environmental Analysis Laboratory, Inc.

Client: Project:	APEX TI Lateral 20										
Sample ID		SampTy						8015D: Gaso	oline Rang	e	
Client ID:	PB2		ID: G4			tunNo: 4					
Prep Date:		Analysis Da	ate: 5/	18/2017	5	eqNo: 1	349875	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	e Organics (GRO)	ND 990	5.0	1000		99.5	54	150			
Sample ID	2.5UG GRO LCS	SampTy	pe: LC	s	Tes	Code: El	PA Method	8015D: Gaso	line Rang	e	
Client ID:	LCSS	Batch	ID: G4	2888	R	unNo: 4	2888				
Prep Date:		Analysis Da	ate: 5/	18/2017	S	eqNo: 1	349876	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	e Organics (GRO)	26	5.0	25.00	0	105	76.4	125			
Surr: BFB		1100		1000		108	54	150			
Sample ID	1705936-002AMS	SampT	pe: MS	6	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	ES-40	Batch	ID: G4	2888	R	unNo: 4	2888				
Prep Date:		Analysis Da	ate: 5/	18/2017	S	eqNo: 1	349879	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	27	4.9	24.27	0	111	61.3	150			
Surr: BFB		1100		970.9		112	54	150			
Sample ID	1705936-002AMS	SampT	pe: MS	SD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
		2888	RunNo: <b>42888</b>								
Client ID:	ES-40	Batch	ID. G.	12000							
Client ID: Prep Date:	ES-40	Analysis Da				eqNo: 1	349880	Units: mg/k	(g		
	ES-40			18/2017			349880 LowLimit	Units: <b>mg//</b> HighLimit	<b>(g</b> %RPD	RPDLimit	Qual
Prep Date: Analyte	e Organics (GRO)	Analysis Da	ate: 5/	18/2017	S			-	•	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
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental	Analysis	Labora	tory, Inc.	
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Client: Project:

APEX TITAN Lateral 2C 80

Project: Latera	u 20 00									
Sample ID RB	SampT	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batcl	h ID: <b>B4</b>	2888	F	RunNo: 4	2888				
Prep Date:	Analysis E	Date: 5/	18/2017	s	SeqNo: 1	349905	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	66.6	132			
Sample ID 100NG BTEX L	Tes	tCode: El	PA Method	8021B: Volat	tiles					
Client ID: LCSS	F	RunNo: 4	2888							
Prep Date:	Analysis D	Date: 5/	18/2017	S	SeqNo: 1	349906	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.88	0.025	1.000	0	88.4	80	120			
Toluene	0.88	0.050	1.000	0	87.5	80	120			
Ethylbenzene	0.87	0.050	1.000	0	87.4	80	120			
				0	87.1	80	120			
	2.6	0.10	3.000	0	07.1	00	120			
	2.6 1.1	0.10	3.000 1.000	0	109	66.6	132			
Xylenes, Total	1.1	0.10 Гуре: <b>MS</b>	1.000		109	66.6		tiles		
Xylenes, Total Surr: 4-Bromofluorobenzene	1.1 <b>MS</b> SampT		1.000	Tes	109	66.6 PA Method	132	tiles		
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001A</b>	1.1 <b>MS</b> SampT	Гуре: <b>MS</b> h ID: <b>B4</b>	1.000 5 2888	Tes	109 tCode: El	66.6 PA Method 2888	132			z
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AM</b> Client ID: <b>ES-39</b>	1.1 MS SampT Batcl	Гуре: <b>MS</b> h ID: <b>B4</b>	1.000 5 2888 18/2017	Tes	109 tCode: El RunNo: 4	66.6 PA Method 2888	132 8021B: Vola		RPDLimit	Qual
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte	1.1 MS SampT Batcl Analysis D	Гуре: <b>MS</b> h ID: <b>B4</b> Date: <b>5</b> /	1.000 5 2888 18/2017	Tes F	109 tCode: El RunNo: 4 SeqNo: 1	66.6 PA Method 2888 349912	132 8021B: Volat Units: mg/M	(g	RPDLimit	Qual
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene	1.1 MS SampT Batcl Analysis E Result	Гуре: <b>MS</b> h ID: <b>B4</b> Date: <b>5</b> / PQL	1.000 5 2888 18/2017 SPK value	Tes F S SPK Ref Val	109 tCode: El RunNo: 4 SeqNo: 1 %REC	66.6 PA Method 2888 349912 LowLimit	132 <b>8021B: Vola</b> t Units: <b>mg/H</b> HighLimit	(g	RPDLimit	Qual
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene	1.1 MS SampT Batcl Analysis E Result 0.83	Fype: <b>MS</b> h ID: <b>B4</b> Date: <b>5</b> / PQL 0.023	1.000 2888 18/2017 SPK value 0.9372	Tes F S SPK Ref Val 0	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9	66.6 PA Method 2888 349912 LowLimit 61.5	132 8021B: Volat Units: mg/k HighLimit 138	(g	RPDLimit	Qual
Kylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene Ethylbenzene	1.1 MS SampT Batcl Analysis D Result 0.83 0.81	Гуре: MS h ID: B4 Date: 5/ PQL 0.023 0.047	1.000 2888 18/2017 SPK value 0.9372 0.9372	Tes F SPK Ref Val 0 0.01654	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7	66.6 PA Method 2888 349912 LowLimit 61.5 71.4	132 8021B: Volat Units: mg/M HighLimit 138 127	(g	RPDLimit	Qual
Kylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene Ethylbenzene	1.1 MS SampT Batcl Analysis D Result 0.83 0.81 0.82	Fype: MS h ID: B4 Date: 5/ PQL 0.023 0.047 0.047	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372	Tes F S SPK Ref Val 0 0.01654 0	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9	132 8021B: Volat Units: mg/k HighLimit 138 127 132	(g	RPDLimit	Qual
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	1.1 MS SampT Batcl Analysis D Result 0.83 0.81 0.82 2.5 1.0	Fype: MS h ID: B4 Date: 5/ PQL 0.023 0.047 0.047	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372 2.812 0.9372	Tes F SPK Ref Val 0 0.01654 0 0.03475	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4 87.4 87.1 109	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9 76.2 66.6	132 8021B: Volat Units: mg/k HighLimit 138 127 132 123	<b>%</b> RPD	RPDLimit	Qual
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene	1.1 MS Samp <sup>T</sup> Batcl Analysis E Result 0.83 0.81 0.82 2.5 1.0 MSD Samp <sup>T</sup>	Type: <b>MS</b> h ID: <b>B4</b> Date: <b>5</b> / PQL 0.023 0.047 0.047 0.094	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372 2.812 0.9372 30 50	Tes F S SPK Ref Val 0 0.01654 0 0.03475 Tes	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4 87.4 87.1 109	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9 76.2 66.6 PA Method	132 8021B: Volat Units: mg/k HighLimit 138 127 132 123 132	<b>%</b> RPD	RPDLimit	Qual
Kylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Kylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b>	1.1 MS Samp <sup>T</sup> Batcl Analysis E Result 0.83 0.81 0.82 2.5 1.0 MSD Samp <sup>T</sup>	Type: MS h ID: B4 Date: 5/ PQL 0.023 0.047 0.094 Type: MS h ID: B4	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372 2.812 0.9372 5D 2888	Tes F SPK Ref Val 0 0.01654 0 0.03475 Tes F	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4 87.1 109 tCode: El	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9 76.2 66.6 PA Method 2888	132 8021B: Volat Units: mg/k HighLimit 138 127 132 123 132	Kg %RPD	RPDLimit	Qual
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b>	1.1 MS SampT Batcl Analysis D Result 0.83 0.81 0.82 2.5 1.0 MSD SampT Batcl	Type: MS h ID: B4 Date: 5/ PQL 0.023 0.047 0.094 Type: MS h ID: B4	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372 2.812 0.9372 5D 2888 18/2017	Tes F SPK Ref Val 0 0.01654 0 0.03475 Tes F	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4 87.4 87.1 109 tCode: El RunNo: 4	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9 76.2 66.6 PA Method 2888	132 8021B: Volat Units: mg/M HighLimit 138 127 132 123 132 8021B: Volat	Kg %RPD	RPDLimit	Qual
Kylenes, Total         Surr: 4-Bromofluorobenzene         Sample ID       1705936-001AN         Client ID:       ES-39         Prep Date:         Analyte         Benzene         Toluene         Ethylbenzene         Kylenes, Total         Surr: 4-Bromofluorobenzene         Sample ID         1705936-001AN         Client ID:         ES-39         Prep Date:         Analyte	1.1 MS SampT Batcl Analysis D Result 0.83 0.81 0.82 2.5 1.0 MSD SampT Batcl Analysis D	Type: MS h ID: B4 Date: 5/ PQL 0.023 0.047 0.047 0.094 Type: MS h ID: B4 Date: 5/	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372 2.812 0.9372 5D 2888 18/2017	Tes SPK Ref Val 0 0.01654 0 0.03475 Tes F S	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4 87.4 87.1 109 tCode: El RunNo: 4 SeqNo: 1	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9 76.2 66.6 PA Method 2888 349914	132 8021B: Volat Units: mg/k HighLimit 138 127 132 123 132 8021B: Volat Units: mg/k	Kg %RPD tiles		
Kylenes, Total         Surr: 4-Bromofluorobenzene         Sample ID       1705936-001AN         Client ID:       ES-39         Prep Date:       Analyte         Benzene       Foluene         Ethylbenzene       Kylenes, Total         Surr: 4-Bromofluorobenzene       Sample ID         Totospace-001AN       Client ID:         ES-39       Prep Date:         Analyte       Banzene         Sample ID       1705936-001AN         Client ID:       ES-39         Prep Date:       Analyte         Benzene       Banzene	1.1 MS SampT Batcl Analysis E Result 0.83 0.81 0.82 2.5 1.0 MSD SampT Batcl Analysis E Result	Fype: MS h ID: B4 Date: 5/ PQL 0.023 0.047 0.094 Fype: MS h ID: B4 Date: 5/ PQL	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372 2.812 0.9372 5D 2888 18/2017 SPK value	Tes SPK Ref Val 0 0.01654 0 0.03475 Tes SPK Ref Val	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4 87.4 87.1 109 tCode: El RunNo: 4 SeqNo: 1 %REC	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9 76.2 66.6 PA Method 2888 349914 LowLimit	132 8021B: Volat Units: mg/k HighLimit 138 127 132 123 132 8021B: Volat Units: mg/k HighLimit	Kg %RPD tiles Kg %RPD	RPDLimit	
Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Bromofluorobenzene Sample ID <b>1705936-001AN</b> Client ID: <b>ES-39</b> Prep Date: Analyte Benzene Toluene	1.1 MS SampT Batcl Analysis E Result 0.83 0.81 0.82 2.5 1.0 MSD SampT Batcl Analysis E Result 0.84	Type: MS h ID: B4 Date: 5/ PQL 0.023 0.047 0.094 Type: MS h ID: B4 Date: 5/ PQL 0.023	1.000 2888 18/2017 SPK value 0.9372 0.9372 0.9372 2.812 0.9372 5D 2888 18/2017 SPK value 0.9372	Tes SPK Ref Val 0 0.01654 0 0.03475 Tes SPK Ref Val 0	109 tCode: El RunNo: 4 SeqNo: 1 %REC 88.9 84.7 87.4 87.1 109 tCode: El RunNo: 4 SeqNo: 1 %REC 89.8	66.6 PA Method 2888 349912 LowLimit 61.5 71.4 70.9 76.2 66.6 PA Method 2888 349914 LowLimit 61.5	132 8021B: Volar Units: mg/k HighLimit 138 127 132 123 132 8021B: Volar Units: mg/k HighLimit 138	Kg %RPD tiles Kg %RPD 1.02	RPDLimit 20	
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#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

R RPD outside accepted recovery limits

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

W Sample container temperature is out of limit as specified

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WO#: 1705936

19-May-17

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Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204