# 3R-1012

# Release Report/ General Correspondence

**Enterprise RA** 

Date: Jan-Mar 2016

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

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

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 OIL CONS. DIV DIST. 3

JAN 1 1 2016 Revised August 8, 2011

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

# **Release Notification and Corrective Action**

Name of C					OPERATO			_	Report 🛛 F	
		Enterprise I				Thomas Long		14		12
		ve, Farmin	igton, NN	1 87401		e No. 505-599				
Facility Na	me: Latera	al 2C-56			Facility 1	ype: Natural (	Gas Gat	hering F	Pipeline	
Surface O	wner: Jica	rilla Apach	e Tribe	Mineral (	Owner: Jicarilla	Apache Trib	е	API N	0.	.4.
				LOC	ATION OF RI	LEASE				
Unit Letter	Section	Township	Range	Feet from	North South	Feet from	€ast/	West	County	- 0
В	28	26N	5W	the 985	Line	the 1782	Line		Rio Arriba	
		737		Latitude 36	.46294 Longit	ide -107.360	33			240
				NAT	URE OF RE	LEASE				
Type of Rel	lease: Natur	al Gas and N	Natural Ga		Volume o	Release 255 N BBLs Liquids	ICF	Volume	Recovered: None	20
Source of F	Release: Sus	spected Inter	nal Corros	sion	Date and	Hour of Occurre	nce:		d Hour of Discover @ 1:00 a.m.	y:
Was Immed	diate Notice	Given?	V and a second				n Sando		PO; Cory Smith - N	IMOCD
Required		⊠ Yes	s No	Not						- , , , , , , , , , , , , , , , , , , ,
	Thomas Lo				Date and	Time 9/21/15 3:	01 p.m.			(3)
Was a Wate	ercourse Re		□ No		lume Impacting 2-3 Barrels of F		ercourse		C	
lowed into	a small ephe	emeral wash						1	ed on the ground s	44
flowed into Describe C 56 pipeline. wash. The Enterprise C	a small ephe ause of Prob An estimat pipeline was	emeral wash plem and Re- ted 2-3 barre isolated, blo ne impacted s	medial Ac els of fluids own down,	tion: On Septe from the rele locked out ar	ember 21, 2015, I ase was observe nd tagged out for	interprise techn d on the ground safety and envir	icians dis surface a onmenta	scovered and flower	yed on the ground s a gas leak on the L d into a small ephe s. On September 23 dditional remediation	ateral 2C- meral 2, 2015,
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#### CORRECTIVE ACTION REPORT

Lateral 2C-56 Pipeline Release NE 1/4, S28 T26N R5W Rio Arriba County, New Mexico

Apex Project No. 7250415023

#### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Lateral 2C-56 pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northeast (NE) ¼ of Section 28 in Township 26 North and Range 5 West in rural Rio Arriba County, New Mexico (36.46294N, 107.36083W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land owned by the Jicarilla Apache Nation. The Site is located adjacent to a dirt road and is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

A natural gas leak on the Lateral 2C-56 pipeline was reported to Enterprise on September 21, 2015 by a third party. Enterprise immediately isolated, blew down, and locked out the line. On September 22, 2015, Enterprise preemptively excavated the impacted surficial soils from the flow path, in anticipation of a forecasted rain event. Beginning on September 30, 2015, Enterprise initiated excavation activities to facilitate the repair of the subsurface leak, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired by replacing approximately 10 feet of pipe. Enterprise also re-coated approximately 30 feet of the existing pipe. Natural gas was released from the pipeline as a result of external corrosion. The surface expression of the release was characterized by surface fluids, soil discoloration, and distressed vegetation in the vicinity of the release.

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

#### 1.2 Project Objective

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

#### 2.0 SITE RANKING

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 New Mexico Office of



the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:

Ranking	g Criteria	SECONDO S	Ranking Score
	<50 feet	20	
Depth to Groundwater	50 to 99 feet	10	20
	>100 feet	0	
Wellhead Protection Area • <1,000 feet from a water	Yes	20	0
source, or; <200 feet from private domestic water source.	No	0	
	<200 feet	20	
Distance to Surface Water Body	200 to 1,000 feet	10	20
	>1,000 feet	0	
Total Ran	king Score		40

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

- No nearby water wells were identified on the OSE water rights website, however based on the proximity to both an ephemeral wash and to Tapicito creek, groundwater is estimated to be less than 50 feet below grade surface (bgs), resulting in a ranking of "20" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking of "0".
- The release point is located immediately adjacent to an ephemeral wash that is identified as a "blue line" on the United States Geological Society topographic map. This information supports a distance to surface water ranking of "20".

#### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

A natural gas leak on the Lateral 2C-56 pipeline was reported to Enterprise on September 21, 2015 by a third party. Enterprise immediately isolated, blew down, and locked out the line. On September 22, 2015, Enterprise, utilizing O.F.T. Construction (OFT) for heavy equipment and labor, preemptively excavated the impacted surficial soils from the flow path, in anticipation of a forecasted rain event.

Beginning on September 30, 2015, Enterprise initiated excavation activities at the Site to repair the subsurface leak, and remediate potential hydrocarbon impact. The release was identified and subsequently repaired by replacing approximately 10 feet of pipe. Enterprise also re-coated approximately 30 feet of the existing pipe. Natural gas was released from the pipeline as a result of external corrosion. The surface expression of the release was identified by surface fluids, soil discoloration, and distressed vegetation in the vicinity of the release. Foutz & Bursum Construction Co. Inc., provided heavy equipment and labor support during pipeline excavation and repair activities. Kyle Summers and Ranee Deechilly, Apex environmental professionals, provided environmental support during the removal of hydrocarbon-affected soils, and performed confirmation sampling.



On October 1 and 2, 2015, confirmation soil samples CS-1 through CS-4 were collected from the south and east sidewalls and base of the main release footprint of the excavation. Subsequent analytical results indicated that the east wall (CS-4) still exhibited evidence of hydrocarbon impact above OCD guidelines. Intermittent periods of excavation and pipeline repairs (to address external corrosion) continued at the Site through October 16, 2015. Confirmation samples CS-5 through CS-28 were collected from the enlarged excavation to complete the analytical profile of the remediated Site. In addition, one (1) stockpile soil sample (SP-1) was collected from apparently unaffected spoils to determine the potential to reuse a portion of the soils as backfill material.

The final excavation measured approximately 98 feet long by 38 feet wide at the maximum extents, with total depths ranging from approximately eight (8) feet bgs to 16 feet bgs. The floor of the excavation was relatively flat, with the variation in apparent depth stemming from the undulating surface terrain at the Site.

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

A small quantity of water was encountered during the early stages of the excavation and the excavation was left open for several days to allow recharge. However, the water never recharged, indicating that it was likely related to the recent rain events as opposed to constituting actual groundwater.

While awaiting final soil analytical results, significant rainfall events resulted in accumulated water in the open excavation. The rain water was removed from the open excavation. Subsequently, no water recharged into the excavation.

Approximately 1,494 cubic yards of hydrocarbon-affected soils and 25 barrels of potentially affected liquids were transported to the TNT landfarm in Rio Arriba County, New Mexico. In addition, approximately 46 cubic yards of hydrocarbon-affected soils were transported to the Envirotech Landfarm near Hilltop, NM. In total, approximately 1,540 cubic yards of hydrocarbon-affected soils and 25 barrels of potentially affected water were transported for treatment/disposal at OCD-approved facilities. The executed C-138 forms are provided in Appendix B. The excavation was backfilled with clean imported fill and laboratory-confirmed acceptable spoils, and then contoured to surrounding grade.

Figure 3 is a site map that indicates the approximate location of the excavated area in relation to pertinent land features (Appendix A). Photographic documentation of the field activities is included in Appendix C.

#### 3.2 Soil Sampling Program

Apex screened head-space samples of Site soils with a photoionization detector (PID) fitted with a 10.6 eV lamp to evaluate volatile organic compounds (VOCs) and aid in determining the excavation limits.

Apex's soil sampling program included the collection of twenty-eight (28) confirmation soil samples (CS-1 through CS-28) from the resulting excavation, and one (1) stockpile soil sample (SP-1) for laboratory analysis. Soil sample CS-4 was removed by excavation. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

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



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

#### 3.3 Laboratory Analytical Methods

The confirmation soil samples and stockpile sample were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) SW-846 Method #8021, and total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015. Additionally, soil sample CS-1 was analyzed for chlorides utilizing EPA Method 300.0.

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

#### 4.0 DATA EVALUATION

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

#### 4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory reporting limits associated with the final confirmation samples (CS-1 through CS-28) collected from the excavated area, and the stockpile samples collected to verify reusable spoils, to the OCD *RALs* for sites having a total ranking score of "40". Soils associated with CS-4 were removed by excavation and are not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place and the reused spoils indicate benzene concentrations ranging from below the laboratory limits to 0.034 mg/kg (CS-2), which are below the OCD RAL of 10 milligram per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place and the reused spoils indicate total BTEX concentrations ranging from below the laboratory reporting limits to 0.28 mg/kg (CS-14), which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place and the reused spoils indicate combined TPH GRO/DRO concentrations ranging from below the laboratory reporting limits to 52 mg/kg (SP-1), which are below the OCD RAL of 100 mg/kg for a Site ranking of "40".
- Confirmation sample CS-1 was analyzed to determine the chloride concentration of the release area soils. Confirmation sample CS-1 did not indicate a chloride concentration above the laboratory reporting limit of 30 mg/Kg.

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



#### 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2C-56 pipeline release site is located within the Enterprise ROW in the NE ¼ of Section 28 in Township 26 North and Range 5 West in rural Rio Arriba County, New Mexico. The Site is located on land owned by the Jicarilla Apache Nation. The Site is located adjacent to a dirt road and is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

Beginning on September 30, 2015, Enterprise initiated excavation activities to facilitate the repair of the subsurface leak, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired by replacing approximately 10 feet of new pipe. Enterprise also re-coated approximately 30 feet of the existing pipe. Natural gas was released from the pipeline as a result of external corrosion. The surface expression of the release was characterized by surface fluids, soil discoloration, and distressed vegetation in the vicinity of the release.

- The primary objective of the corrective action was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand with clay.
- The final excavation measured approximately 98 feet long by 38 feet wide at the maximum extents, with total depths ranging from approximately eight (8) feet bgs to 16 feet bgs.
- A small quantity of water was encountered during the early stages of the excavation and the excavation was left open for several days to allow recharge. However, the water never recharged, indicating that it was likely related to the recent rain events as opposed to constituting actual groundwater.
- Prior to backfilling, twenty-eight (28) confirmation soil samples were collected from the resulting final excavation for laboratory analyses. Soil sample CS-4 was removed by excavation. In addition, one (1) stockpile sample was collected from apparently unaffected spoils to determine the potential to reuse a portion of the soils as backfill material. Based on analytical results, soils remaining in place do not exhibit BTEX or TPH GRO/DRO concentrations above the OCD RALs for a Site ranking of "40".
- A total of approximately 1,540 cubic yards of hydrocarbon-affected soils and 25 barrels of potentially affected water were transported to OCD-approved facilities for disposal/remediation. The excavation was backfilled with clean imported fill and laboratory-confirmed acceptable spoils, and then contoured to surrounding grade.

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

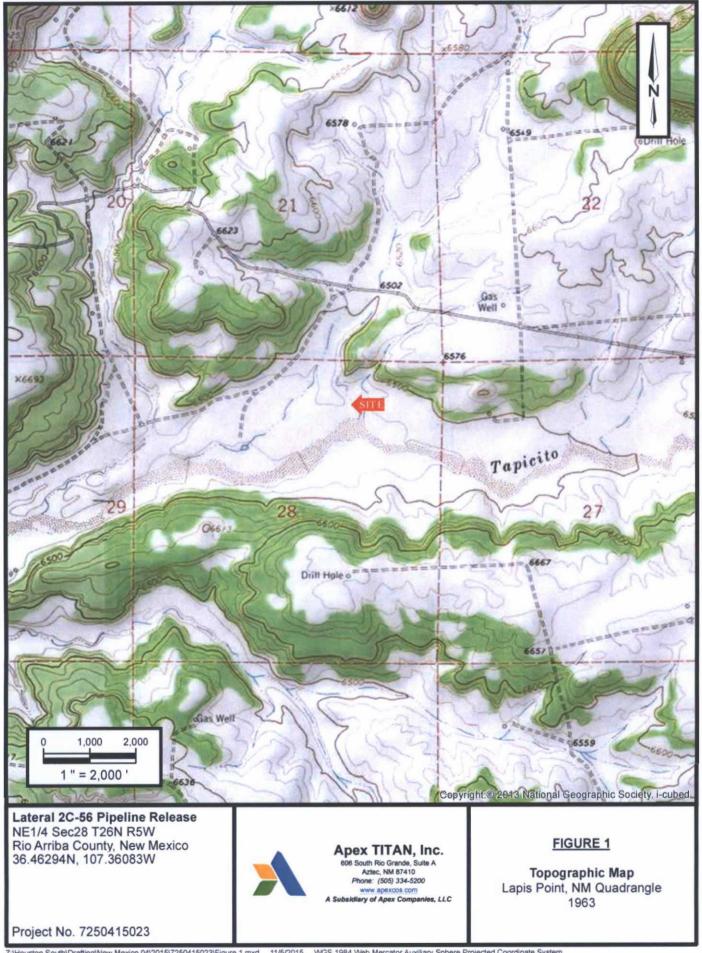


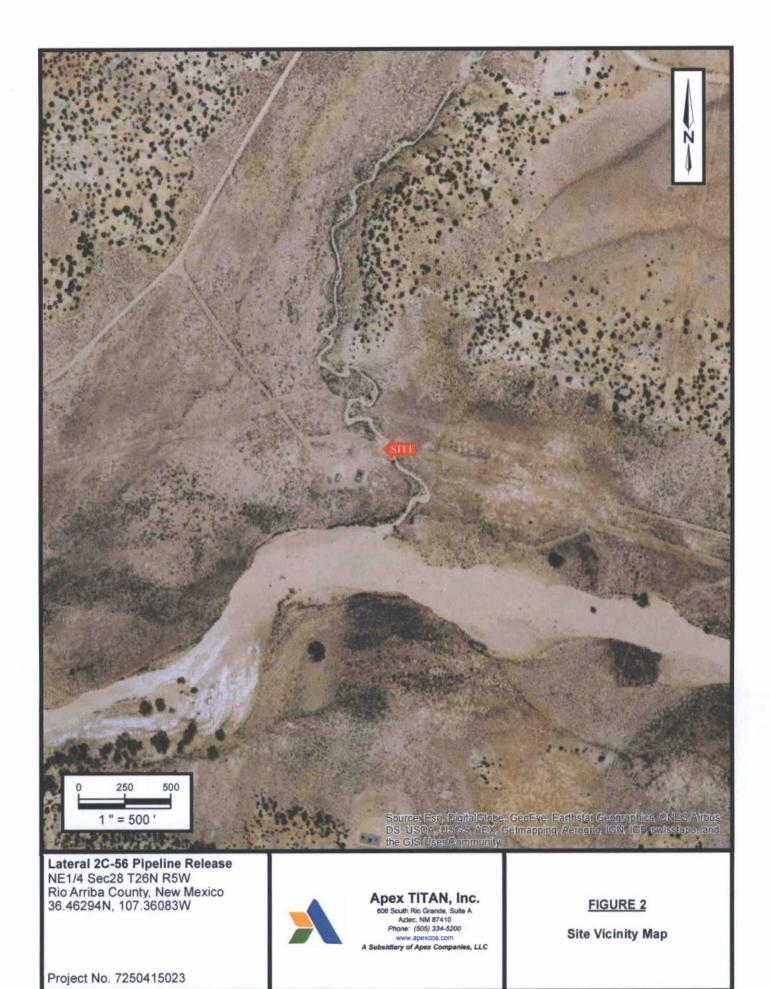
#### 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

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

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









#### **LEGEND**

APPROXIMATE PIPELINE LOCATION

SAMPLE LOCATION



RELEASE POINT

EXTENT OF SOIL REMOVAL **DUE TO IMPACT** 

# NOTE

All values are represented in mg/kg; ND - Not Detected; NA - Not Analyzed



#### Apex TITAN, Inc.

606 S. Rio Grande, Suite A Aztec, New Mexico 87410 Phone: (505) 334-5200

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

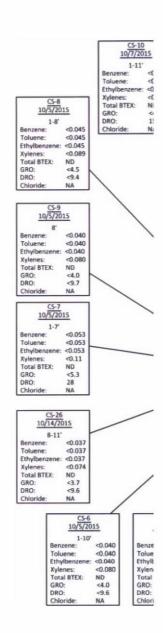
#### Lateral 2C-56 Pipeline Release

NE1/4 Sec28 T26N R5W Rio Arriba County, New Mexico 36.46294N, 107.36083W

Project No. 7250415023

#### FIGURE 3

Site Map with Soil Analytical Results



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

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

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

Form C-138 Revised August 1, 2011

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

REQUEST FOR ALTROVAL TO ACCEL I SOLID WASTE	
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401	
2. Originating Site: Lateral 2C-56 Pipeline	
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter D Section 28 T26N R5W; 36.46267, -107.36170, Rio Arriba County, NM	
4. Source and Description of Waste: Hydro-excavated soil impacted with hydrocarbons associated with a pipeline release.  5. Estimated Volume 50 (vd³) bbls Known Volume (to be entered by the operator at the end of the haul)	bbls
25 phls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby PRINT & SIGN NAME COMPANY NAME	1000
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's Ju regulatory determination, the above described waste is: (Check the appropriate classification)	y 1988
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with exempt waste. Operator Use Only: Waste Acceptance Frequency  Monthly  Weekly  Per Load	non-
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazar characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous the appropriate items)	261,
☐ MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box	4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS	
I, 9-30-15 , representative for Enterprise Field Services, LLC authorize TNT Landfarm to	
Generator Signature complete the required testing/sign the Generator Waste Testing Certification.	
I, , representative for TNT Land Farm do hereby certify that representative sample oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to co to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative s are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	nform
6. Transporter: Oil Field Trash	
OCD Permitted Surface Waste Management Facility	
Name and Facility Permit #: TNT Evap Pond/Landfarm, NM01-0008 Address of Facility: 70 CR 405, Lindrith NM Method of Treatment and/or Disposal:	
☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other  Waste Acceptance Status:	
■ APPROVED ■ DENIED (Must Be Maintained As Permanent R	
SIGNATURE: Standard Schm. + 7 TITLE: Office Admin DATE: 9.30	15
Surface Waste Management Facility Authorized Agent	

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 \*Surface Waste Management Facility Operator and Generator shall maintain and make this documentation available for Division inspection.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

150000	Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2.	Originating Site: Lateral 2C-56 Pipeline  Sept 2015
3.	Location of Material (Street Address, City, State or ULSTR): Unit Letter D Section 28 T26N R5W; 36.46267, -107.36170, Rio Arriba County, NM
	Source and Description of Waste: Hydro-excavated soil impacted with hydrocarbons associated with a pipeline release.  Estimated Volume 50 (vd) bbls Known Volume (to be entered by the operator at the end of the haul) (vd) bbls
5.	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, <u>T</u>	nomas Long Thom Log representative or authorized agent for Enterprise Field Services, LLC do hereby
	fy that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 latory determination, the above described waste is: (Check the appropriate classification)
	RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste.  **Operator Use Only: Waste Acceptance Frequency   Monthly   Weekly   Per Load**
	RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
	MSDS Information    RCRA Hazardous Waste Analysis    Process Knowledge    Other (Provide description in Box 4)
	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
	9-21-15, representative for Enterprise Field Services, LLC authorize Enviortech, Inc. to
com	plete the required testing/sign the Generator Waste Testing Certification.
to th	, representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
6.	Transporter: Of Field East Stan Horn Exc, HBL, Kelly
Name	Permitted Surface Waste Management Facility and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 ess of Facility: Hilltop, NM
Meth	od of Treatment and/or Disposal:  Evaporation Injection Treating Plant Landfarm Landfill Other
Wast	e Acceptance Status:  DENIED (Must Be Maintained As Permanent Record)
PRIN	TNAME: Exic Ciece TITLELan Jean Administrator DATE: 9-22-15
SIGN	ATURE: TELEPHONE NO.: 505-632-0615  Surface Waste Management Facility Authorized Agent



#### Photograph 1

View of the initial stages of corrective action activites, facing northeast.



#### Photograph 2

View of the initial excavation and source area, facing northwest.



# Photograph 3

View of the main release footprint and repaired pipeline, facing west.





# Photograph 4

View of the repaired pipe and initial excavation, facing north.



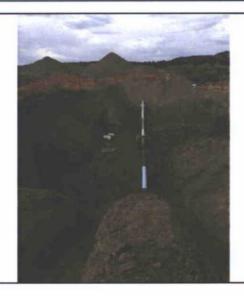
# Photograph 5

View of late stage of excavation, facing east.



# Photograph 6

View of late stage of excavation, facing west.





# TABLE 1 Lateral 2C-56 Pipeline Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	Chloride (mg/kg)
		Natural Resources vision, Remediation	10	NE	NE	NE	50	10	00	NE
				Stock	oile Samples					
SP-1	10.5.15	Stockpile	<0.048	<0.048	<0.048	<0.096	ND	<4.8	52	NA
				Samples Rem	oved by Excavation					
CS-4	10.2.15	1 to 16	<0.081	<0.16	<0.16	< 0.32	ND	<16	240	NA
				Excavation Co	onfirmation Samples					
CS-1	10.1.15	16	<0.041	<0.041	<0.041	<0.083	ND	<4.1	<9.9	<30
CS-2	10.1.15	10 to 16	0.034	<0.032	<0.032	0.23	0.26	3.6	<10	NA
CS-3	10.1.15	1 to 10	<0.046	<0.046	<0.046	<0.092	ND	<4.6	<10	NA
CS-5	10.5.15	1 to 13	< 0.034	< 0.034	<0.034	0.073	0.073	4.0	<10	NA
CS-6	10.5.15	1 to 10	<0.040	<0.040	<0.040	<0.080	ND	<4.0	<9.6	NA
CS-7	10.5.15	1 to 7	< 0.053	< 0.053	<0.053	<0.11	ND	<5.3	28	NA
CS-8	10.5.15	1 to 8	< 0.045	< 0.045	<0.045	<0.089	ND	<4.5	<9.4	NA
CS-9	10.5.15	8	<0.040	<0.040	<0.040	<0.080	ND	<4.0	<9.7	NA
CS-10	10.7.15	1 to 11	<0.044	<0.044	<0.044	<0.088	ND	<4.4	15	NA
CS-11	10.7.15	1 to 11	<0.041	<0.041	<0.041	0.10	0.10	4.1	24	NA
CS-12	10.12.15	1 to 11	< 0.031	< 0.031	<0.031	< 0.062	ND	<3.1	<10	NA
CS-13	10.12.15	1 to 11	<0.042	<0.042	<0.042	0.088	0.088	<4.2	<9.9	NA
CS-14	10.13.15	10 to 16	< 0.032	< 0.032	<0.032	0.28	0.28	<3.2	<9.9	NA
CS-15	10.13.15	1 to 10	<0.040	<0.040	<0.040	<0.081	ND	<4.0	<9.7	NA
CS-16	10.13.15	1 to 10	< 0.047	<0.047	<0.047	< 0.093	ND	<4.7	<10	NA
CS-17	10.13.15	10 to 16	<0.048	<0.048	<0.048	< 0.095	ND	<4.8	<10	NA
CS-18	10.13.15	16	<0.032	<0.032	<0.032	< 0.064	ND	<3.2	<9.6	NA
CS-19	10.14.15	10 to 16	<0.044	<0.044	<0.044	<0.089	ND	<4.4	<9.4	NA
CS-20	10.14.15	1 to 10	<0.042	<0.042	<0.042	<0.085	ND	<4.2	<9.8	NA
CS-21	10.14.15	1 to 16	<0.051	<0.051	<0.051	<0.10	ND	<5.1	<9.8	NA
CS-22	10.14.15	1 to 16	<0.038	<0.038	<0.038	< 0.076	ND	<3.8	<10	NA
CS-23	10.14.15	16	<0.039	< 0.039	<0.039	<0.078	ND	<3.9	<10	NA



# TABLE 1 Lateral 2C-56 Pipeline Release SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	Chloride (mg/kg)
		Natural Resources rision, Remediation	10	NE	NE	NE	50	1	00	NE
CS-24	10.14.15	13	< 0.034	<0.034	<0.034	<0.068	ND	<3.4	<10	NA
CS-25	10.14.15	16	< 0.039	< 0.039	<0.039	0.18	0.18	8.2	<9.5	NA
CS-26	10.14.15	8 to 11	< 0.037	< 0.037	<0.037	< 0.074	ND	<3.7	<9.6	NA
CS-27	10.16.15	11	<0.040	<0.040	<0.040	<0.080	ND	<4.0	<9.9	NA
CS-28	10.16.15	11	< 0.035	<0.035	<0.035	< 0.071	ND	<3.5	<9.5	NA

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

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established

NA = Not analyzed



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

October 13, 2015

Kyle Summers

APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Lateral 2C-56

OrderNo.: 1510208

#### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/6/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1510208

Date Reported: 10/13/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: SP-1

Project: Lateral 2C-56

Collection Date: 10/5/2015 12:40:00 PM

Lab ID: 1510208-001

Matrix: MEOH (SOIL) Received Date: 10/6/2015 8:11:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	52	10	mg/Kg	1	10/8/2015 2:00:28 PM	21679
Surr: DNOP	103	57.9-140	%REC	1	10/8/2015 2:00:28 PM	21679
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	10/7/2015 9:35:57 PM	21694
Surr: BFB	100	75.4-113	%REC	1	10/7/2015 9:35:57 PM	21694
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.048	mg/Kg	1	10/7/2015 9:35:57 PM	21694
Toluene	ND	0.048	mg/Kg	1	10/7/2015 9:35:57 PM	21694
Ethylbenzene	ND	0.048	mg/Kg	1	10/7/2015 9:35:57 PM	21694
Xylenes, Total	ND	0.096	mg/Kg	1	10/7/2015 9:35:57 PM	21694
Surr: 4-Bromofluorobenzene	108	80-120	%REC	1	10/7/2015 9:35:57 PM	21694

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 4

- Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510208 13-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21652	SampType: MBLK	TestCode	TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID: PBS	Batch ID: 21652	RunNo	29273					
Prep Date: 10/5/2015	Analysis Date: 10/5/20	15 SeqNo	890900	Units: %REC				
Analyte	Result PQL SPH	value SPK Ref Val %RE	C LowLimit	HighLimit %	RPD RPDLimit	Qual		
Surr: DNOP	7.9	10.00 78	57.9	140				
Sample ID LCS-21652	SampType: LCS	TestCode	TestCode: EPA Method 8015M/D: Diesel Range Organics					

CONTROL AND CONTRO									
Client ID: LCSS	Batch ID	21652	R	tunNo: 2	9273				
Prep Date: 10/5/2015	Analysis Date	10/5/2015	S	eqNo: 8	90901	Units: %RE	С		
Analyte	Result P	QL SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.7	5.000		94.7	57.9	140			

Sample ID MB-21679	SampT	SampType: MBLK			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 21679			RunNo: 29273							
Prep Date: 10/6/2015	Analysis Date: 10/8/2015			SeqNo: 894236			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organics (DRO)	ND	10									
Surr: DNOP	10		10.00		105	57.9	140				

Sample ID LCS-21679	SampType: LCS			TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 21679			F	RunNo: 29273							
Prep Date: 10/6/2015	Analysis D	Analysis Date: 10/8/2015			SeqNo: 894238			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Diesel Range Organics (DRO)	52	10	50.00	0	104	57.4	139					
Surr: DNOP	5.6		5.000		112	57.9	140					

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 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 4

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510208

13-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21694 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: **PBS** Batch ID: 21694 RunNo: 29364 Prep Date: 10/6/2015 Analysis Date: 10/7/2015 SeqNo: 893258 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC HighLimit %RPD Analyte LowLimit **RPDLimit** Qual 5.0 Gasoline Range Organics (GRO) ND Surr: BFB 880 1000 88.0 75.4 113

Sample ID LCS-21694 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 21694 RunNo: 29364 Prep Date: 10/6/2015 Analysis Date: 10/7/2015 SeqNo: 893259 Units: mg/Kg Analyte Result SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 26 5.0 25.00 0 102 79.6 122 Surr: BFB 960 1000 95.7 75.4 113

#### 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 3 of 4

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510208

13-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21694	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Client ID: PBS	Batch	ID: 21	694	F	RunNo: 2	9364				
Prep Date: 10/6/2015	Analysis D	ate: 10	0/7/2015	8	SeqNo: 8	93314	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID LCS-21694	SampT	ype: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch	1D: 21	694	F	RunNo: 2	9364				
Prep Date: 10/6/2015	Analysis D	ate: 10	0/7/2015	8	SeqNo: 8	93315	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	96.8	80	120			
Toluene	0.93	0.050	1.000	0	93.5	80	120			
Ethylbenzene	0.94	0.050	1.000	0	93.6	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.4	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

#### Qualifiers:

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

Page 4 of 4

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



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

# Sample Log-In Check List

Work Order Number: 1510208 APEX AZTEC Client Name: RoptNo: 1 Received by/date 10/6/2015 8:11:00 AM Logged By: Lindsay Mangin Completed By: Lindsay Mangin 10/6/2015 10:07:54 AM 10/06/15 Reviewed By: Chain of Custody Yes No 🗌 Not Present Y 1 Custody seals intact on sample bottles? Yes V No 🗌 Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In Yes V No NA 4. Was an attempt made to cool the samples? NA Yes V No Were all samples received at a temperature of >0° C to 6.0°C Yes V No 6. Sample(s) in proper container(s)? Yes V No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 Yes V 8. Are samples (except VOA and ONG) properly preserved? Yes No V NA L 9. Was preservative added to bottles? Yes | No 🗌 No VOA Vials 10. VOA vials have zero headspace? Yes -No V 11. Were any sample containers received broken? # of preserved bottles checked for pH: Yes V No 🗌 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes V No 13. Are matrices correctly identified on Chain of Custody? Yes V No 14 Is it clear what analyses were requested? No 🗍 Checked by: Yes V 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes No 🗌 NA V 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date

		(4)												CHAIN OF CUSTODY RECORD
2	A				Laboratory:	H	all t	Mu.	conn	nin	tal		ANALYSIS REQUESTED	Lab use only Due Date:
Al	PEX				Address: _	AI	algu	wgi	up	nn	1			Temp. of coolers
Office	Locatio	n Az	tec	in	m		1	/				_	1	
				_	Address: _  Contact: _ Phone: _	/	And	Y-F	ren	ACU	4		10%	1 2 3 4 5 Page of 1
Proje	ct Mana	ger	Sw	W.V	Pnone:	72	505	115	62	3_		_	186	
	er's Name	echille	4		Sampler's Sign	ature	h	De	フ				SUZI RITE & SULC TRIH DRUJDRU	
Proj. N 72	6. 50415	023	Proje	La	ame iteral 2C-56			No/Ty	ype of C	Contair	ners		777	
Matrix	Date	Time	CoEc	Grab	Identifying Marks of Sample(s)	Start	End	VOA	A/G	250	Glass	D/0	77/	Lab Sample ID (Lab Use Only)
5	10/5/15	1240			50-1						1		XX	1510208-001
_														
				_										
										_				
					NOS									
								-						
Turn a	ound time	□ Nor	mal		5% Rush 🗋 50% Rush 🖸	100%	Rush							
Reling Reling Reling	uished by uished by LUC uished by	(Signature) (Signature) (Signature)		N.	Date: Time: Received	ved by:	(Signa (Signa (Signa	iture)	-	-	Date Date Date Date	15	Time: NOTE    U 2   Time:   O 8     Time:	8: Bill to Tom Long (Epres) N 22593
Relinq Matrix		(Signature) W - Wastewa			Date: Time: Received W - Water S - Soil SD - So	ved by:			- Air Ba		Date C -		Time:	lge O - Oil



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

October 07, 2015

Kyle Summers

APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Lateral 2C-56

OrderNo.: 1510195

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/6/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

#### Lab Order 1510195

Date Reported: 10/7/2015

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-5

Project: Lateral 2C-56

Collection Date: 10/5/2015 12:15:00 PM

Lab ID: 1510195-001

Matrix: MEOH (SOIL) Received Date: 10/6/2015 8:11:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analyst:	КЈН
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/6/2015 10:54:08 AM	21680
Surr: DNOP	102	57.9-140		%REC	1	10/6/2015 10:54:08 AM	21680
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	4.0	3.4		mg/Kg	1	10/6/2015 10:42:29 AM	21666
Surr: BFB	126	75.4-113	S	%REC	1	10/6/2015 10:42:29 AM	21666
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst:	NSB
Benzene	ND	0.034		mg/Kg	1	10/6/2015 10:42:29 AM	21666
Toluene	ND	0.034		mg/Kg	1	10/6/2015 10:42:29 AM	21666
Ethylbenzene	ND	0.034		mg/Kg	1	10/6/2015 10:42:29 AM	21666
Xylenes, Total	0.073	0.068		mg/Kg	1	10/6/2015 10:42:29 AM	21666
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	10/6/2015 10:42:29 AM	21666

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

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

#### Lab Order 1510195

Date Reported: 10/7/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-6

Project: Lateral 2C-56

Collection Date: 10/5/2015 12:20:00 PM

Lab ID: 1510195-002

Matrix: MEOH (SOIL) Received Date: 10/6/2015 8:11:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s			Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	10/6/2015 11:21:14 AM	21680
Surr: DNOP	98.9	57.9-140	%REC	1	10/6/2015 11:21:14 AM	21680
EPA METHOD 8015D: GASOLINE R.	ANGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	10/6/2015 11:05:42 AM	21666
Surr: BFB	92.2	75.4-113	%REC	1	10/6/2015 11:05:42 AM	21666
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.040	mg/Kg	1	10/6/2015 11:05:42 AM	21666
Toluene	ND	0.040	mg/Kg	1	10/6/2015 11:05:42 AM	21666
Ethylbenzene	ND	0.040	mg/Kg	1	10/6/2015 11:05:42 AM	21666
Xylenes, Total	ND	0.080	mg/Kg	1	10/6/2015 11:05:42 AM	21666
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	10/6/2015 11:05:42 AM	21666

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

#### Lab Order 1510195

Date Reported: 10/7/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-7

Project: Lateral 2C-56

Collection Date: 10/5/2015 12:25:00 PM

Lab ID: 1510195-003

Matrix: MEOH (SOIL) Received Date: 10/6/2015 8:11:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	28	9.8	mg/Kg	1	10/6/2015 11:48:15 AM	21680
Surr: DNOP	98.1	57.9-140	%REC	1	10/6/2015 11:48:15 AM	21680
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	5.3	mg/Kg	1	10/6/2015 11:28:52 AM	21666
Surr: BFB	89.2	75.4-113	%REC	1	10/6/2015 11:28:52 AM	21666
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.053	mg/Kg	1	10/6/2015 11:28:52 AM	21666
Toluene	ND	0.053	mg/Kg	1	10/6/2015 11:28:52 AM	21666
Ethylbenzene	ND	0.053	mg/Kg	1	10/6/2015 11:28:52 AM	21666
Xylenes, Total	ND	0.11	mg/Kg	1	10/6/2015 11:28:52 AM	21666
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	10/6/2015 11:28:52 AM	21666

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

#### Lab Order 1510195

Date Reported: 10/7/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-8

Project: Lateral 2C-56

Collection Date: 10/5/2015 12:30:00 PM

Lab ID: 1510195-004

Matrix: MEOH (SOIL) Received Date: 10/6/2015 8:11:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	10/6/2015 12:15:35 PM	21680
Surr: DNOP	99.1	57.9-140	%REC	1	10/6/2015 12:15:35 PM	21680
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.5	mg/Kg	1	10/6/2015 11:52:06 AM	21666
Surr: BFB	99.5	75.4-113	%REC	1	10/6/2015 11:52:06 AM	21666
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.045	mg/Kg	1	10/6/2015 11:52:06 AM	21666
Toluene	ND	0.045	mg/Kg	1	10/6/2015 11:52:06 AM	21666
Ethylbenzene	ND	0.045	mg/Kg	1	10/6/2015 11:52:06 AM	21666
Xylenes, Total	ND	0.089	mg/Kg	1	10/6/2015 11:52:06 AM	21666
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	10/6/2015 11:52:06 AM	21666

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510195

Date Reported: 10/7/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-9

Project: Lateral 2C-56

Collection Date: 10/5/2015 12:35:00 PM

Lab ID: 1510195-005

Matrix: MEOH (SOIL) Received Date: 10/6/2015 8:11:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	10/6/2015 12:43:14 PM	21680
Surr: DNOP	95.8	57.9-140	%REC	1	10/6/2015 12:43:14 PM	21680
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	10/6/2015 12:15:18 PM	21666
Surr: BFB	90.2	75.4-113	%REC	1	10/6/2015 12:15:18 PM	21666
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.040	mg/Kg	1	10/6/2015 12:15:18 PM	21666
Toluene	ND	0.040	mg/Kg	1	10/6/2015 12:15:18 PM	21666
Ethylbenzene	ND	0.040	mg/Kg	1	10/6/2015 12:15:18 PM	21666
Xylenes, Total	ND	0.080	mg/Kg	1	10/6/2015 12:15:18 PM	21666
Surr: 4-Bromofluorobenzene	106	80-120	%REC	1	10/6/2015 12:15:18 PM	21666

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1510195 07-Oct-15

Client: APEX TITAN
Project: Lateral 2C-56

Project: Later	al 2C-56	
Sample ID MB-21648	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 21648	RunNo: 29273
Prep Date: 10/4/2015	Analysis Date: 10/4/2015	SeqNo: 889464 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	9.7 10.00	97.2 57.9 140
Sample ID LCS-21648	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 21648	RunNo: 29273
Prep Date: 10/4/2015	Analysis Date: 10/4/2015	SeqNo: 889466 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	5.0 5.000	100 57.9 140
Sample ID MB-21652	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 21652	RunNo: 29273
Prep Date: 10/5/2015	Analysis Date: 10/5/2015	SeqNo: 890900 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	7.9 10.00	78.7 57.9 140
Sample ID LCS-21652	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: LCSS	Batch ID: 21652	RunNo: 29273
Prep Date: 10/5/2015	Analysis Date: 10/5/2015	SeqNo: 890901 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	4.7 5.000	94.7 57.9 140
Sample ID MB-21629	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 21629	RunNo: 29273
Prep Date: 10/2/2015	Analysis Date: 10/6/2015	SeqNo: 892312 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Surr: DNOP	10 10.00	103 57.9 140
Sample ID MB-21680	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics
Client ID: PBS	Batch ID: 21680	RunNo: 29273
Prep Date: 10/6/2015	Analysis Date: 10/6/2015	SeqNo: 892313 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO)	ND 10	
O DUOD	0.0	00.0 57.0 440

#### Qualifiers:

Surr: DNOP

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

9.6

- 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

57.9

140

- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 6 of 9
- P Sample pH Not In Range

10.00

RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510195

07-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

TestCode: EPA Method 8015M/D: Diesel Range Organics Sample ID LCS-21629 SampType: LCS Client ID: LCSS Batch ID: 21629 RunNo: 29273 Prep Date: 10/2/2015 SeqNo: 892314 Units: %REC Analysis Date: 10/6/2015 SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Analyte Result PQL Surr: DNOP 5.3 5.000 107 140

Sample ID LCS-21680	SampT	ype: LC	S	Test	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: LCSS	Batch	ID: 21	680	R	RunNo: 2	9273				
Prep Date: 10/6/2015	Analysis D	ate: 10	0/6/2015	S	SeqNo: 8	92315	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	84.1	57.4	139			
Surr: DNOP	4.8		5.000		95.5	57.9	140			

#### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 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 9

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

# Hall Environmental Analysis Laboratory, Inc.

Analysis Date: 10/6/2015

Result

950

WO#:

1510195

07-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21666	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 21666	RunNo: 29332
Prep Date: 10/5/2015	Analysis Date: 10/6/2015	SeqNo: 892323 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua
Sasoline Range Organics (GRO) Surr: BFB	ND 5.0 870 1000	86.6 75.4 113
Sample ID LCS-21666	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 21666	RunNo: 29332
Prep Date: 10/5/2015	Analysis Date: 10/6/2015	SeqNo: 892324 Units: mg/Kg
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua
Gasoline Range Organics (GRO)	26 5.0 25.00	0 103 79.6 122
Surr: BFB	940 1000	94.1 75.4 113
Sample ID MB-21665	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range
Client ID: PBS	Batch ID: 21665	RunNo: 29332
Prep Date: 10/5/2015	Analysis Date: 10/6/2015	SeqNo: 892336 Units: %REC
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qua
Sum: BFB	880 1000	88.5 75.4 113
Sample ID LCS-21665	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range
Client ID: LCSS	Batch ID: 21665	RunNo: 29332

SPK value SPK Ref Val

1000

0	ua	824	nt	
U	ua	ш	Ie	$\mathbf{r}_{s}$

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

Prep Date: 10/5/2015

Analyte

Sum: BFB

- 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

SeqNo: 892337

LowLimit

75.4

%REC

95.5

Units: %REC

113

%RPD

**RPDLimit** 

HighLimit

Page 8 of 9

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510195

07-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21666	SampType: MBLK  Batch ID: 21666  Analysis Date: 10/6/2015			TestCode: EPA Method 8021B: Volatiles RunNo: 29332						
Client ID: PBS										
Prep Date: 10/5/2015				SeqNo: 892366			Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		103	80	120			
Sample ID LCS-21666	SampT	ype: LC	s	Tes	tCode: El	PA Method	8021B: Volat	tiles		
Sample ID LCS-21666 Client ID: LCSS	1.5	Type: <b>LC</b>			tCode: El		8021B: Volat	tiles		
	1.5	h ID: <b>21</b>	666	F		9332	8021B: Volat		para a sa	
Client ID: LCSS Prep Date: 10/5/2015	Batcl	h ID: <b>21</b>	666 0/6/2015	F	RunNo: 2	9332			RPDLimit	Qual
Client ID: LCSS Prep Date: 10/5/2015 Analyte	Batcl Analysis D	h ID: 210 Date: 10	666 0/6/2015	F	RunNo: 29 SeqNo: 89	9332 92368	Units: mg/K	(g	RPDLimit	Qual
Client ID: LCSS Prep Date: 10/5/2015 Analyte Benzene	Batci Analysis D Result	h ID: 210 Date: 10	666 0/6/2015 SPK value	SPK Ref Val	RunNo: 29 SeqNo: 89 %REC	9332 92368 LowLimit	Units: mg/K	(g	RPDLimit	Qual
Client ID: LCSS Prep Date: 10/5/2015 Analyte Benzene Toluene	Analysis E Result 0.97	PQL 0.050	666 0/6/2015 SPK value 1.000	SPK Ref Val	RunNo: 29 SeqNo: 89 %REC 96.7	9332 92368 LowLimit 80	Units: mg/K HighLimit	(g	RPDLimit	Qual
Client ID: LCSS Prep Date: 10/5/2015	Batcl Analysis E Result 0.97 0.94	PQL 0.050 0.050	SPK value 1.000 1.000	SPK Ref Val 0 0	RunNo: 29 SeqNo: 89 %REC 96.7 94.3	9332 92368 LowLimit 80 80	Units: mg/K HighLimit 120 120	(g	RPDLimit	Qual

Sample ID MB-21665	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 21665			RunNo: 29332						
Prep Date: 10/5/2015	Analysis Date: 10/6/2015			SeqNo: 892380			Units: %RE	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID LCS-21665	SampType: LCS			TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 21665			F	RunNo: 29332					
Prep Date: 10/5/2015	Analysis D	ate: 1	0/6/2015	8	SeqNo: 8	92381	Units: %RE	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

#### Qualifiers:

\* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

Page 9 of 9

P Sample pH Not In Range

RL Reporting Detection Limit



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

Website: www.hallenvironmental.com

# Sample Log-In Check List

**APEX AZTEC** Client Name: Work Order Number: 1510195 RcptNo: 1 Received by/date: Logged By: 10/6/2015 8:11:00 AM Lindsay Mangin Lindsay Mangin Completed By: 10/6/2015 8:18:32 AM Reviewed By: 10/06/15 Chain of Custody Not Present V 1. Custody seals intact on sample bottles? No 🗌 Yes V Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In NA 🗌 No 🗌 4. Was an attempt made to cool the samples? Yes V Were all samples received at a temperature of >0° C to 6.0°C Yes V No NA Yes V No | 6. Sample(s) in proper container(s)? No Yes V 7. Sufficient sample volume for indicated test(s)? No 8. Are samples (except VOA and ONG) properly preserved? Yes V No V NA 🗌 9. Was preservative added to bottles? Yes No No VOA Vials 10. VOA vials have zero headspace? Yes Yes No V 11. Were any sample containers received broken? # of preserved bottles checked Yes V No for pH: 12, Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) No 🗌 Adjusted? Yes V 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes V 14. Is it clear what analyses were requested? Yes V No 🗌 Checked by: 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes 16. Was client notified of all discrepancies with this order? No \_ NA V Person Notified: Date By Whom: eMail Phone Fax In Person Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition | Seal Intact | Seal No | Seal Date Good

								CHAIN OF CUSTODY RECORD
	Address: Contact: Phone:	Albu	Free	ne	W	_	ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers when received (C°): Z, 4  1 2 3 4 5  Pagei of
Summers			4150	123				
/	Sampler's Sign	ichely					A A A A A A A A A A A A A A A A A A A	/ / / / /
Project Name Lateral				pe of C	ontainers		Sal CI	////
o r identify	ing Marks of Sample(s)	Start Depth End	VOA	A/G	250 ml Glass	P/0	37///	Lab Sample ID (Lab Use Only)
	CS-5				1		XX	1510195-001
	C5-6				1		XX	-002
	CS-7				1		XX	-003
	CS-8				1		XX	-001
	C5-9		-		1		XX	-005
	MES							
			5	ame				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Date:	Time: Recei	ved by: (Sign	iature)	نك	io Dat	15	Time:    1624     Time:   NOTES:   Bill to     Time:   N 2	2593
	C G I Identify D b	Address:  Address:  Contact: Phone: Swmws PO/SO#: Sampler's Sign  Project Name  Address:  Phone:  Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  Po/SO #:  Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  From Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  From Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  From Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  Phone:  Sampler's Sign  Address:  Sampler's Sig	Address: Albust Contact: Andy Phone:  Swmmas Po/so#: 725 \( \text{Poperators} \)  Sampler's Signature Project Name    Address: Albust Phone:	Address: Albuqued  Contact: Awdy Free  Phone:  Summers PO/SO#: 725 0 4150  Sampler's Signature  Rimble Address: Albuqued  Project Name  Latral 2C560  C G G I Identifying Marks of Sample(s) G G G G G G G G G G G G G G G G G G G	Address: Alaugurgusgusgusgusgusgusgusgusgusgusgusgusgusg	Address: Albuquegue, MM  Contact: Away Freewaw Phone:  Swmwes PO/SO#: 725 U 417023  Sampler's Signature  Address: Albuquegue, MM Project Name  Address: Away Freewaw Phone:  Swmwes Po/SO#: 725 U 417023  Sampler's Signature  Address: Away Freewaw Phone:  Swmwes Po/SO#: 725 U 417023  Sampler's Signature  October Signature  CS-5  CS-6  CS-7  CS-8  CS-7  CS-9  Date: Time: Received by: (Signature) Poate: Time: Received by: (Signature)	Contact: Fwy Freeway Phone:  Phone:  Phone:  Project Name  Atral 2C50  CS-5  CS-5  CS-6  CS-7  CS-8  CS-9  Date: Time: Received by: (Signature)  Date: Time: Received by: (Signature)  Pate: Time: Received by: (Signature)  Date: Time: Received by: (Signature)  Pate: Time: Received by: (Signature)  Date: Time: Received by: (Signature)	Laboratory: Hall Enumerated  Address: Albuqueque, MM  Contact: Andy Freemen Phone:  Summers PO/SO #: 725 0 415023  Sampler's Signature Project Name  Address: No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Project Name  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Address: Albuqueque, MM  No/Type of Containers  Address: Albuqueque, MM  Address:



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

October 06, 2015

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

RE: Lat 2C-56

OrderNo.: 1510096

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 4 sample(s) on 10/3/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1510096

Date Reported: 10/6/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-1

Project: Lat 2C-56

Collection Date: 10/1/2015 5:00:00 PM

Lab ID: 1510096-001

Matrix: MEOH (SOIL) Received Date: 10/3/2015 9:25:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	t: SRM
Chloride	ND	30	mg/Kg	20	10/5/2015 11:05:26 AM	1 21662
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	S			Analyst	t: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/4/2015 11:51:10 PM	1 21649
Surr: DNOP	105	57.9-140	%REC	1	10/4/2015 11:51:10 PM	1 21649
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	10/5/2015 1:04:28 PM	21639
Surr: BFB	89.0	75.4-113	%REC	1	10/5/2015 1:04:28 PM	21639
EPA METHOD 8021B: VOLATILES					Analysi	t: NSB
Benzene	ND	0.041	mg/Kg	1	10/5/2015 1:04:28 PM	21639
Toluene	ND	0.041	mg/Kg	1	10/5/2015 1:04:28 PM	21639
Ethylbenzene	ND	0.041	mg/Kg	1	10/5/2015 1:04:28 PM	21639
Xylenes, Total	ND	0.083	mg/Kg	1	10/5/2015 1:04:28 PM	21639
Surr: 4-Bromofluorobenzene	106	80-120	%REC	1	10/5/2015 1:04:28 PM	21639

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510096

Date Reported: 10/6/2015

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-2

Project: Lat 2C-56

Collection Date: 10/1/2015 5:15:00 PM

Lab ID: 1510096-002

Received Date: 10/3/2015 9:25:00 AM Matrix: MEOH (SOIL)

Analyses	Result	RL Q	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/5/2015 12:18:31 AM	21649
Surr: DNOP	99.5	57.9-140	%REC	1	10/5/2015 12:18:31 AM	21649
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: NSB
Gasoline Range Organics (GRO)	3.6	3.2	mg/Kg	1	10/5/2015 1:27:40 PM	21639
Surr: BFB	105	75.4-113	%REC	1	10/5/2015 1:27:40 PM	21639
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	0.034	0.032	mg/Kg	1	10/5/2015 1:27:40 PM	21639
Toluene	ND	0.032	mg/Kg	1	10/5/2015 1:27:40 PM	21639
Ethylbenzene	ND	0.032	mg/Kg	1	10/5/2015 1:27:40 PM	21639
Xylenes, Total	0.23	0.064	mg/Kg	1	10/5/2015 1:27:40 PM	21639
Surr: 4-Bromofluorobenzene	110	80-120	%REC	1	10/5/2015 1:27:40 PM	21639

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

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

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

### Lab Order 1510096

Date Reported: 10/6/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-3

Project: Lat 2C-56

Collection Date: 10/1/2015 6:00:00 PM

Lab ID: 1510096-003

Matrix: MEOH (SOIL) Received Date: 10/3/2015 9:25:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/5/2015 12:45:49 AM	21649
Surr: DNOP	99.1	57.9-140	%REC	1	10/5/2015 12:45:49 AM	21649
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	10/5/2015 1:51:01 PM	21639
Surr: BFB	90.3	75.4-113	%REC	1	10/5/2015 1:51:01 PM	21639
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst	NSB
Benzene	ND	0.046	mg/Kg	1	10/5/2015 1:51:01 PM	21639
Toluene	ND	0.046	mg/Kg	1	10/5/2015 1:51:01 PM	21639
Ethylbenzene	ND	0.046	mg/Kg	1	10/5/2015 1:51:01 PM	21639
Xylenes, Total	ND.	0.092	mg/Kg	1	10/5/2015 1:51:01 PM	21639
Surr: 4-Bromofluorobenzene	107	80-120	%REC	1	10/5/2015 1:51:01 PM	21639

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

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

### Lab Order 1510096

Date Reported: 10/6/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-4

Project: Lat 2C-56

Collection Date: 10/2/2015 10:45:00 AM

Lab ID: 1510096-004

Matrix: MEOH (SOIL) Received Date: 10/3/2015 9:25:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analyst	: KJH
Diesel Range Organics (DRO)	240	9.2		mg/Kg	1	10/5/2015 1:13:08 AM	21649
Surr: DNOP	99.2	57.9-140		%REC	1	10/5/2015 1:13:08 AM	21649
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	16	D	mg/Kg	5	10/5/2015 2:14:14 PM	21639
Surr: BFB	98.9	75.4-113	D	%REC	5	10/5/2015 2:14:14 PM	21639
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst	: NSB
Benzene	ND	0.081	D	mg/Kg	5	10/5/2015 2:14:14 PM	21639
Toluene	ND	0.16	D	mg/Kg	5	10/5/2015 2:14:14 PM	21639
Ethylbenzene	ND	0.16	D	mg/Kg	5	10/5/2015 2:14:14 PM	21639
Xylenes, Total	ND	0.32	D	mg/Kg	5	10/5/2015 2:14:14 PM	21639
Surr: 4-Bromofluorobenzene	108	80-120	D	%REC	5	10/5/2015 2:14:14 PM	21639

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510096

06-Oct-15

Client:

APEX TITAN

Project:

Lat 2C-56

Sample ID MB-21662

SampType: MBLK

TestCode: EPA Method 300.0: Anions

Client ID:

Batch ID: 21662

PQL

1.5

RunNo: 29327

Prep Date: 10/5/2015

SeqNo: 891486

Units: mg/Kg HighLimit

Analyte

Analysis Date: 10/5/2015

SPK value SPK Ref Val %REC LowLimit

**RPDLimit** 

Qual

Chloride

ND

Result

SampType: LCS

TestCode: EPA Method 300.0: Anions

Client ID: LCSS

Batch ID: 21662

PQL

RunNo: 29327

Units: mg/Kg

Prep Date: 10/5/2015

Sample ID LCS-21662

Analysis Date: 10/5/2015

SeqNo: 891487

Analyte

SPK value SPK Ref Val %REC

HighLimit

**RPDLimit** 

Page 5 of 8

15.00

93.3

%RPD

14

%RPD

Qual

Chloride

1.5

110

### Qualifiers:

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

% Recovery outside of range due to dilution or matrix

- В Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits
  - Sample pH Not In Range
- Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

5.0

WO#:

1510096

06-Oct-15

Client:

APEX TITAN

Project:

Surr: DNOP

Lat 2C-56

Sample ID MB-21648	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics	
Client ID: PBS	Batch ID: 21648	RunNo: 29273	
Prep Date: 10/4/2015	Analysis Date: 10/4/2015	SeqNo: 889464 Units: %REC	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Surr: DNOP	9.7 10.00	97.2 57.9 140	
Sample ID MB-21649	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics	- 17
Client ID: PBS	Batch ID: 21649	RunNo: 29273	
Prep Date: 10/4/2015	Analysis Date: 10/4/2015	SeqNo: 889465 Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Diesel Range Organics (DRO)	ND 10		
Surr: DNOP	9.7 10.00	97.2 57.9 140	
Sample ID LCS-21648	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics	
Client ID: LCSS	Batch ID: 21648	RunNo: 29273	
Prep Date: 10/4/2015	Analysis Date: 10/4/2015	SeqNo: 889466 Units: %REC	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual

Sample ID LCS-21649	SampType: LCS			Test	Code: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID: LCSS	Batch	D: 21	649	R	tunNo: 2	9273				
Prep Date: 10/4/2015	Analysis D	ate: 10	/4/2015	S	eqNo: 8	89467	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	91.5	57.4	139			
Surr: DNOP	5.0		5.000		99.4	57.9	140			

57.9

140

5.000

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 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
- quantitation limits Page 6 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510096

06-Oct-15

Client:

APEX TITAN

Project:

Lat 2C-56

Sample ID MB-21639 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Batch ID: 21639 RunNo: 29302 Client ID: PBS Analysis Date: 10/5/2015 SeqNo: 890915 Units: mg/Kg Prep Date: 10/2/2015 PQL SPK value SPK Ref Val %REC HighLimit %RPD **RPDLimit** Qual Result LowLimit Analyte ND 5.0 Gasoline Range Organics (GRO) Surr: BFB 860 1000 86.4 75.4 113

Sample ID LCS-21639	Samp	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	е	
Client ID: LCSS	Batc	n ID: 21	639	F	RunNo: 2	9302				
Prep Date: 10/2/2015	Analysis [	)ate: 10	0/5/2015	8	SeqNo: 8	90916	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	94.7	79.6	122			
Surr RER	930		1000		92 9	75.4	113			

#### 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 8

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510096

06-Oct-15

Client:

APEX TITAN

Project:

Lat 2C-56

Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			
Xylenes, Total	ND	0.10								
Ethylbenzene	ND	0.050								
Toluene	ND	0.050								
Benzene	ND	0.050								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Prep Date: 10/2/2015	Analysis D	Date: 10	0/5/2015	5	SeqNo: 8	90952	Units: mg/K	(g		
Client ID: PBS	Batcl	h ID: 21	639	F	RunNo: 2	9302				
Sample ID MB-21639	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8021B: Volat	tiles		

Sample ID LCS-21639	Samp	ype: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batch ID: 21639			F	RunNo: 2	9302				
Prep Date: 10/2/2015	Analysis [	Date: 10	0/5/2015	5	SeqNo: 8	90953	Units: mg/k	<b>(</b> g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
Benzene	0.96	0.050	1.000	0	95.9	80	120			
Toluene	0.92	0.050	1.000	0	92.3	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.3	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

### Qualifiers:

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

Page 8 of 8



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquergue, NM 87109

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

# Sample Log-In Check List

APEX AZTEC Client Name: Work Order Number: 1510096 RoptNo: 1 Received by/date: Logged By: Lindsay Mandin 10/3/2015 9:25:00 AM Completed By: Lindsay Mangin 10/3/2015 9:36:41 AM Reviewed By: Chain of Custody Not Present ✓ 1. Custody seals intact on sample bottles? Yes No No 🗌 Not Present Yes V 2. Is Chain of Custody complete? 3 How was the sample delivered? Courier Log In 4. Was an attempt made to cool the samples? No NA Yes V 5. Were all samples received at a temperature of >0° C to 6.0°C No NA . Yes V No . Sample(s) in proper container(s)? Yes V 7. Sufficient sample volume for indicated test(s)? Yes V No 🗌 No 8. Are samples (except VOA and ONG) properly preserved? 9. Was preservative added to bottles? Yes No V NA 🗌 No 🗌 Yes No VOA Vials 10. VOA vials have zero headspace? Yes -No V 11. Were any sample containers received broken? # of preserved bottles checked 12. Does paperwork match bottle labels? No \_ for pH: Yes V (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes V No 13. Are matrices correctly identified on Chain of Custody? 14. Is it clear what analyses were requested? ~ No Checked by: 15. Were all holding times able to be met? No (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes No . NA V Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No 2.6 G000 Yes

				CHAIN OF CUSTODY RECORD
APEX Office Location Aztec	Laboratory: Ha	.//	ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers when received (C°): Z, C
Project Manager Summers Sampler's Name Summers	Contact: Phone: PO/SO #: Sampler's Signature	man	862/ 802/ 802/	1 2 3 4 5 Page of
Proj. No. Project Name Lat 2C-		No/Type of Containers	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Matrix Date Time C G I Identifying Ma	Start Depth	VOA A/G 11L. 250 ml Glass Jar P/O P/O	XXX	Lab Sample ID (Lab Use Only)
1715   C5-2 1800   CS-3	3		XX	-60Z
V 10/2/15 1045 V C5-4		I	W V	-004
	N	٢		
	Ne s			
Relinguished by (Signature) Date:	50% Rush 20100% Rush	Some Day	Time: NOTES: 0,//	Tom Law
Relikquished by (Signature)  Date: 10/2/1- Z	Time: Received by: (Signature)  Received by: (Signature)  Received by: (Signature)	ature) Pate:	1405 Time: N22 Time: 1770/0 R	Tom Long 25953 of 145
	Firme: Received by: \Signa S - Soil SD - Soild L - Liquid		Time:	



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

October 22, 2015

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

TEL: (903) 821-5603

FAX

RE: Lateral 2C-56

OrderNo.: 1510832

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/17/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andel

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1510832

Date Reported: 10/22/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-27

Project: Lateral 2C-56

Collection Date: 10/16/2015 12:30:00 PM

Lab ID: 1510832-001

Matrix: MEOH (SOIL) Received Date: 10/17/2015 12:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analy	st: DJF
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	10/19/2015 11:24:30	AM 21890
Surr: BFB	97.0	70-130	%REC	1	10/19/2015 11:24:30	AM 21890
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	3			Analy	st: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/19/2015 2:27:53 P	M 21901
Surr: DNOP	123	70-130	%REC	1	10/19/2015 2:27:53 P	M 21901
EPA METHOD 8260B: VOLATILES S	SHORT LIST				Analy	st: DJF
Benzene	ND	0.040	mg/Kg	1	10/19/2015 11:24:30	AM 21890
Toluene	ND	0.040	mg/Kg	1	10/19/2015 11:24:30	AM 21890
Ethylbenzene	ND	0.040	mg/Kg	1	10/19/2015 11:24:30	AM 21890
Xylenes, Total	ND	0.080	mg/Kg	1	10/19/2015 11:24:30	AM 21890
Surr: 1,2-Dichloroethane-d4	95.0	70-130	%REC	1	10/19/2015 11:24:30	AM 21890
Surr: 4-Bromofluorobenzene	100	70-130	%REC	1	10/19/2015 11:24:30	AM 21890
Surr: Dibromofluoromethane	115	70-130	%REC	1	10/19/2015 11:24:30	AM 21890
Surr: Toluene-d8	95.1	70-130	%REC	1	10/19/2015 11:24:30	AM 21890

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510832

Date Reported: 10/22/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-28

Project: Lateral 2C-56

Collection Date: 10/16/2015 12:35:00 PM

Lab ID: 1510832-002

Matrix: MEOH (SOIL) Received Date: 10/17/2015 12:10:00 PM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE				Anal	yst: DJF
Gasoline Range Organics (GRO)	ND	3.5	mg/Kg	1	10/19/2015 11:51:59	AM 21890
Surr: BFB	101	70-130	%REC	1	10/19/2015 11:51:59	AM 21890
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANICS	3			Anal	yst: KJH
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	10/19/2015 2:49:22	PM 21901
Surr: DNOP	124	70-130	%REC	1	10/19/2015 2:49:22	PM 21901
EPA METHOD 8260B: VOLATILES	SHORT LIST				Anal	yst: DJF
Benzene	ND	0.035	mg/Kg	1	10/19/2015 11:51:59	AM 21890
Toluene	ND	0.035	mg/Kg	1	10/19/2015 11:51:59	AM 21890
Ethylbenzene	ND	0.035	mg/Kg	1	10/19/2015 11:51:59	AM 21890
Xylenes, Total	ND	0.071	mg/Kg	1	10/19/2015 11:51:59	AM 21890
Surr: 1,2-Dichloroethane-d4	98.0	70-130	%REC	1	10/19/2015 11:51:59	AM 21890
Surr: 4-Bromofluorobenzene	106	70-130	%REC	1	10/19/2015 11:51:59	AM 21890
Surr: Dibromofluoromethane	112	70-130	%REC	1	10/19/2015 11:51:59	AM 21890
Surr: Toluene-d8	95.0	70-130	%REC	1	10/19/2015 11:51:59	AM 21890

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 6
- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#: 1510832 22-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID	MB-21901	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	n ID: 21	901	F	RunNo: 2	9641				
Prep Date:	10/19/2015	Analysis D	ate: 1	0/19/2015	5	SeqNo: 9	02525	Units: mg/l	<b>(</b> g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	ND	10								
Surr: DNOP		12		10.00		122	70	130			
Sample ID	MB-21923	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	n ID: 21	923	F	RunNo: 2	9662				
Prep Date:	10/20/2015	Analysis D	)ate: 1	0/20/2015	5	SeqNo: 9	03291	Units: %RE	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		9.8		10.00		97.7	70	130			
Sample ID	LCS-21923	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:			ID: 21			RunNo: 2					
	10/20/2015	Analysis D				SeqNo: 9	03292	Units: %RE	c		
Analyte		Result	PQL		SPK Ref Val		LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.7	FUL	5.000	OF ICINET VAL	93.1	70	130	/OINFD	AFDLIIII	Qual
0 1 10	10001	0 7			<b>T</b>	10 1 5		00451110 01			
	LCS-21901		ype: LC					8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	n ID: 21	901	F	RunNo: 2	9662			e Organics	
Client ID:			n ID: 21	901	F		9662	8015M/D: Di		e Organics	
Client ID: Prep Date: Analyte	LCSS 10/19/2015	Batch Analysis D Result	n ID: 21 Pate: 1	901 0/20/2015 SPK value	SPK Ref Val	RunNo: 2 SeqNo: 9 %REC	9662 03563 LowLimit	Units: mg/k		e Organics  RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C	LCSS	Batch Analysis D Result	n ID: <b>21</b> Date: <b>1</b>	901 0/20/2015 SPK value 50.00	F	RunNo: 2 SeqNo: 9 %REC 101	9662 03563 LowLimit 57.4	Units: mg/k HighLimit 139	(g		Qual
Client ID: Prep Date: Analyte	LCSS 10/19/2015	Batch Analysis D Result	n ID: 21 Pate: 1	901 0/20/2015 SPK value	SPK Ref Val	RunNo: 2 SeqNo: 9 %REC	9662 03563 LowLimit	Units: mg/k	(g		Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP	LCSS 10/19/2015	Batch Analysis D Result 50 4.7	n ID: 21 Pate: 1	901 0/20/2015 SPK value 50.00 5.000	SPK Ref Val	RunNo: 2 SeqNo: 9 %REC 101 94.2	9662 03563 LowLimit 57.4 70	Units: mg/k HighLimit 139	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP	10/19/2015 Drganics (DRO)	Batch Analysis D Result 50 4.7 SampT	PQL 10	901 0/20/2015 SPK value 50.00 5.000	SPK Ref Val 0	RunNo: 2 SeqNo: 9 %REC 101 94.2	9662 03563 LowLimit 57.4 70	Units: mg/h HighLimit 139 130	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP Sample ID Client ID:	10/19/2015 Drganics (DRO)	Batch Analysis D Result 50 4.7 SampT	PQL 10 Type: MS	901 0/20/2015 SPK value 50.00 5.000	SPK Ref Val 0	RunNo: 2 SeqNo: 9 %REC 101 94.2	9662 03563 LowLimit 57.4 70 PA Method	Units: mg/h HighLimit 139 130	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP Sample ID Client ID:	10/19/2015 Drganics (DRO) 1510832-001AMS CS-27	Batch Analysis D Result 50 4.7 SampT Batch	PQL 10 Type: MS	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015	SPK Ref Val 0	RunNo: 2 SeqNo: 9  %REC 101 94.2 tCode: El RunNo: 2 SeqNo: 9	9662 03563 LowLimit 57.4 70 PA Method	Units: mg/k HighLimit 139 130 8015M/D: Di	%RPD	RPDLimit	Qual
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Prep Date: Analyte Diesel Range C	10/19/2015 Drganics (DRO) 1510832-001AMS CS-27	Batch Analysis D Result 50 4.7  SampT Batch Analysis D Result 52	PQL 10  Sype: MS  a ID: 21	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015 SPK value 49.90	SPK Ref Val 0 Tes	RunNo: 2 SeqNo: 9  %REC 101 94.2  tCode: El RunNo: 2 SeqNo: 9  %REC 103	9662 03563 LowLimit 57.4 70 PA Method 9662 03564 LowLimit 42.3	Units: mg/k HighLimit 139 130 8015M/D: Di Units: mg/k HighLimit 146	%RPD esel Range	RPDLimit  e Organics	
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Prep Date: Analyte	10/19/2015 Organics (DRO) 1510832-001AMS CS-27 10/19/2015	Batch Analysis D Result 50 4.7 SampT Batch Analysis D Result	PQL 10  10  10  10  10  10  10  10  10  10	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015 SPK value	SPK Ref Val  0  Tes  SPK Ref Val	RunNo: 2 SeqNo: 9  %REC 101 94.2  tCode: El RunNo: 2 SeqNo: 9  %REC	9662 03563 LowLimit 57.4 70 PA Method 9662 03564 LowLimit	Units: mg/k HighLimit 139 130 8015M/D: Di Units: mg/k	%RPD esel Range	RPDLimit  e Organics	
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP	10/19/2015 Organics (DRO) 1510832-001AMS CS-27 10/19/2015	Batch Analysis D Result 50 4.7  SampT Batch Analysis D Result 52 4.8	PQL 10  10  10  10  10  10  10  10  10  10	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015 SPK value 49.90 4.990	SPK Ref Val  0  Tes  SPK Ref Val  0	RunNo: 2 SeqNo: 9  %REC 101 94.2  tCode: El RunNo: 2 SeqNo: 9  %REC 103 95.2	9662 03563 LowLimit 57.4 70 PA Method 9662 03564 LowLimit 42.3 70	Units: mg/k HighLimit 139 130 8015M/D: Di Units: mg/k HighLimit 146	%RPD esel Range (g %RPD	RPDLimit  e Organics  RPDLimit	
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP	10/19/2015  Drganics (DRO)  1510832-001AMS  CS-27  10/19/2015  Drganics (DRO)	Batch Analysis D Result 50 4.7 SampT Batch Analysis D Result 52 4.8 D SampT	PQL 10 PQL 10 PQL 10 PQL 10 PQL 10 PQL 10	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015 SPK value 49.90 4.990	SPK Ref Val  0  Tes  SPK Ref Val  0	RunNo: 2 SeqNo: 9  %REC 101 94.2  tCode: El RunNo: 2 SeqNo: 9  %REC 103 95.2	9662 03563 LowLimit 57.4 70 PA Method 9662 03564 LowLimit 42.3 70	Units: mg/k HighLimit 139 130 8015M/D: Di Units: mg/k HighLimit 146 130	%RPD esel Range (g %RPD	RPDLimit  e Organics  RPDLimit	
Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Prep Date: Analyte Diesel Range C Surr: DNOP  Sample ID Client ID: Client ID: Client ID: Client ID: Client ID:	10/19/2015  Drganics (DRO)  1510832-001AMS  CS-27  10/19/2015  Drganics (DRO)	Batch Analysis D Result 50 4.7 SampT Batch Analysis D Result 52 4.8 D SampT	PQL 10	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015 SPK value 49.90 4.990	SPK Ref Val  0  Tes  SPK Ref Val  0  Tes  F	RunNo: 2 SeqNo: 9  %REC 101 94.2  tCode: El RunNo: 2 SeqNo: 9  %REC 103 95.2	9662 03563 LowLimit 57.4 70 PA Method 9662 03564 LowLimit 42.3 70 PA Method 9662	Units: mg/k HighLimit 139 130 8015M/D: Di Units: mg/k HighLimit 146 130	%RPD esel Range %RPD esel Range	RPDLimit  e Organics  RPDLimit	
Client ID: Prep Date: Analyte Diesel Range Court: DNOP Sample ID Client ID: Prep Date: Analyte Diesel Range Court: DNOP Sample ID	10/19/2015  Drganics (DRO)  1510832-001AMS  CS-27  10/19/2015  Drganics (DRO)  1510832-001AMS  CS-27	Batch Analysis D Result 50 4.7 SampT Batch Analysis D Result 52 4.8 D SampT Batch	PQL 10	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015 SPK value 49.90 4.990 SD 901 0/20/2015	SPK Ref Val  0  Tes  SPK Ref Val  0  Tes  F	RunNo: 2 SeqNo: 9  %REC 101 94.2  tCode: El RunNo: 2 SeqNo: 9  %REC 103 95.2  tCode: El RunNo: 2	9662 03563 LowLimit 57.4 70 PA Method 9662 03564 LowLimit 42.3 70 PA Method 9662	Units: mg/k HighLimit 139 130 8015M/D: Di Units: mg/k HighLimit 146 130 8015M/D: Di	%RPD esel Range %RPD esel Range	RPDLimit  e Organics  RPDLimit	
Client ID: Prep Date: Analyte Diesel Range Court: DNOP Sample ID Client ID: Prep Date: Analyte Diesel Range Court: DNOP Sample ID Client ID: Prep Date: Analyte Analyte Lient ID: Prep Date: Analyte Analyte	10/19/2015  Drganics (DRO)  1510832-001AMS  CS-27  10/19/2015  Drganics (DRO)  1510832-001AMS  CS-27	Batch Analysis D Result 50 4.7 SampT Batch Analysis D Result 52 4.8 D SampT Batch Analysis D	PQL 10  Type: M3  Type: M3	901 0/20/2015 SPK value 50.00 5.000 S 901 0/20/2015 SPK value 49.90 4.990 SD 901 0/20/2015	SPK Ref Val  0  Tes  SPK Ref Val  0  Tes  SPK Ref Val  0	RunNo: 2 SeqNo: 9  %REC 101 94.2  tCode: El RunNo: 2 SeqNo: 9  %REC 103 95.2  tCode: El RunNo: 2 SeqNo: 9	9662 03563 LowLimit 57.4 70 PA Method 9662 03564 LowLimit 42.3 70 PA Method 9662 03624	Units: mg/k HighLimit 139 130  8015M/D: Di  Units: mg/k HighLimit 146 130  8015M/D: Di  Units: mg/k	%RPD esel Rang %RPD esel Rang	RPDLimit  e Organics  RPDLimit	Qual

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 3 of 6

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

### Hall Environmental Analysis Laboratory, Inc.

WO#:

1510832

22-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21912

SampType: MBLK

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

Client ID:

Batch ID: 21912

RunNo: 29662

Prep Date: 10/19/2015

Analysis Date: 10/20/2015

SeqNo: 903701 %REC

101

Units: %REC

Analyte

HighLimit

130

Qual

**RPDLimit** 

Surr: DNOP

Result 10

10.00

SPK Ref Val

SPK value

LowLimit

70

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

%RPD

Client ID: LCSS

Batch ID: 21912

RunNo: 29662

Prep Date: 10/19/2015

Sample ID LCS-21912

Analysis Date: 10/20/2015

SeqNo: 903702

Units: %REC

Analyte Result

PQL

SampType: LCS

SPK value SPK Ref Val %REC

LowLimit

HighLimit

%RPD **RPDLimit** 

5.000

97.7

70

Qual

Surr: DNOP

130

4.9

Qualifiers:

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

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

S % Recovery outside of range due to dilution or matrix

Value exceeds Maximum Contaminant Level.

В Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Sample pH Not In Range

Reporting Detection Limit

Page 4 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510832

22-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID mb-21890	Samp	SampType: MBLK			TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	PBS Batch ID: 21890			F	RunNo: 29634								
Prep Date: 10/16/2015	p Date: 10/16/2015 Analysis Date: 10/20/2015				SeqNo: 903025 U				Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	ND	0.050											
Toluene	ND	0.050											
Ethylbenzene	ND	0.050											
Kylenes, Total	ND	0.10											
Surr: 1,2-Dichloroethane-d4	0.45		0.5000		90.2	70	130						
Surr: 4-Bromofluorobenzene	0.51		0.5000		102	70	130						
Surr: Dibromofluoromethane	0.60		0.5000		119	70	130						
Surr: Toluene-d8	0.46		0.5000		92.9	70	130						

Sample ID Ics-21890	Sample ID Ics-21890 SampType: LCS				TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: LCSS	Batch ID: 21890			F	RunNo: 29634								
Prep Date: 10/16/2015	Analysis Date: 10/19/2015			5	SeqNo: 9	03026	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	0.96	0.050	1.000	0	96.4	70	130						
Toluene	0.96	0.050	1.000	0	96.1	70	130						
Surr: 1,2-Dichloroethane-d4	0.47		0.5000		93.6	70	130						
Surr: 4-Bromofluorobenzene	0.53		0.5000		106	70	130						
Surr: Dibromofluoromethane	0.60		0.5000		120	70	130						
Surr: Toluene-d8	0.48		0.5000		96.9	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
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 5 of 6

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510832

22-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID mb-21890 SampType: MBLK TestCode: EPA Method 8015D Mod: Gasoline Range Client ID: PBS Batch ID: 21890 RunNo: 29634 SeqNo: 903149 Prep Date: 10/16/2015 Analysis Date: 10/20/2015 Units: mg/Kg PQL %REC HighLimit %RPD **RPDLimit** Analyte Result SPK value SPK Ref Val LowLimit Qual ND 5.0 Gasoline Range Organics (GRO) Surr: BFB 530 500.0 107 70 130

											_	
Sample ID Ics-21890 SampType: LCS			S	TestCode: EPA Method 8015D Mod: Gasoline Range								
Client ID: LCSS	Batch	ID: 21	890	F	RunNo: 2	9634						
Prep Date: 10/16/2015	Analysis Da	Analysis Date: 10/19/2015			SeqNo: 903150			Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Gasoline Range Organics (GRO)	22	5.0	25.00	0	89.1	70	123					
Surr RER	500		500.0		994	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

Page 6 of 6

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



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 503-345-4107

Sample Log-In Check List

Website: www.hallenvironmental.com APEX AZTEC Work Order Number: 1510832 RcptNo: 1 Client Name: Received by/date: 10/17/2015 12:10:00 PM Logged By: **Lindsay Mangin** 10/19/2015 7:49:54 AM Completed By: **Lindsay Mangin** Reviewed By: 10/19/15 Chain of Custody No . Not Present ✓ Yes 1 Custody seals intact on sample bottles? Yes V No Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA 🗌 Yes V 4. Was an attempt made to cool the samples? No 🗌 NA . 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No Sample(s) in proper container(s)? Yes V No 7. Sufficient sample volume for indicated test(s)? No 🗌 Yes V 8. Are samples (except VOA and ONG) properly preserved? No V NA 🗌 Yes 9. Was preservative added to bottles? Yes 🗌 No 🗌 No VOA Vials V 10. VOA vials have zero headspace? Yes No V 11. Were any sample containers received broken? # of preserved bottles checked No . for pH: Yes V 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No \_ Yes V 13. Are matrices correctly identified on Chain of Custody? No . Yes V 14. Is it clear what analyses were requested? No | Checked by: Yes V 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes NA V No \_ 16. Was client notified of all discrepancies with this order? Person Notified: Date eMail Phone Fax By Whom: Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information

Seal Date

Signed By

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

Yes

Good

																CHAIN OF CUSTODY RECO	4D
	A					- 13/-31 5-15/-31								ANALYSIS REQUESTED		Lab use only Due Date:	
Λ	DEV					Laboratory:	+	all						TILGOLO I ED	////	/ / / / /	
	PEX					Address: _	A	Bay	NIM				_	/		Temp. of coolers	
Offic	e Locatio	n _ <u>A</u>	240	4	NM_					_			_		/ / / /	when received (C°):	
-						Contact:		A.F	vee	na	n		_	2	/ / /	1 2 3 4 5	
						Phone:							_	19		/ / Page i of /	_
Proj	ect Manag	ger	K.S	241	nmers	Contact:Phone:PO/SO#: _	72	50	-115	62	3			100	1111		
	ler's Name		1			Sampler's Sign	ature		10					7	/ / / /		
K	ance I	Deech	ul(	1	4	Ruy	-)	olle	LL					4 4 6	/ / /		
Proj.			Proje	ect Na	ame			-	No/T	pe of C	Containe	ers		SOL STEX SOLT TPH GEOLDIEC	////	11117	
72	50415	023		La	Herail	ac-56								\$ 5	/////		
Matrix	Date	Time	COED	Grab	Identifying Ma	rks of Sample(s)	Start	End	VOA	AG 1L	250 ml	Glass	P/0	/7//		Lab Sample ID (Lab Use Only)	
5	10/16/15	1230			CS.	-27						1		XX		1510832-001	
S	10/16/15	1235				-28						1		XX		-002	
1																	
													$\dashv$				
			1										+				
	-										-	-	+			+	
	-		_			WES		-				+	-				_
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				_													
													7				
The second second	round time	□ Nor					100%		S	am	00	<					
Belin	quished by (	Signature)		V		Time: Receiv	1	10	-07	-		Date:	IK	Time: NOTES		1 20000)	
Plalin	A during by	Signature)			Date:	Time: Receiv	red by:	(Signa	lurgy		1	Date:		Time:	BINITO	o Tom Long (BOROD)	
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					Date.	necen	eu by.	Olyna	iule)		1	Jaie.		Tane.		W-12 1 )	
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Matrix	ww	/ - Wastewa	ter	_	W - Water S	S - Soil SD - Soi	lid L	- Liquio	A t	- Air Ba	ng	C-1	Charc	coal tube SL - slud	ge O-Oil		_



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

October 19, 2015

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

TEL: (903) 821-5603

FAX

RE: Lateral 2C-56

OrderNo.: 1510717

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 10/15/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1510717

Date Reported: 10/19/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2C-56

Lab ID: 1510717-001

Client Sample ID: CS-19

Collection Date: 10/14/2015 1:00:00 PM

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analy	st: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.4	mg/Kg	1	10/15/2015 3:44:10 P	M 21863
Surr: DNOP	111	57.9-140	%REC	1	10/15/2015 3:44:10 P	M 21863
EPA METHOD 8015D: GASOLINE RAI	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	10/15/2015 11:14:50	PM 21853
Surr: BFB	87.2	75.4-113	%REC	1	10/15/2015 11:14:50	PM 21853
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: NSB
Benzene	ND	0.044	mg/Kg	1	10/15/2015 11:14:50	PM 21853
Toluene	ND	0.044	mg/Kg	1	10/15/2015 11:14:50	PM 21853
Ethylbenzene	ND	0.044	mg/Kg	1	10/15/2015 11:14:50	PM 21853
Xylenes, Total	ND	0.089	mg/Kg	1	10/15/2015 11:14:50	PM 21853
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	10/15/2015 11:14:50	PM 21853

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510717

Date Reported: 10/19/2015

### Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-20

Project: Lateral 2C-56

Collection Date: 10/14/2015 1:05:00 PM

Lab ID: 1510717-002

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual Units	DI	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	s			Analy	st: KJH
Diesel Range Organics (DRO)	ND	9.8	mg/K	1	10/15/2015 4:05:36 P	M 21863
Surr: DNOP	113	57.9-140	%REG	1	10/15/2015 4:05:36 P	M 21863
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/K	1	10/15/2015 11:37:52	PM 21853
Surr: BFB	85.7	75.4-113	%REG	1	10/15/2015 11:37:52	PM 21853
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: NSB
Benzene	ND	0.042	mg/K	1	10/15/2015 11:37:52	PM 21853
Toluene	ND	0.042	mg/K	1	10/15/2015 11:37:52	PM 21853
Ethylbenzene	ND	0.042	mg/K	1	10/15/2015 11:37:52	PM 21853
Xylenes, Total	ND	0.085	mg/K	, 1	10/15/2015 11:37:52	PM 21853
Surr: 4-Bromofluorobenzene	101	80-120	%RE	1	10/15/2015 11:37:52	PM 21853

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510717

Date Reported: 10/19/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-21

Project: Lateral 2C-56

Collection Date: 10/14/2015 1:10:00 PM

Lab ID: 1510717-003

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL Qu	ial Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analy	st: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	10/15/2015 4:27:00 P	M 21863
Surr: DNOP	113	57.9-140	%REC	1	10/15/2015 4:27:00 P	M 21863
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	5.1	mg/Kg	1	10/16/2015 12:00:57	AM 21853
Surr: BFB	86.9	75.4-113	%REC	1	10/16/2015 12:00:57	AM 21853
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: NSB
Benzene	ND	0.051	mg/Kg	1	10/16/2015 12:00:57	AM 21853
Toluene	ND	0.051	mg/Kg	1	10/16/2015 12:00:57	AM 21853
Ethylbenzene	ND	0.051	mg/Kg	1	10/16/2015 12:00:57	AM 21853
Xylenes, Total	ND	0.10	mg/Kg	1	10/16/2015 12:00:57	AM 21853
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	10/16/2015 12:00:57	AM 21853

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510717

Date Reported: 10/19/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-22

Project: Lateral 2C-56

Collection Date: 10/14/2015 1:15:00 PM

Lab ID: 1510717-004

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual U	nits	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s				Analyst:	КЈН
Diesel Range Organics (DRO)	ND	10	n	ng/Kg	1	10/15/2015 4:48:27 PM	21863
Surr: DNOP	117	57.9-140	9	%REC	1	10/15/2015 4:48:27 PM	21863
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.8	n	ng/Kg	1	10/16/2015 1:33:19 AM	21853
Surr: BFB	87.6	75.4-113	9	%REC	1	10/16/2015 1:33:19 AM	21853
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst:	NSB
Benzene	ND	0.038	n	ng/Kg	1	10/16/2015 1:33:19 AM	21853
Toluene	ND	0.038	n	ng/Kg	1	10/16/2015 1:33:19 AM	21853
Ethylbenzene	ND	0.038	n	ng/Kg	1	10/16/2015 1:33:19 AM	21853
Xylenes, Total	ND	0.076	n	ng/Kg	1	10/16/2015 1:33:19 AM	21853
Surr: 4-Bromofluorobenzene	102	80-120	9	6REC	1	10/16/2015 1:33:19 AM	21853

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510717

Date Reported: 10/19/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2C-56

Lab ID: 1510717-005

Client Sample ID: CS-23

Collection Date: 10/14/2015 1:20:00 PM

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL Qu	nal Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s	74.		Analyst:	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/15/2015 5:09:52 PM	21863
Surr: DNOP	116	57.9-140	%REC	1	10/15/2015 5:09:52 PM	21863
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.9	mg/Kg	1	10/16/2015 1:56:23 AM	21853
Surr: BFB	87.4	75.4-113	%REC	1	10/16/2015 1:56:23 AM	21853
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.039	mg/Kg	1	10/16/2015 1:56:23 AM	21853
Toluene	ND	0.039	mg/Kg	1	10/16/2015 1:56:23 AM	21853
Ethylbenzene	ND	0.039	mg/Kg	1	10/16/2015 1:56:23 AM	21853
Xylenes, Total	ND	0.078	mg/Kg	1	10/16/2015 1:56:23 AM	21853
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	10/16/2015 1:56:23 AM	21853

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510717

Date Reported: 10/19/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-24

Project: Lateral 2C-56

Collection Date: 10/14/2015 1:25:00 PM

Lab ID: 1510717-006

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL (	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analyst:	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/15/2015 5:31:23 PM	21863
Surr: DNOP	113	57.9-140	%REC	1	10/15/2015 5:31:23 PM	21863
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	10/15/2015 3:07:54 PM	R29562
Surr: BFB	88.4	75.4-113	%REC	1	10/15/2015 3:07:54 PM	R29562
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.034	mg/Kg	1	10/15/2015 3:07:54 PM	A29562
Toluene	ND	0.034	mg/Kg	1	10/15/2015 3:07:54 PM	A29562
Ethylbenzene	ND	0.034	mg/Kg	1	10/15/2015 3:07:54 PM	A29562
Xylenes, Total	ND	0.068	mg/Kg	1	10/15/2015 3:07:54 PM	A29562
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	10/15/2015 3:07:54 PM	A29562

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510717

Date Reported: 10/19/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2C-56

Lab ID: 1510717-007

Client Sample ID: CS-25

Collection Date: 10/14/2015 1:30:00 PM

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	10/15/2015 5:52:48 PM	21863
Surr: DNOP	111	57.9-140	%REC	1	10/15/2015 5:52:48 PM	21863
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	8.2	3.9	mg/Kg	1	10/15/2015 4:17:45 PM	R29562
Surr: BFB	103	75.4-113	%REC	1	10/15/2015 4:17:45 PM	R29562
<b>EPA METHOD 8021B: VOLATILES</b>					Analyst:	NSB
Benzene	ND	0.039	mg/Kg	1	10/15/2015 4:17:45 PM	A29562
Toluene	ND	0.039	mg/Kg	1	10/15/2015 4:17:45 PM	A29562
Ethylbenzene	ND	0.039	mg/Kg	1	10/15/2015 4:17:45 PM	A29562
Xylenes, Total	0.18	0.079	mg/Kg	1	10/15/2015 4:17:45 PM	A29562
Surr: 4-Bromofluorobenzene	110	80-120	%REC	1	10/15/2015 4:17:45 PM	A29562

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 7 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510717

Date Reported: 10/19/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-26

Project: Lateral 2C-56

Collection Date: 10/14/2015 1:35:00 PM

Lab ID: 1510717-008

Matrix: MEOH (SOIL) Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL (	Qual Un	its	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANIC	s				Analyst:	КЈН
Diesel Range Organics (DRO)	ND	9.6	mg	g/Kg	1	10/15/2015 6:14:20 PM	21863
Surr: DNOP	105	57.9-140	%F	REC	1	10/15/2015 6:14:20 PM	21863
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	3.7	mg	g/Kg	1	10/16/2015 2:19:29 AM	R29562
Surr: BFB	88.4	75.4-113	%F	REC	1	10/16/2015 2:19:29 AM	R29562
<b>EPA METHOD 8021B: VOLATILES</b>						Analyst:	NSB
Benzene	ND	0.037	mg	g/Kg	1	10/16/2015 2:19:29 AM	A29562
Toluene	ND	0.037	mg	g/Kg	1	10/16/2015 2:19:29 AM	A29562
Ethylbenzene	ND	0.037	mg	g/Kg	1	10/16/2015 2:19:29 AM	A29562
Xylenes, Total	ND	0.074	mg	g/Kg	1	10/16/2015 2:19:29 AM	A29562
Surr: 4-Bromofluorobenzene	101	80-120	%F	REC	1	10/16/2015 2:19:29 AM	A29562

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 8 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510717

19-Oct-15

Client: Project: APEX TITAN

Lateral 2C-56

Sample ID MB-21863	SampType: MBLK	TestCode: EPA Method	TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 21863	RunNo: 29559							
Prep Date: 10/15/2015	Analysis Date: 10/15/2015	SeqNo: 899654	Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual					
Diesel Range Organics (DRO) Surr: DNOP	ND 10 11 10.00	107 57.9	140						
Sample ID LCS-21863	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics						
Client ID: LCSS	Batch ID: 21863	RunNo: 29559							
Prep Date: 10/15/2015	Analysis Date: 10/15/2015	SeqNo: 899655	Units: mg/Kg						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual					
Diesel Range Organics (DRO)	46 10 50.00	0 91.3 57.4	139						
Surr: DNOP	5.5 5.000	110 57.9	140						
Sample ID MB-21874	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics						
Client ID: PBS	Batch ID: 21874	RunNo: 29559							
Prep Date: 10/15/2015	Analysis Date: 10/16/2015	SeqNo: 900607	Units: %REC						
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual					
Surr: DNOP	12 10.00	124 70	130						

#### Qualifiers:

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

Page 9 of 13

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510717 19-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Project:	Lateral 20	C-56									- V1
Sample ID	MB-21853	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	PBS	Batch	ID: 21	853	F	RunNo: 29562					
Prep Date:	10/14/2015	Analysis D	ate: 1	0/15/2015	8	SeqNo: 9	00211	Units: mg/l	Κg		
Analyte	Land Street	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang Surr: BFB	e Organics (GRO)	ND 850	5.0	1000		84.9	75.4	113			
Sample ID	LCS-21853	SampT	ype: LC	cs	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	е	- 1-0
Client ID:	LCSS	Batch	ID: 21	853	F	RunNo: 2	9562				
Prep Date:	10/14/2015	Analysis D	ate: 1	0/15/2015	S	SeqNo: 9	00212	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)	25 930	5.0	25.00 1000	0	102 92.6	79.6 75.4	122 113			
Sample ID	5ML RB	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	14
Client ID:	PBS	Batch	ID: R2	29562	F	RunNo: 2	9562				
Prep Date:		Analysis D	ate: 1	0/15/2015	S	SeqNo: 9	00231	Units: mg/h	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sasoline Rang Surr: BFB	e Organics (GRO)	ND 870	5.0	1000		86.8	75.4	113			
Sample ID	2.5UG GRO LCS	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	LCSS	Batch	ID: R2	29562	F	RunNo: 2	9562				
Prep Date:		Analysis Da	ate: 1	0/15/2015	S	eqNo: 9	00232	Units: mg/F	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sasoline Range Surr: BFB	e Organics (GRO)	24 930	5.0	25.00 1000	0	97.9 92.8	79.6 75.4	122 113 .			
Sample ID	1510717-006AMS	SampT	ype: M	S	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	CS-24	Batch	ID: R2	29562	R	RunNo: 2	9562				
Prep Date:		Analysis Da	ate: 1	0/15/2015	S	eqNo: 9	00234	Units: mg/F	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sasoline Range Surr: BFB	e Organics (GRO)	17 650	3.4	17.12 684.9	1.034	95.6 95.1	62.5 75.4	151 113			
Sample ID	1510717-006AMSE	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	CS-24	Batch	ID: R2	29562	R	unNo: 2	9562				
Prep Date:		Analysis Da	ate: 1	0/15/2015	S	eqNo: 9	00235	Units: mg/F	ζg		
Analyte		Result	POL	SPK value	SPK Ref Val	%RFC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 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 10 of 13

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

## Hall Environmental Analysis Laboratory, Inc.

WO#:

1510717

19-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID 1510717-006AMSD

SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

Client ID:

Batch ID: R29562

RunNo: 29562

Prep Date:

Analysis Date: 10/15/2015

SeqNo: 900235

Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.4	17.12	1.034	95.9	62.5	151	0.314	22.1	
Surr: BFB	650		684.9		95.0	75.4	113	0	0	

### Qualifiers:

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

Sample pH Not In Range Reporting Detection Limit Page 11 of 13

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510717

19-Oct-15

Client: Project: APEX TITAN Lateral 2C-56

Sample ID MB-21853	Sampl	SampType: MBLK Batch ID: 21853			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batc				RunNo: 29562						
Prep Date: 10/14/2015	Analysis [	Date: 10	0/15/2015	5	SeqNo: 9	00274	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.050									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
(ylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120				

Sample ID LCS-21853	SampT	SampType: LCS TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batcl	h ID: 21	853	F	RunNo: 29562					
Prep Date: 10/14/2015	Analysis D	Date: 10	0/15/2015	5	SeqNo: 9	00279	Units: mg/F	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.94	0.050	1.000	0	94.5	80	120			
Toluene	0.93	0.050	1.000	0	92.6	80	120			
Ethylbenzene	0.94	0.050	1.000	0	94.3	80	120			
Xylenes, Total	2.8	0.10	3.000	0	95.0	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Sample ID 5ML RB	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch	Batch ID: A29562			RunNo: 29562					
Prep Date:	Analysis D	ate: 10	0/15/2015	S	SeqNo: 9	00302	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr. 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID 100NG BTEX LCS	Samp1	ype: LC	S	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batcl	h ID: A2	9562	F	RunNo: 29562					
Prep Date:	Analysis [	Date: 10	0/15/2015	5	SeqNo: 9	00303	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.050	1.000	0	98.1	80	120			
Toluene	0.96	0.050	1.000	0	96.4	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.9	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.7	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

### Qualifiers:

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

Page 12 of 13

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510717

19-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID 1510717-007AMS	SampT	ype: MS	3	Tes	TestCode: EPA Method 8021B: Volatiles							
Client ID: CS-25	Batcl	n ID: A2	9562	F	RunNo: 29562							
Prep Date:	Analysis D	nalysis Date: 10/15/2015 SeqNo: 900306 U						Units: mg/Kg				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Benzene	0.77	0.039	0.7893	0.01006	95.8	69.6	136					
Toluene	0.75	0.039	0.7893	0.02075	92.8	76.2	134					
Ethylbenzene	0.78	0.039	0.7893	0.03085	95.4	75.8	137					
Xylenes, Total	2.4	0.079	2.368	0.1794	95.6	78.9	133					
Surr: 4-Bromofluorobenzene	0.88		0.7893		111	80	120					

Sample ID 1510717-007AM	Samp	ype: MS	SD	Tes	TestCode: EPA Method 8021B: Volatiles						
Client ID: CS-25	Batc	n ID: A2	9562	F	RunNo: 29562						
Prep Date:	ep Date: Analysis Date: 10/15/2015					00307	Units: mg/K	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	0.79	0.039	0.7893	0.01006	99.3	69.6	136	3.56	20		
Toluene	0.79	0.039	0.7893	0.02075	96.9	76.2	134	4.15	20		
Ethylbenzene	0.81	0.039	0.7893	0.03085	98.6	75.8	137	3.18	20		
Xylenes, Total	2.5	0.079	2.368	0.1794	98.5	78.9	133	2.76	20		
Surr: 4-Bromofluorobenzene	0.90		0.7893		113	80	120	0	0		

### Qualifiers:

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

Page 13 of 13

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



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

TEL: 595-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Work Order Number: 1510717 **APEX AZTEC** Client Name: RcptNo: 1 Received by/date: Logged By: Lindsay Mangin 10/15/2015 7:00:00 AM Completed By: **Lindsay Mangin** 10/15/2015 7:20:09 AM Reviewed By: 10115115 Chain of Custody Yes No . Not Present V 1. Custody seals intact on sample bottles? Yes V No 🗌 Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA 🗌 4. Was an attempt made to cool the samples? Yes V 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No | NA No 🗌 Sample(s) in proper container(s)? Yes V No 🗌 Yes V 7. Sufficient sample volume for indicated test(s)? No Yes V 8. Are samples (except VOA and ONG) properly preserved? No V NA 🗌 Yes 9. Was preservative added to bottles? Yes No VOA Vials No [ 10. VOA vials have zero headspace? Yes -No V 11. Were any sample containers received broken? # of preserved battles checked No 🗌 for pH: Yes V 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? 13. Are matrices correctly identified on Chain of Custody? Yes V No 🗌 No 🗌 Yes V 14. Is it clear what analyses were requested? No 🗌 Checked by: 15. Were all holding times able to be met? Yes V (If no, notify customer for authorization.) Special Handling (if applicable) Yes No 🗌 NA V 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By 3.6 Good Yes

																			C	CHAIN O	F CUS	TODY REC	ORD
	1														ALYS	1		//		///	11	use only Date:	
4	-					Laboratory:		the	1					RE	QUES	STED /	/ /	/ /	//	//	/	. Date.	
A	PEX					Address: _	1	TOQ	m	1			1				//		/ /	/ /	Yem	p. of coolers	
Offic	e Locatio	n	18	tec	may				,				1				/ /	//	/	///	whe	n received (C°):	3.6
						Contact:		A, F	ne	ner	1		1			18		//		/ / /	1	2 3 4	5
						Phone:							1			13	//		//	//	Pag	e	
Proje	ct Manag	ger\	45	LM	mers	PO/SO #: .	70	50	415	023			-			3.R.	//	//	/ /	//			
	er's Name	Deech	11;	/		Sampler's Sign	ature .	eel	he	3					80218128	TPH GRUIDACO		//	//				
Proj. N	10. 50415		Proje	ect Na	ame ateal	2 (-5	6		No/T	ype of C	contain	ers			8027		//		//				
Matrix	Date	Time	CoEp	Grab	Identifying Ma	rks of Sample(s)	Start	End	VOA	A/G	250 ml	Glass	- P/O							L	ab Sample	ID (Lab Use Only	1)
3	10/14/15	1300			CS	-19						1	İ	1	X					150	717-	001	
	1	1305			CS	-20						1	11.0	X	X						-0		
		1310			CS	-21						1	-	X	X						-a	03	
		-1315			CS	-22						1	-	X	X						-a	4	
		1320				: 23						1		X	X						-a	5	
		1325				5-24						1		X	X						-00	6	
		1330				5-25						1	1	X	X						-00		
V	V	1335	1			5-26						1	-	X	X						-00		
						NIS	_									+	-						
Turn a	round time	□ Nor	mal	02	25% Rush (	1 50% Rush	100%	Rush		24	av i	rusv	1	_									
de	uished by	chil	1		Date:	25 /1	yed by:	tu	Ature)	ret	-	Date:	K	18	ime:	NOTE	3:	v -			,		
Beline	uished by	(Signature)	L.		Date:	Time: Recei	ved by	Signa	ature)			Plate:	-		ime:			Bill	せいい	un con	9 (E	peod)	
Relino	juished by				Date:	Time: Recei	ved by	(Signa	ature)			Date:		1	îme:			n	) 23	593			
Relino	uished by	(Signature)	-31		Date:	Time: Recei	ved by	(Signa	ature)			Date:		T	īme:			2-0	Jay	rush	44	0/16/17)	
Matrix Contai		V - Wastewa A - 40 ml via			W - Water A/G - Amber / C	S - Soil SD - So or Glass 1 Liter	olid	L - Liqui 250 ml -	d A	- Air Ba	ag outh			rcoal t	ube or other	SL - sluc	ge	O - Oil			-		



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

October 15, 2015

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

FAX

RE: Lateral 2C-56

OrderNo.: 1510647

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/14/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

Only

4901 Hawkins NE

Albuquerque, NM 87109

### Lab Order 1510647

Date Reported: 10/15/2015

### Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-14

Project: Lateral 2C-56

Collection Date: 10/13/2015 2:00:00 PM

Lab ID: 1510647-001

Matrix: MEOH (SOIL) Received Date: 10/14/2015 6:55:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s			Analy	st: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/14/2015 10:23:33	AM 21843
Surr: DNOP	117	57.9-140	%REC	1	10/14/2015 10:23:33	AM 21843
EPA METHOD 8015D: GASOLINE RA	NGE				Analy	st: NSB
Gasoline Range Organics (GRO)	ND	3.2	mg/Kg	1	10/14/2015 9:32:40 A	M 21815
Surr: BFB	102	75.4-113	%REC	1	10/14/2015 9:32:40 A	M 21815
<b>EPA METHOD 8021B: VOLATILES</b>					Analy	st: NSB
Benzene	ND	0.032	mg/Kg	1	10/14/2015 9:32:40 A	M 21815
Toluene	ND	0.032	mg/Kg	1	10/14/2015 9:32:40 A	M 21815
Ethylbenzene	ND	0.032	mg/Kg	1	10/14/2015 9:32:40 A	M 21815
Xylenes, Total	0.28	0.064	mg/Kg	1	10/14/2015 9:32:40 A	M 21815
Surr: 4-Bromofluorobenzene	119	80-120	%REC	1	10/14/2015 9:32:40 A	M 21815

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

### Lab Order 1510647

Date Reported: 10/15/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-15

Project: Lateral 2C-56

Collection Date: 10/13/2015 2:05:00 PM

Lab ID: 1510647-002 Matrix: MEOH (SOIL) Received Date: 10/14/2015 6:55:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	S			Anal	yst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	10/14/2015 10:44:47	AM 21843
Surr: DNOP	108	57.9-140	%REC	1	10/14/2015 10:44:47	AM 21843
EPA METHOD 8015D: GASOLINE R	ANGE				Anal	yst: NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	10/14/2015 9:59:06	AM 21815
Surr: BFB	88.2	75.4-113	%REC	1	10/14/2015 9:59:06	AM 21815
EPA METHOD 8021B: VOLATILES					Anal	yst: NSB
Benzene	ND	0.040	mg/Kg	1	10/14/2015 9:59:06	AM 21815
Toluene	ND	0.040	mg/Kg	1	10/14/2015 9:59:06	AM 21815
Ethylbenzene	ND	0.040	mg/Kg	1	10/14/2015 9:59:06	AM 21815
Xylenes, Total	ND	0.081	mg/Kg	1	10/14/2015 9:59:06	AM 21815
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	10/14/2015 9:59:06	AM 21815

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510647

Date Reported: 10/15/2015

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2C-56

Lab ID: 1510647-003 Client Sample ID: CS-16

Collection Date: 10/13/2015 2:10:00 PM

Received Date: 10/14/2015 6:55:00 AM Matrix: MEOH (SOIL)

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	NGE ORGANIC	s	1000		Anal	yst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/14/2015 11:06:07	7 AM 21843
Surr: DNOP	114	57.9-140	%REC	1	10/14/2015 11:06:07	7 AM 21843
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	yst: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/14/2015 10:22:19	AM 21815
Surr: BFB	92.3	75.4-113	%REC	1	10/14/2015 10:22:19	9 AM 21815
<b>EPA METHOD 8021B: VOLATILES</b>					Anal	yst: NSB
Benzene	ND	0.047	mg/Kg	1	10/14/2015 10:22:19	AM 21815
Toluene	ND	0.047	mg/Kg	1	10/14/2015 10:22:19	AM 21815
Ethylbenzene	ND	0.047	mg/Kg	1	10/14/2015 10:22:19	AM 21815
Xylenes, Total	ND	0.093	mg/Kg	1	10/14/2015 10:22:19	AM 21815
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	10/14/2015 10:22:19	AM 21815

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

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

### Lab Order 1510647

Date Reported: 10/15/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Client Sample ID: CS-17

Project: Lateral 2C-56

Collection Date: 10/13/2015 2:15:00 PM

Lab ID: 1510647-004

Matrix: MEOH (SOIL) Received Date: 10/14/2015 6:55:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	NGE ORGANIC	s			Anal	yst: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/14/2015 11:27:24	AM 21843
Surr: DNOP	108	57.9-140	%REC	1	10/14/2015 11:27:24	AM 21843
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	yst: NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	10/14/2015 10:45:35	AM 21815
Surr: BFB	85.7	75.4-113	%REC	1	10/14/2015 10:45:35	AM 21815
<b>EPA METHOD 8021B: VOLATILES</b>					Anal	yst: NSB
Benzene	ND	0.048	mg/Kg	1	10/14/2015 10:45:35	AM 21815
Toluene	ND	0.048	mg/Kg	1	10/14/2015 10:45:35	AM 21815
Ethylbenzene	ND	0.048	mg/Kg	1	10/14/2015 10:45:35	AM 21815
Xylenes, Total	ND	0.095	mg/Kg	1	10/14/2015 10:45:35	AM 21815
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	10/14/2015 10:45:35	AM 21815

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510647

Date Reported: 10/15/2015

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-18

Project: Lateral 2C-56

Collection Date: 10/13/2015 2:20:00 PM

Lab ID: 1510647-005

Matrix: MEOH (SOIL) Received Date: 10/14/2015 6:55:00 AM

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	s			Anal	yst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	10/14/2015 11:55:29	AM 21843
Surr: DNOP	108	57.9-140	%REC	1	10/14/2015 11:55:29	AM 21843
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	yst: NSB
Gasoline Range Organics (GRO)	ND	3.2	mg/Kg	1	10/14/2015 11:08:56	AM 21815
Surr: BFB	85.1	75.4-113	%REC	1	10/14/2015 11:08:56	AM 21815
EPA METHOD 8021B: VOLATILES					Anal	yst: NSB
Benzene	ND	0.032	mg/Kg	1	10/14/2015 11:08:56	AM 21815
Toluene	ND	0.032	mg/Kg	1	10/14/2015 11:08:56	AM 21815
Ethylbenzene	ND	0.032	mg/Kg	1	10/14/2015 11:08:56	AM 21815
Xylenes, Total	ND	0.064	mg/Kg	1	10/14/2015 11:08:56	AM 21815
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	10/14/2015 11:08:56	AM 21815

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

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

# Hall Environmental Analysis Laboratory, Inc.

WO#: 15

1510647

15-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21843	SampType: MBL		estCode: EPA Met	hod 8015M/D: Die	esel Range	Organics	
Client ID: PBS	Batch ID: 2184	3	RunNo: 29523				
Prep Date: 10/14/2015	Analysis Date: 10/1	4/2015	SeqNo: 898178	Units: mg/K	g		
Analyte	Result PQL S	SPK value SPK Ref V	al %REC LowLi	mit HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND 10						
Surr: DNOP	10	10.00	104 5	7.9 140			
Sample ID LCS-21843	SampType: LCS	Т	estCode: EPA Met	hod 8015M/D: Die	esel Range	Organics	
Client ID: LCSS	Batch ID: 2184	3	RunNo: 29523				
Prep Date: 10/14/2015	Analysis Date: 10/1	4/2015	SeqNo: <b>898199</b>	Units: mg/K	(g		
Analyte	Result PQL S	SPK value SPK Ref V	al %REC LowLi	mit HighLimit	%RPD	<b>RPDLimit</b>	Qual
Diesel Range Organics (DRO)	43 10	50.00 0	85.2 5	7.4 139			
Surr: DNOP	5.0	5.000	101 5	7.9 140			
	1AMS SampType: MS	Т	estCode: EPA Met	hod 8015M/D: Die	esel Range	Organics	
Sample ID 1510647-00							
	Batch ID: 2184	3	RunNo: 29524				
Client ID: CS-14			RunNo: <b>29524</b> SeqNo: <b>898525</b>	Units: mg/K	(g		
Sample ID 1510647-00 Client ID: CS-14 Prep Date: 10/14/2015 Analyte	Analysis Date: 10/1		SeqNo: <b>898525</b>		(g %RPD	RPDLimit	Qual
Client ID: CS-14 Prep Date: 10/14/2015	5 Analysis Date: 10/1 Result PQL S	14/2015	SeqNo: 898525 al %REC LowLi			RPDLimit	Qual

Analysis D	ate: 10	0/14/2015	8	SeqNo: 8	98526	Units: mg/F	(g		
Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual
49	10	51.18	0	94.9	42.3	146	12.7	28.9	
5.5		5.118		107	57.9	140	0	0	
	Result 49	Result PQL 49 10	Result         PQL         SPK value           49         10         51.18	Result         PQL         SPK value         SPK Ref Val           49         10         51.18         0	Result         PQL         SPK value         SPK Ref Val         %REC           49         10         51.18         0         94.9	Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit           49         10         51.18         0         94.9         42.3	Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           49         10         51.18         0         94.9         42.3         146	Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD           49         10         51.18         0         94.9         42.3         146         12.7	Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         %RPD         RPDLimit           49         10         51.18         0         94.9         42.3         146         12.7         28.9

- \* Value exceeds 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
- w quantitation limits Page 6 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

## Hall Environmental Analysis Laboratory, Inc.

Result

24

980

PQL

WO#:

1510647

15-Oct-15

Client:

APEX TITAN

Project:

Gasoline Range Organics (GRO)

Surr: BFB

Lateral 2C-56

Sample ID MB-21815 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: **PBS** Batch ID: 21815 RunNo: 29531 Prep Date: 10/13/2015 Analysis Date: 10/14/2015 SeqNo: 898959 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual Gasoline Range Organics (GRO) ND 5.0 Surr: BFB 910 1000 90.9 75.4 113 Sample ID LCS-21815 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range Client ID: LCSS Batch ID: 21815 RunNo: 29531 Prep Date: 10/13/2015 Analysis Date: 10/14/2015 SeqNo: 898960 Units: mg/Kg

SPK value SPK Ref Val

25.00

1000

LowLimit

79.6

75.4

HighLimit

113

%REC

96.9

97.6

%RPD

**RPDLimit** 

Qual

#### Qualifiers:

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

Page 7 of 8

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

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510647

15-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21815	SampT	ype: ME	BLK	TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 21815 Analysis Date: 10/14/2015			F	RunNo: 2	9531				
Prep Date: 10/13/2015				SeqNo: 898976			Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Kylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120			

Sample ID LCS-21815	SampType: LCS			TestCode: EPA Method 8021B: Volatiles							
Client ID: LCSS	Batcl	h ID: 21	815	F	RunNo: 29531						
Prep Date: 10/13/2015	Analysis Date: 10/14/2015			SeqNo: 898977			Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	<b>RPDLimit</b>	Qual	
Benzene	0.97	0.050	1.000	0	97.4	80	120				
Toluene	0.96	0.050	1.000	0	96.1	80	120				
Ethylbenzene	0.97	0.050	1.000	0	97.4	80	120				
Xylenes, Total	2.9	0.10	3.000	0	97.4	80	120				
Surr: 4-Bromofluorobenzene	1.2		1.000		120	80	120				

### Qualifiers:

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

Page 8 of 8



Hall Environmental Analysis Laboratory
4901 Hawkins NE

Albuquerque, NM 87109

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

# Sample Log-In Check List

Client Name: **APEX AZTEC** Work Order Number: 1510647 RoptNo: 1 Received by/date: Logged By: 10/14/2015 6:55:00 AM Lindsay Mangin Completed By: Lindsay Mangin 10/14/2015 7:12:35 AM 10/14/15 Reviewed By: TO Chain of Custody No 🗌 Not Present V Yes 🗌 1 Custody seals intact on sample bottles? Yes V No Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA I 4. Was an attempt made to cool the samples? Yes V No NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V Yes V No 6. Sample(s) in proper container(s)? No 7. Sufficient sample volume for Indicated test(s)? No 8. Are samples (except VOA and ONG) properly preserved? NA 🗌 No V 9. Was preservative added to bottles? No 🗌 No VOA Viels Yes 10. VOA vials have zero headspace? Yes No V 11. Were any sample containers received broken? # of preserved bottles checked Yes V No for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 Yes V 13. Are matrices correctly identified on Chain of Custody? No 🗌 14. Is it clear what analyses were requested? Checked by: 15. Were all holding times able to be met? Yes V No . (If no, notify customer for authorization.) Special Handling (if applicable) Yes No 🗌 NA V 16. Was client notified of all discrepancies with this order? Person Notified: Date By Whom: Via: eMail Phone Fax In Person Regarding Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C | Condition | Seal Intact | Seal No Seal Date Signed By 1.4 Good

	CHAIN OF CUSTODY RECORD
Laboratory: Hall  Address: ASB, NM  Contact: A.Freeman  Phone: PO/SO#: 725 U 4 15 6 2 3  Sampler's Signature	ANALYSIS REQUESTED  Lab use only Due Date:  Temp. of coolers when received (C°): 1 2 3 4 5  Page of
No/Type of Containers	
	Lab Sample ID (Lab Use Only)
5-14	44 1510647-001
5-15	-00Z
5-16	XX -003
5-17	-004
5-18	XX -005
NES	
50% Rush 00% Rush Circle DC)	Time: NOTES:
Time: Received by: (Signature)  Date:  Time: Received by: (Signature)  Date:	Time:  Time:  N 22593
	Address: ASL, NM  Contact: A. Free man  Phone:  PO/SO #: 725 U - 13623  Sampler's Signature  No/Type of Containers



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

October 14, 2015

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

FAX

RE: Lateral 2C-56

OrderNo.: 1510572

### Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/13/2015 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1510572

## Hall Environmental Analysis Laboratory, Inc.

Date Reported: 10/14/2015

CLIENT: APEX TITAN

Project: Lateral 2C-56

Lab ID: 1510572-001

Client Sample ID: CS-12

Collection Date: 10/12/2015 1:00:00 PM

Received Date: 10/13/2015 7:00:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Anal	/st: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	10/13/2015 9:34:42	AM 21813
Surr: DNOP	111	57.9-140	%REC	1	10/13/2015 9:34:42	AM 21813
EPA METHOD 8015D: GASOLINE RA	NGE				Anal	st: NSB
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	10/13/2015 12:16:57	PM 21799
Surr: BFB	98.8	75.4-113	%REC	1	10/13/2015 12:16:57	PM 21799
<b>EPA METHOD 8021B: VOLATILES</b>					Anal	st: NSB
Benzene	ND	0.031	mg/Kg	1	10/13/2015 12:16:57	PM 21799
Toluene	ND	0.031	mg/Kg	1	10/13/2015 12:16:57	PM 21799
Ethylbenzene	ND	0.031	mg/Kg	1	10/13/2015 12:16:57	PM 21799
Xylenes, Total	ND	0.062	mg/Kg	1	10/13/2015 12:16:57	PM 21799
Surr: 4-Bromofluorobenzene	114	80-120	%REC	1	10/13/2015 12:16:57	PM 21799

Matrix: SOIL

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

- \* Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit

Lab Order 1510572

Date Reported: 10/14/2015

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT: APEX TITAN** 

Project: Lateral 2C-56

Lab ID: 1510572-002

Matrix: SOIL

Client Sample ID: CS-13

Collection Date: 10/12/2015 1:05:00 PM Received Date: 10/13/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN		Analys	st: <b>KJH</b>				
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/13/2015 9:57:05 A	M 21813
Surr: DNOP	111	57.9-140		%REC	1	10/13/2015 9:57:05 A	M 21813
<b>EPA METHOD 8015D: GASOLINE RAN</b>	NGE					Analys	st: NSB
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	10/13/2015 12:40:08 F	PM 21799
Surr: BFB	106	75.4-113		%REC	1	10/13/2015 12:40:08 F	PM 21799
EPA METHOD 8021B: VOLATILES						Analys	st: NSB
Benzene	ND	0.042		mg/Kg	1	10/13/2015 12:40:08 F	PM 21799
Toluene	ND	0.042		mg/Kg	1	10/13/2015 12:40:08 F	PM 21799
Ethylbenzene	ND	0.042		mg/Kg	1	10/13/2015 12:40:08 F	PM 21799
Xylenes, Total	0.088	0.083		mg/Kg	1	10/13/2015 12:40:08 F	PM 21799
Surr: 4-Bromofluorobenzene	115	80-120		%REC	1	10/13/2015 12:40:08 F	PM 21799

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

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

# Hall Environmental Analysis Laboratory, Inc.

5.2

WO#: 1510572

14-Oct-15

Client:

APEX TITAN

Project:

Surr: DNOP

Lateral 2C-56

Sample ID MB-21813	SampType: MBLK Batch ID: 21813			TestCode: EPA Method 8015M/D: Diesel Range Organics						
Client ID: PBS				F	RunNo: 2	9494				
Prep Date: 10/13/2015	Analysis D	ate: 1	0/13/2015	S	eqNo: 8	97104	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	10		10.00		104	57.9	140			
Sample ID LCS-21813	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015M/D: Die	esel Rang	e Organics	
Client ID: LCSS	Batch	ID: 21	813	F	RunNo: 2	9494				
Prep Date: 10/13/2015	Analysis D	ate: 1	0/13/2015	S	SeqNo: 8	97105	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

140

5.000

#### 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

Page 3 of 5

# Hall Environmental Analysis Laboratory, Inc.

PQL

5.0

Result

25

970

WO#:

1510572

14-Oct-15

Client:

APEX TITAN

Project:

Analyte

Surr: BFB

Gasoline Range Organics (GRO)

Lateral 2C-56

Sample ID MB-21799	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range						
Client ID: PBS	Batch ID: 21799	RunNo: 29502						
Prep Date: 10/12/2015	Analysis Date: 10/13/2015	SeqNo: 897743	Units: mg/Kg					
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qua					
Gasoline Range Organics (GRO)	ND 5.0							
Surr: BFB	890 1000	88.8 75.4	113					
Sample ID LCS-21799	SampType: LCS	8015D: Gasoline Range						
Client ID: LCSS	Batch ID: 21799	RunNo: 29502						
Prep Date: 10/12/2015	Analysis Date: 10/13/2015	SegNo: 897744	Units: mg/Kg					

0

SPK value SPK Ref Val

25.00

1000

LowLimit

79.6

75.4

%REC

101

96.8

122

113

%RPD

**RPDLimit** 

Qual

HighLimit

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

R RPD outside accepted recovery limits

% Recovery outside of range due to dilution or matrix

В Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Page 4 of 5

P Sample pH Not In Range

Reporting Detection Limit

# Hall Environmental Analysis Laboratory, Inc.

WO#:

1510572

14-Oct-15

Client:

APEX TITAN

Project:

Lateral 2C-56

Sample ID MB-21799	SampType: MBLK			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS	Batch ID: 21799		RunNo: 29502							
Prep Date: 10/12/2015	Analysis D	ate: 10	0/13/2015	S	eqNo: 8	97775	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Coluene	ND	0.050								
Ethylbenzene	ND	0.050								
(ylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID LCS-21799	Samp	ype: LC	s	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS	Batch ID: 21799			F						
Prep Date: 10/12/2015	Analysis [	)ate: 10	0/13/2015	8	SeqNo: 8	97776	Units: mg/k	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.050	1.000	0	97.5	80	120			
Toluene	0.98	0.050	1.000	0	98.2	80	120			
Ethylbenzene	0.96	0.050	1.000	0	95.8	80	120			
Xylenes, Total	2.8	0.10	3.000	0	94.8	80	120			
Surr: 4-Bromofluorobenzene	1.2		1.000		116	80	120			

### Qualifiers:

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

Page 5 of 5



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

# Sample Log-In Check List

APEX AZTEC Work Order Number: 1510572 RcptNo: 1 10/13/15 Received by/date: anne Sham 10/13/2015 7:00:00 AM Logged By: **Anne Thorne** an Il Completed By: 10/13/2015 **Anne Thorne** Reviewed By: Chain of Custody No 🗌 Not Present ✓ Yes 1. Custody seals intact on sample bottles? Yes 🗸 No 🗌 Not Present 2. Is Chain of Custody complete? Courier 3. How was the sample delivered? Log In No 🗌 NA 🗌 Yes V 4. Was an attempt made to cool the samples? No 🗌 NA 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No 6. Sample(s) in proper container(s)? Yes V No 🗆 Yes 🗸 7. Sufficient sample volume for indicated test(s)? Yes V No 🗌 8. Are samples (except VOA and ONG) properly preserved? Yes No V NA [ 9. Was preservative added to bottles? Yes No 🗌 No VOA Vials 10. VOA vials have zero headspace? Yes 🗆 No 🗸 11. Were any sample containers received broken? # of preserved bottles checked for pH: 12. Does paperwork match bottle labels? Yes V No \_ (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes V No 🗌 13. Are matrices correctly identified on Chain of Custody? Yes V No 🗌 14. Is it clear what analyses were requested? Yes 🗸 Checked by: No 🗌 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (If applicable) Yes NA V 16. Was client notified of all discrepancies with this order? No Person Notified: Date By Whom: eMail Phone Fax In Person Via: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C | Condition | Seal Intact | Seal No | Seal Date Signed By Good

					CHAIN OF CUSTODY RECORD
APEX Office Location Aztec Min	Laboratory: Hall Address: ASQ		ntul	ANALYSIS REQUESTED	Lab use only Due Date:  Temp. of coolers when received (C°): / 4
Project Manager   CSummes	Contact: A, F. Phone: PO/SO#: 7250 Sampler's Signature	415023		Part Sections	1 2 3 4 5 Page of
Proj. No. Project Name 725041583 Lateral	20-56	No/Type of Contain		Bee 48 IV.	
Matrix Date Time O r Identifying Ma	rks of Sample(s)	A/G	Glass Jar P/O	7//////	Lab Sample ID (Lab Use Only)
	-12			XY	1510572-001
	-(3			XX	-702
	MES				
	50% Rush 190% Rush	SAME	das		1 1 10/14
Relinquished by (Signature)  Relinquished by (Signature)  Relinquished by (Signature)  Date:	Time: Received by: (Signal Time: S - Soil SD - Soild L - Liquid	ture)	Date:	Time: NOTES: 2 d  Time: Bill to  Time: Notes: 2 d  Time: Roll to	Ton Long. 2593