3R-1011

Release Report/ General Correspondence

Enterprise SJ

Date: Oct-Dec 2015

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

OCT 01 2013

Form C-141 Revised August 8, 2011

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

					OPERAT	OR		Initial	Report X Final	Repo
Name of C	ompany:	Enterprise I	Field Ser	vices LLC	Contact	: Thomas Long		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
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CORRECTIVE ACTION REPORT

Property:

Lateral 2B-24 Pipeline Release NW 1/4, S23 T28N R10W San Juan County, New Mexico

September 15, 2015 Apex Project No. 7250415015

Prepared for:

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

Prepared by:

Ranee Deechilly Environmental Scientist

ate armins

Kyle Summers, CPG Branch Manager/Senior Geologist

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

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CORRECTIVE ACTION REPORT

Lateral 2B - 24 Pipeline Release NW 1/4, S23 T28N R10W San Juan County, New Mexico

Apex Project No. 7250415015

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral 2B-24 pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 23 in Township 28 North and Range 10 West in rural San Juan County, New Mexico (36.64960N, 107.87343W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site 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.

On July 16, 2015, a natural gas pipeline release was reported by Enterprise personnel. On July 28, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired by replacing approximately 40 feet of pipe. Natural gas and associated liquids were released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by soil discoloration at the ground surface and a small liquid flow path to the north of the release. Moist subsurface soil conditions at the time prevented significant vertical migration of the liquids that surfaced.

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

1.2 Project Objective

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

2.0 SITE RANKING

In accordance with the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the 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	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	v
	<200 feet	20	
Distance to Surface Water Body	200 to 1,000 feet	10	20
	>1,000 feet	0	_
Total Ran	20		

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. Based on the proximity to the nearby ephemeral wash, depth to groundwater may be less than 50 feet below grade surface (bgs), resulting in a ranking of "20" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking of "0".
- The release point is located approximately 40 feet from a small ephemeral wash with defined high water marks, resulting in a distance to surface water ranking of "20".

3.0 RESPONSE ACTIONS

3.1 Soil Excavation Activities

Beginning on July 28, 2015, Enterprise initiated excavation activities at the Site to repair the subsurface leak, and remediate potential hydrocarbon impact. The pipeline was subsequently repaired by replacing approximately 40 feet of pipe. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was identified by soil discoloration at the ground surface and a small liquid flow path to the north of the release. Moist subsurface soil conditions at the time prevented significant vertical migration of the liquids that surfaced. During corrective action activities, West States Contractors, Inc., provided heavy equipment and labor support. Kyle Summers and Ranee Deechilly, Apex environmental professionals, provided environmental support.

On August 3, 2015, confirmation soil samples C-1 through C-16 were collected from the sidewalls and bases of the excavation and confirmation samples C-17 and C-18 were collected from the wash and small flow path near the excavation. In addition, stockpile soil sample SP-1 was collected to determine the potential to reuse a segregated clean overburden stockpile as backfill material. Subsequent analytical results indicated that the south wall (C-3), west wall (C-11), and the flow path (C-17) still exhibited evidence of hydrocarbon impact above OCD guidelines.

The Site was over-excavated on August 7, 2015, to remove additional material from the side walls and flow path (the flow path was shoveled by hand). Analytical results from the subsequent confirmation samples (C-19 and C-20) indicate that the sidewalls no longer exhibited evidence of hydrocarbon impact. However, confirmation sample C-21 still exhibited evidence of hydrocarbon impact above the OCD guidelines in a portion of the flow path. On August 13, 2015, additional material was removed from the flow path by hand shoveling. Subsequent analytical results



indicate that the flow path (confirmation sample C-22) no longer exhibited evidence of hydrocarbon impact above OCD guidelines.

The final excavation measured 53 feet long by 28 feet wide at the maximum extents, with total depths ranging from six (6) to twelve (12) feet bgs.

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

A total of approximately 734 cubic yards of hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean fill and 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 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 22 confirmation soil samples (C-1 through C-22) from the resulting excavation for laboratory analysis. Samples C-3, C-11, and C-17, and C-21 were removed by excavation. Additionally, one (1) composite sample (SP-1) was collected from the stockpiled soil to determine the potential to reuse a segregated clean overburden stockpile as backfill material. 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 sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis.

3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) 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 samples C-2, C-4, C-7, C-10, C-17, and SP-1 were also analyzed for chlorides utilizing EPA Method 300.0.

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

4.0 DATA EVALUATION

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



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

4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory reporting limits associated with the final confirmation samples (C-1 through C-22) collected from the excavation, nearby wash, and flow path to the OCD *RALs* for sites having a total ranking score of "40". Soils associated with C-3, C-11, C-17, and C-21 were removed by excavation and are not included in the following discussion.

- The laboratory analyses of confirmation samples collected from soils remaining in place did not indicate benzene concentrations above the laboratory reporting limits, 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 indicate total BTEX concentrations ranging from below the laboratory reporting limits to 0.37 mg/kg (C-2), which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO concentrations ranging from below the laboratory reporting limits to 55.3 mg/kg (C-22), which are below the OCD RAL of 100 mg/kg for a Site ranking of "40".
- Confirmation samples C-2, C-4, C-7, C-10, C-17, and SP-1 were analyzed to determine the chloride concentration of the release area soils. Concentrations range from below the laboratory reporting limits to 370 mg/kg (C-10).
- The laboratory analyses of stockpile soil sample SP-1 did not indicate benzene or total BTEX concentrations above laboratory reporting limits, which are below the applicable OCD RALs. In addition, SP-1 did not indicate a combined TPH GRO/DRO concentration above the laboratory reporting limit, which is below the OCD RAL of 100 mg/kg.

The stockpiled soils resulting from the excavation that were not suitable for use as backfill were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation.

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

5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2B-24 pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 23 in Township 28 North and Range 10 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by 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.

On July 16, 2015, a natural gas pipeline release was reported by Enterprise personnel. On June 28, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired by replacing approximately 40 feet of pipe. Natural gas and associated liquids were released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by soil



discoloration at the ground surface and a small liquid flow path to the north of the release. Moist subsurface soil conditions at the time prevented significant vertical migration of the liquids that surfaced.

- 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 sandstone and unconsolidated silty sand.
- The final excavation measured approximately 53 feet long by 28 feet wide at the maximum extents, with a total depths ranging from approximately 6 to 12 feet bgs.
- Prior to backfilling, 22 confirmation samples soil samples were collected from the resulting final excavation for laboratory analyses. Samples C-3, C-11, C-17, and C-21 were removed by excavation. In addition, one (1) stockpile soil sample was collected from a segregated clean overburden stockpile to determine the potential to reuse the soil as backfill. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD *RALs* for a Site ranking of "40".
- A total of approximately 734 cubic yards of hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill and unaffected stockpiled overburden soils (demonstrated by laboratory analyses to exhibit COC concentrations below OCD *RALs*), and 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.





Project No. 7250415015

Z:Houston South/Drafting/New Mexico 04/2015/7250415015/Figure 2.mxd 8/28/2015 WGS 1984 Web Mercator Auxiliary Sphere Projected Coordinate System



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

State of New Mexico Energy Minerals and Natural Resources

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

97057 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
 Generator Name and Address: Enterprise Field Services, LLC. 614 Reilly Avenue, Farmington. NM 87401
2. Originating Site: Lateral 2B-24 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter F Section 23 Township 28 North Range 10 West; 36.649603, -107.873435
 4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline. 5. Estimated Volume100 (yd³) bbls Known Volume (to be entered by the operator at the end of the haul)734 (yd³) bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, Thomas Long PRINT & SIGN NAME representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby COMPANY NAME certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 198 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous la 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. (Cher the appropriate items)
MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I
Generator Signature complete the required testing/sign the Generator Waste Testing Certification.
1. <u>Reverse Running</u> , representative for <u>Envirotech. Inc.</u> do hereby certify that representative samples of the off field waste have been subjected to the paint filter test and tested for chloride content and that the sample have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
6. Transporter: West State Entergy Contractors HBL, Drug Foutz
OCD Permitted Surface Waste Management Facility Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 Address of Facility: Hilltop, NM
Method of Treatment and/or Disposal:
Waste Acceptance Status:
PRINT NAME: Cendra Funcing TITLE: Jaste Coordinate: DATE: 8-3-15
SIGNATURE: Kanagement Facility Authorized Agent TELEPHONE NO.: 505-632-0615

SITE PHOTOGRAPHS



Lateral 2B-24 Pipeline Release

Photograph 1

View of the fully exposed Lateral 2B-24 pipeline and initial excavation, facing east.



Photograph 2

View of the final excavation and repaired pipeline, facing southeast.



Photograph 3

View of the final excavation, facing west.



Page 1 of 2





Lateral 2B-24 Pipeline Release

Photograph 4

View of the over-excavated Site, facing northwest.



Photograph 5

View of the over-excavated Site, facing southeast.



Page 2 of 2



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

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	Chlorides (mg/kg)
New Mexico Ene Department, Oil Co	rgy, Mineral & N onservation Div Action Level	latural Resources ision, Remediation	10	NE	NE	NE	50	1(00	NE
				Stockpl	le Samples	ST THE ST				Resource to the
SP-1	8.3.15	Stockpile	< 0.042	< 0.042	<0.042	<0.085	ND	<4.2	<9.9	<30
COLLEGE RELE		and the loss have	Co	nfirmation Samples	s Removed by Excav	ation	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			
C-3	8.3.15	1 to 11	<0.044	0.14	0.21	4.7	5.1	48	70	NA
C-11	8.3.15	1 to 12	<0.044	< 0.044	<0.044	1.7	1.7	110	70	NA
C-17	8.3.15	0.5 to 1	< 0.041	0.44	0.22	3.1	3.8	51	340	330
C-21	8.7.15	1 to 1.5	< 0.043	< 0.043	<0.043	<0.087	ND	<4.3	160	NA
				Excavation Con	nfirmation Samples		and see a start of			Sector Process
C-1	8.3.15	1 to 12	<0.040	<0.040	<0.040	<0.080	ND	<4.0	<9.6	NA
C-2	8.3.15	12	<0.050	0.061	<0.050	0.31	0.37	5.4	<10	160
C-4	8.3.15	11	<0.037	< 0.037	< 0.037	< 0.074	ND	<3.7	<10	140
C-5	8.3.15	1 to 11	< 0.041	<0.041	<0.041	< 0.083	ND	<4.1	<9.7	NA
C-6	8.3.15	1 to 9	< 0.038	< 0.038	<0.038	< 0.075	ND	<3.8	<10	NA
C-7	8.3.15	9	< 0.039	< 0.039	< 0.039	<0.078	ND	<3.9	<9.7	43
C-8	8.3.15	1 to 12	< 0.046	< 0.046	< 0.046	< 0.092	ND	<4.6	<9.9	NA
C-9	8.3.15	1 to 9	< 0.044	<0.044	<0.044	<0.088	ND	<4.4	<9.8	NA
C-10	8.3.15	12	<0.040	<0.040	<0.040	< 0.079	ND	<4.0	<9.6	370
C-12	8.3.15	1 to 12	<0.044	<0.044	<0.044	<0.089	ND	6.2	23	NA
C-13	8.3.15	1 to 6	< 0.041	< 0.041	<0.041	< 0.083	ND	<4.1	<9.8	NA
C-14	8.3.15	1 to 6	< 0.046	<0.046	<0.046	<0.091	ND	<4.6	<10	NA
C-15	8.3.15	6	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<10	NA
C-16	8.3.15	1 to 6	<0.055	< 0.055	<0.055	<0.11	ND	<5.5	<10	NA
C-18	8.3.15	0.5 to 1	<0.038	< 0.038	< 0.038	<0.076	ND	<3.8	10	NA
C-19	8.7.15	1 to 11	< 0.038	< 0.038	< 0.038	<0.076	ND	<3.8	<9.9	NA
C-20	8.7.15	1 to 12	< 0.041	<0.041	<0.041	< 0.083	ND	<4.1	<9.7	NA
C-22	8.13.15	1.5 to 2	<0.047	< 0.047	<0.047	<0.093	ND	7.3	48	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

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

August 07, 2015

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

RE: Lateral 2B-24

OrderNo.: 1508067

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 18 sample(s) on 8/4/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical	Report
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Date Reported: 8/7/2015

20569 20569

20569 20569

20569

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	APEX TITAN			Client Samp	le ID: C-	1	
Project:	Lateral 2B-24			Collection	Date: 8/3		
Lab ID:	1508067-001	Matrix:	SOIL	Received	Date: 8/4	4/2015 7:45:00 AM	
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RANGE		s			Analyst	: KJH
Diesel R	ange Organics (DRO)	ND	9.6	mg/Kg	1	8/5/2015 9:28:32 AM	20600
Surr: I	DNOP	112	57.9-140	%REC	1	8/5/2015 9:28:32 AM	20600
EPA MET	HOD 8015D: GASOLINE RANG	E				Analyst	: NSB
Gasoline	Range Organics (GRO)	ND	4.0	mg/Kg	1	8/4/2015 3:30:37 PM	20569
Surr: I	BFB	92.4	75.4-113	%REC	1	8/4/2015 3:30:37 PM	20569

EPA Be

PA METHOD 8015D: GASOLINE RANGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.0	mg/Kg	1	8/4/2015 3:30:37 PM	20569
Surr: BFB	92.4	75.4-113	%REC	1	8/4/2015 3:30:37 PM	20569
PA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.040	mg/Kg	1	8/4/2015 3:30:37 PM	20569
Toluene	ND	0.040	mg/Kg	1	8/4/2015 3:30:37 PM	20569
Ethylbenzene	ND	0.040	mg/Kg	1	8/4/2015 3:30:37 PM	20569
Xylenes, Total	ND	0.080	mg/Kg	1	8/4/2015 3:30:37 PM	20569
Surr: 4-Bromofluorobenzene	100	80-120	%REC	1	8/4/2015 3:30:37 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H Holding times for preparation or analysis exce		J	Analyte detected below quantitation limits Page 1 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	APEX TITAN		
Project:	Lateral 2B-24		
Lab ID:	1508067-002	Matrix:	SOIL

Client Sample ID: C-2 Collection Date: 8/3/2015 3:05:00 PM Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	LGT
Chloride	160	30		mg/Kg	20	8/5/2015 11:12:48 PM	20633
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2015 12:01:12 PM	20600
Surr: DNOP	102	57.9-140		%REC	1	8/5/2015 12:01:12 PM	20600
EPA METHOD 8015D: GASOLINE RANG	E					Analyst	: NSB
Gasoline Range Organics (GRO)	5.4	5.0		mg/Kg	1	8/4/2015 3:55:25 PM	20569
Surr: BFB	119	75.4-113	S	%REC	1	8/4/2015 3:55:25 PM	20569
EPA METHOD 8021B: VOLATILES	*					Analyst	: NSB
Benzene	ND	0.050		mg/Kg	1	8/4/2015 3:55:25 PM	20569
Toluene	0.061	0.050		mg/Kg	1	8/4/2015 3:55:25 PM	20569
Ethylbenzene	ND	0.050		mg/Kg	1	8/4/2015 3:55:25 PM	20569
Xylenes, Total	0.31	0.099		mg/Kg	1	8/4/2015 3:55:25 PM	20569
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	8/4/2015 3:55:25 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		
	0	is needed of cubice of range due to undron of matrix		

Analytical	Report
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	APEX TITAN	Client Sample ID: C-3									
Project:	Lateral 2B-24	Collection Date: 8/3/2015 3:10:00 PM									
Lab ID:	1508067-003	Matrix:	SOIL		Received	Date: 8/4	4/2015 7:45:00 AM				
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch			
EPA MET	HOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analys	t: KJH			
Diesel Ra	ange Organics (DRO)	70	9.7		mg/Kg	1	8/5/2015 12:22:32 PM	20600			
Surr: D	DNOP	91.0	57.9-140		%REC	1	8/5/2015 12:22:32 PM	20600			
EPA MET	HOD 8015D: GASOLINE RAN	NGE					Analys	t: NSB			
Gasoline	Range Organics (GRO)	48	4.4		mg/Kg	1	8/4/2015 4:20:16 PM	20569			
Surr: E	BFB	369	75.4-113	S	%REC	1	8/4/2015 4:20:16 PM	20569			
EPA MET	HOD 8021B: VOLATILES						Analys	t: NSB			
Benzene		ND	0.044		mg/Kg	1	8/4/2015 4:20:16 PM	20569			
Toluene		0.14	0.044		mg/Kg	1	8/4/2015 4:20:16 PM	20569			
Ethylben	zene	0.21	0.044		mg/Kg	1	8/4/2015 4:20:16 PM	20569			
Xylenes,	Total	4.7	0.087		mg/Kg	1	8/4/2015 4:20:16 PM	20569			
Surr: 4	-Bromofluorobenzene	141	80-120	S	%REC	1	8/4/2015 4:20:16 PM	20569			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	APEX IIIAN			C	Collection	Dete: 8/2/2015	2.15.00 DM
Project:	Lateral 2B-24		0.017		Conection	Date: 8/3/2013	5.15.00 PM
Lab ID:	1508067-004	Matrix:	SOIL		Received	Date: 8/4/2015	7:45:00 AM
Analyses		Result	RL	Qual	Units	DF Date	Analyzed

Analyses	Result	RL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst	t: LGT
Chloride	140	30		mg/Kg	20	8/5/2015 11:25:13 PM	20633
EPA METHOD 8015M/D: DIESEL RANG		S				Analyst	: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2015 2:01:35 PM	20600
Surr: DNOP	90.0	57.9-140		%REC	1	8/5/2015 2:01:35 PM	20600
EPA METHOD 8015D: GASOLINE RAN	GE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	8/4/2015 4:45:01 PM	20569
Surr: BFB	117	75.4-113	S	%REC	1	8/4/2015 4:45:01 PM	20569
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.037		mg/Kg	1	8/4/2015 4:45:01 PM	20569
Toluene	ND	0.037		mg/Kg	1	8/4/2015 4:45:01 PM	20569
Ethylbenzene	ND	0.037		mg/Kg	1	8/4/2015 4:45:01 PM	20569
Xylenes, Total	ND	0.074		mg/Kg	1	8/4/2015 4:45:01 PM	20569
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	8/4/2015 4:45:01 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT:	APEX TITAN			Clier	nt Sampl	e ID: C-	5	
Project:	Lateral 2B-24			Co	llection	Date: 8/3	3/2015 3:20:00 PM	
Lab ID:	1508067-005	Matrix:	SOIL	R	eceived	Date: 8/4	4/2015 7:45:00 AM	
Analyses		Result	RL	Qual Ur	nits	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RAM	GE ORGANICS	6				Analys	t: KJH
Diesel Ra	ange Organics (DRO)	ND	9.7	m	g/Kg	1	8/5/2015 2:23:08 PM	20600
Surr: [DNOP	92.7	57.9-140	%	REC	1	8/5/2015 2:23:08 PM	20600
EPA MET	HOD 8015D: GASOLINE RA	NGE					Analys	t: NSB
Gasoline	Range Organics (GRO)	ND	4.1	m	g/Kg	1	8/4/2015 5:09:44 PM	20569
Surr: E	3FB	98.4	75.4-113	%	REC	1	8/4/2015 5:09:44 PM	20569
EPA MET	HOD 8021B: VOLATILES						Analys	t: NSB
Benzene		ND	0.041	m	g/Kg	1	8/4/2015 5:09:44 PM	20569
Toluene		ND	0.041	m	g/Kg	1	8/4/2015 5:09:44 PM	20569
Ethylben	zene	ND	0.041	m	g/Kg	1	8/4/2015 5:09:44 PM	20569
Xylenes,	Total	ND	0.083	m	g/Kg	1	8/4/2015 5:09:44 PM	20569
Surr: 4	4-Bromofluorobenzene	104	80-120	%	REC	1	8/4/2015 5:09:44 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analys	c.		Lab Order 1508067 Date Reported: 8/7/201	5		
CLIENT: APEX TITAN			Client Sampl	e ID: C-	6	
Project: Lateral 2B-24	Collection Date: 8/3/2015 3:25:00 PM					
Lab ID: 1508067-006	Matrix:	SOIL	Received	Date: 8/4	4/2015 7:45:00 AM	
Analyses	Result	RL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analys	t: KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/5/2015 2:44:33 PM	20600
Surr: DNOP	86.8	57.9-140	%REC	1	8/5/2015 2:44:33 PM	20600
EPA METHOD 8015D: GASOLINE RAM	IGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	8/4/2015 5:34:26 PM	20569
Surr: BFB	93.9	75.4-113	%REC	1	8/4/2015 5:34:26 PM	20569
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.038	mg/Kg	1	8/4/2015 5:34:26 PM	20569
Toluene	ND	0.038	mg/Kg	1	8/4/2015 5:34:26 PM	20569
Ethylbenzene	ND	0.038	mg/Kg	1	8/4/2015 5:34:26 PM	20569
Xylenes, Total	ND	0.075	mg/Kg	1	8/4/2015 5:34:26 PM	20569
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	8/4/2015 5:34:26 PM	20569

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte de
	D	Sample Diluted Due to Matrix	E	Value abo
	Н	Holding times for preparation or analysis exceeded	J	Analyte de
	ND	Not Detected at the Reporting Limit	Р	Sample pH
	R	RPD outside accepted recovery limits	RL	Reporting

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 6 of 24

Analytical Report

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

Hall Er	nvironmental Anal	vsis Labora	tory, Ir	ıc.			Lab Order 1508067 Date Reported: 8/7/201	5
Re-			0)				Date Reported. Critical	
CLIENT:	APEX TITAN			Cli	ent Samp	e ID: C-	7	
Project:	Lateral 2B-24			C	ollection	Date: 8/3	/2015 3:30:00 PM	
Lab ID:	1508067-007	Matrix:	Matrix: SOIL Received Date: 8/4/2015 7:45:00 AM					
Analyses		Result	RL	Qual U	Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS						Analyst	: LGT
Chloride		43	30	1	mg/Kg	20	8/6/2015 12:02:26 AM	20633
EPA MET	HOD 8015M/D: DIESEL RA	NGE ORGANIC	S				Analyst	: KJH
Diesel R	ange Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2015 3:29:01 PM	20600
Surr: [ONOP	87.6	57.9-140	1	%REC	1	8/5/2015 3:29:01 PM	20600
EPA MET	HOD 8015D: GASOLINE R	ANGE					Analyst	: NSB
Gasoline	Range Organics (GRO)	ND	3.9	1	mg/Kg	1	8/4/2015 5:59:12 PM	20569
Surr: E	3FB	93.4	75.4-113		%REC	1	8/4/2015 5:59:12 PM	20569
EPA MET	HOD 8021B: VOLATILES						Analyst	: NSB
Benzene		ND	0.039	P	mg/Kg	1	8/4/2015 5:59:12 PM	20569
Toluene		ND	0.039	l.	mg/Kg	1	8/4/2015 5:59:12 PM	20569
Ethylben	zene	ND	0.039		mg/Kg	1	8/4/2015 5:59:12 PM	20569
Xylenes,	Total	ND	0.078		mg/Kg	1	8/4/2015 5:59:12 PM	20569
Surr: 4	4-Bromofluorobenzene	100	80-120	le	%REC	1	8/4/2015 5:59:12 PM	20569

Analytical Report

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analys	sis Labora	atory, Inc			Lab Order 1508067 Date Reported: 8/7/201	5
CLIENT: APEX TITAN Project: Lateral 2B-24 Lab ID: 1508067-008	Matrix:	SOIL	Client Sampl Collection I Received I	e ID: C- Date: 8/3 Date: 8/4	8 3/2015 3:35:00 PM 4/2015 7:45:00 AM	
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	8/5/2015 3:50:39 PM	20600
Surr: DNOP	101	57.9-140	%REC	1	8/5/2015 3:50:39 PM	20600
EPA METHOD 8015D: GASOLINE RAI	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	8/4/2015 6:24:01 PM	20569
Surr: BFB	92.9	75.4-113	%REC	1	8/4/2015 6:24:01 PM	20569
EPA METHOD 8021B: VOLATILES					Analysi	: NSB
Benzene	ND	0.046	mg/Kg	1	8/4/2015 6:24:01 PM	20569
Toluene	ND	0.046	mg/Kg	1	8/4/2015 6:24:01 PM	20569
Ethylbenzene	ND	0.046	mg/Kg	1	8/4/2015 6:24:01 PM	20569
Xylenes, Total	ND	0.092	mg/Kg	1	8/4/2015 6:24:01 PM	20569
Surr: 4-Bromofluorobenzene	99.7	80-120	%REC	1	8/4/2015 6:24:01 PM	20569

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Analytical Report

Oualifiers :	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
•	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

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Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Sampl	e ID: C-	9	
Project: Lateral 2B-24			Collection	Date: 8/3	2015 3:40:00 PM	
Lab ID: 1508067-009	Matrix:	SOIL	Received	Date: 8/4	/2015 7:45:00 AM	
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	S			Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	8/5/2015 4:12:03 PM	20600
Surr: DNOP	89.6	57.9-140	%REC	1	8/5/2015 4:12:03 PM	20600
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	4.4	mg/Kg	1	8/4/2015 6:48:43 PM	20569
Surr: BFB	94.3	75.4-113	%REC	1	8/4/2015 6:48:43 PM	20569
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.044	mg/Kg	1	8/4/2015 6:48:43 PM	20569
Toluene	ND	0.044	mg/Kg	1	8/4/2015 6:48:43 PM	20569
Ethylbenzene	ND	0.044	mg/Kg	1	8/4/2015 6:48:43 PM	20569
Xylenes, Total	ND	0.088	mg/Kg	1	8/4/2015 6:48:43 PM	20569
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	8/4/2015 6:48:43 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page Q of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

Analyst: NSB

20569

20569

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20569

20569

8/4/2015 7:13:28 PM

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Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8021B: VOLATILES

Surr: 4-Bromofluorobenzene

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT: APEX TITAN Client Sample ID: C-10 **Project:** Lateral 2B-24 Collection Date: 8/3/2015 3:45:00 PM 1508067-010 Matrix: SOIL Received Date: 8/4/2015 7:45:00 AM Lab ID: Result **RL** Qual Units **DF** Date Analyzed Batch Analyses **EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride 370 30 8/6/2015 12:14:51 AM 20633 mg/Kg 20 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: KJH 8/5/2015 4:33:40 PM 20600 Diesel Range Organics (DRO) ND 9.6 mg/Kg 1 Surr: DNOP 91.9 57.9-140 %REC 1 8/5/2015 4:33:40 PM 20600 **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB Gasoline Range Organics (GRO) ND 4.0 mg/Kg 1 8/4/2015 7:13:28 PM 20569 Surr: BFB %REC 8/4/2015 7:13:28 PM 20569 112 75.4-113 1

0.040

0.040

0.040

0.079

80-120

ND

ND

ND

ND

103

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%REC

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limitspage 10 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: C-11 Project: Lateral 2B-24 Collection Date: 8/3/2015 3:50:00 PM Lab ID: 1508067-011 Matrix: SOIL Received Date: 8/4/2015 7:45:00 AM Analyses Result RL Qual Units DF Date Analyzed Batch

EPA METHOD 8015M/D: DIESEL RANG	E ORGANIC	S				Analyst	: KJH
Diesel Range Organics (DRO)	70	9.9		mg/Kg	1	8/5/2015 5:16:40 PM	20600
Surr: DNOP	88.6	57.9-140		%REC	1	8/5/2015 5:16:40 PM	20600
EPA METHOD 8015D: GASOLINE RANG	GE					Analyst	NSB
Gasoline Range Organics (GRO)	110	4.4		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Surr: BFB	477	75.4-113	S	%REC	1	8/4/2015 10:56:15 PM	20569
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.044		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Toluene	ND	0.044		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Ethylbenzene	ND	0.044		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Xylenes, Total	1.7	0.088		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Surr: 4-Bromofluorobenzene	213	80-120	S	%REC	1	8/4/2015 10:56:15 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limitspage 11 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	KL	Quai Units	DF Date Analyzed	Daten		
Analyses		Docult	DI	Qual Units	DE Data Analyzad	Batch		
Lab ID:	1508067-012	Matrix:	SOIL	Received	Date: 8/4/2015 7:45:00 AM			
Project:	Lateral 2B-24			Collection	Date: 8/3/2015 3:55:00 PM			
CLIENT:	APEX TITAN	Client Sample ID: C-12						

EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	S				Analyst:	KJH
Diesel Range Organics (DRO)	23	10		mg/Kg	1	8/5/2015 5:38:06 PM	20600
Surr: DNOP	98.6	57.9-140		%REC	1	8/5/2015 5:38:06 PM	20600
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	RAA
Gasoline Range Organics (GRO)	6.2	4.4	D	mg/Kg	1	8/6/2015 10:36:04 AM	20569
Surr: BFB	140	75.4-113	SD	%REC	1	8/6/2015 10:36:04 AM	20569
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	0.044		mg/Kg	1	8/4/2015 11:21:05 PM	20569
Toluene	ND	0.044		mg/Kg	1	8/4/2015 11:21:05 PM	20569
Ethylbenzene	ND	0.044		mg/Kg	1	8/4/2015 11:21:05 PM	20569
Xylenes, Total	ND	0.089		mg/Kg	1	8/4/2015 11:21:05 PM	20569
Surr: 4-Bromofluorobenzene	110	80-120		%REC	1	8/4/2015 11:21:05 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limitspage 12 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/7/2015

Batch

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: C-13 Project: Lateral 2B-24 Collection Date: 8/3/2015 4:00:00 PM Lab ID: 1508067-013 Matrix: SOIL Received Date: 8/4/2015 7:45:00 AM Analyses Result RL Qual Units DF Date Analyzed

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	EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	s				Analyst	: KJH
	Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/5/2015 5:59:38 PM	20600
	Surr: DNOP	91.9	57.9-140		%REC	1	8/5/2015 5:59:38 PM	20600
	EPA METHOD 8015D: GASOLINE RANGE						Analyst	NSB
	Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	8/4/2015 11:45:53 PM	20569
	Surr: BFB	113	75.4-113	S	%REC	1	8/4/2015 11:45:53 PM	20569
	EPA METHOD 8021B: VOLATILES						Analyst	NSB
	Benzene	ND	0.041		mg/Kg	1	8/4/2015 11:45:53 PM	20569
	Toluene	ND	0.041		mg/Kg	1	8/4/2015 11:45:53 PM	20569
	Ethylbenzene	ND	0.041		mg/Kg	1	8/4/2015 11:45:53 PM	20569
	Xylenes, Total	ND	0.083		mg/Kg	1	8/4/2015 11:45:53 PM	20569
	Surr: 4-Bromofluorobenzene	108	80-120		%REC	1	8/4/2015 11:45:53 PM	20569

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limitspace 13 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analy	tical	Re	port
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	RL	Qual Units	DF Date Analyzed	Batch
Lab ID:	1508067-014	Matrix:	SOIL	Received	Date: 8/4/2015 7:45:00 AM	
Project:	Lateral 2B-24			Collection	Date: 8/3/2015 4:05:00 PM	
CLIENT:	APEX TITAN			Client Samp	le ID: C-14	

EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	s			Analyst:	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/5/2015 6:21:05 PM	20600
Surr: DNOP	92.4	57.9-140	%REC	1	8/5/2015 6:21:05 PM	20600
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	8/5/2015 12:10:40 AM	20569
Surr: BFB	104	75.4-113	%REC	1	8/5/2015 12:10:40 AM	20569
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.046	mg/Kg	1	8/5/2015 12:10:40 AM	20569
Toluene	ND	0.046	mg/Kg	1	8/5/2015 12:10:40 AM	20569
Ethylbenzene	ND	0.046	mg/Kg	1	8/5/2015 12:10:40 AM	20569
Xylenes, Total	ND	0.091	mg/Kg	1	8/5/2015 12:10:40 AM	20569
Surr: 4-Bromofluorobenzene	105	80-120	%REC	1	8/5/2015 12:10:40 AM	20569

- * Value exceeds 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 14 of 24
- P Sample pH Not In Range
- RL Reporting Detection Limit

Ana	lytical	Re	port
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Date Reported: 8/7/2015

Analyst: NSB

Analyst: NSB

R27950

R27950

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8015D: GASOLINE RANGE

CLIENT: APEX TITAN					C	lient Samp	e ID: C-	15	
Project:	Lateral 2B-24		Collection Date: 8/3/2015 4:10:00 PM						
Lab ID: 1508067-015			Matrix: SOIL Recei			Received	eived Date: 8/4/2015 7:45:00 AM		
Analyses		8	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA MET	THOD 8015M/D: DIESE	L RANGE	ORGANIC	S				Analys	st: KJH
Diesel R	ange Organics (DRO)		ND	10		mg/Kg	1	8/5/2015 6:42:41 PM	20600
Surr:	DNOP		102	57.9-140		%REC	1	8/5/2015 6:42:41 PM	20600

8/5/2015 12:35:24 AM Gasoline Range Organics (GRO) ND 4.7 mg/Kg 1 Surr: BFB 96.9 75.4-113 %REC 1 8/5/2015 12:35:24 AM **EPA METHOD 8021B: VOLATILES** Benzene ND 0.047 mg/Kg 1

8/5/2015 12:35:24 AM R27950 Toluene 0.047 8/5/2015 12:35:24 AM ND mg/Kg 1 R27950 8/5/2015 12:35:24 AM Ethylbenzene ND 0.047 mg/Kg 1 R27950 Xylenes, Total ND 0.095 mg/Kg 1 8/5/2015 12:35:24 AM R27950 Surr: 4-Bromofluorobenzene 101 80-120 %REC 1 8/5/2015 12:35:24 AM R27950

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

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

RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 15 of 24
- Sample pH Not In Range
- Reporting Detection Limit

Analytical	Report
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Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	RL Qual	Units	DF Date Analyzed	Batch
Lab ID:	1508067-016	Matrix: S	SOIL	Received	Date: 8/4/2015 7:45:00 AM	
Project:	Lateral 2B-24			Collection	Date: 8/3/2015 4:15:00 PM	
CLIENT:	APEX TITAN		(Client Samp	le ID: C-16	

EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	S			Analyst	KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/5/2015 7:04:04 PM	20600
Surr: DNOP	96.4	57.9-140	%REC	1	8/5/2015 7:04:04 PM	20600
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	5.5	mg/Kg	1	8/5/2015 1:50:02 AM	R27950
Surr: BFB	92.8	75.4-113	%REC	1	8/5/2015 1:50:02 AM	R27950
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.055	mg/Kg	1	8/5/2015 1:50:02 AM	R27950
Toluene	ND	0.055	mg/Kg	1	8/5/2015 1:50:02 AM	R27950
Ethylbenzene	ND	0.055	mg/Kg	1	8/5/2015 1:50:02 AM	R27950
Xylenes, Total	ND	0.11	mg/Kg	1	8/5/2015 1:50:02 AM	R27950
Surr: 4-Bromofluorobenzene	99.8	80-120	%REC	1	8/5/2015 1:50:02 AM	R27950

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte
	D	Sample Diluted Due to Matrix	E	Value al
	Н	Holding times for preparation or analysis exceeded	J	Analyte
	ND	Not Detected at the Reporting Limit	Р	Sample

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 16 of 24
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report	
Lab Order 1508067	

8/6/2015 9:59:03 AM

8/6/2015 9:59:03 AM

8/5/2015 3:04:37 AM

Date Reported: 8/7/2015

Analyst: KJH

Analyst: NSB

Analyst: NSB

20600

20600

R27950

R27950

R27950

R27950

R27950

R27950

R27950

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS

EPA METHOD 8015D: GASOLINE RANGE

Diesel Range Organics (DRO)

Gasoline Range Organics (GRO)

EPA METHOD 8021B: VOLATILES

Surr: 4-Bromofluorobenzene

Surr: DNOP

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT: APEX TITAN Client Sample ID: C-17 Project: Lateral 2B-24 Collection Date: 8/3/2015 4:20:00 PM Lab ID: 1508067-017 Matrix: SOIL Received Date: 8/4/2015 7:45:00 AM Analyses Result **RL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 300.0: ANIONS** Analyst: LGT Chloride 330 30 mg/Kg 8/6/2015 12:27:15 AM 20633 20

100

4.1

S

S

S

57.9-140

75.4-113

0.041

0.041

0.041

0.082

80-120

mg/Kg

%REC

mg/Kg

%REC

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%REC

10

10

1

1

1

1

1

1

1

340

0

51

336

ND

0.44

0.22

3.1

128

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limitspace 17 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		
Analytical	Report			
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Lab Order 1508067

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: C-18 Project: Lateral 2B-24 Collection Date: 8/3/2015 4:25:00 PM Lab ID: 1508067-018 Matrix: SOIL Received Date: 8/4/2015 7:45:00 AM Analyses Result RL Qual Units DF Date Analyzed Batch

RGANIC	s			Analyst:	KJH
10	9.6	mg/Kg	1	8/6/2015 9:37:40 AM	20600
108	57.9-140	%REC	1	8/6/2015 9:37:40 AM	20600
				Analyst:	NSB
ND	3.8	mg/Kg	1	8/5/2015 3:29:26 AM	R27950
101	75.4-113	%REC	1	8/5/2015 3:29:26 AM	R27950
				Analyst:	NSB
ND	0.038	mg/Kg	1	8/5/2015 3:29:26 AM	R27950
ND	0.038	mg/Kg	1	8/5/2015 3:29:26 AM	R27950
ND	0.038	mg/Kg	1	8/5/2015 3:29:26 AM	R27950
ND	0.076	mg/Kg	1	8/5/2015 3:29:26 AM	R27950
100	80-120	%REC	1	8/5/2015 3:29:26 AM	R27950
	RGANIC 10 108 ND 101 ND ND ND ND ND 100	ND 3.8 101 75.4-113 ND 0.038 ND 0.076 100 80-120	ND 3.8 mg/Kg ND 3.8 mg/Kg 101 75.4-113 %REC ND 0.038 mg/Kg ND 0.076 mg/Kg ND 0.076 mg/Kg 100 80-120 %REC	ND 3.8 mg/Kg 1 ND 3.8 mg/Kg 1 ND 3.8 mg/Kg 1 ND 0.038 mg/Kg 1 ND 0.076 mg/Kg 1 100 80-120 %REC 1	RGANICS Analyst: 10 9.6 mg/Kg 1 8/6/2015 9:37:40 AM 108 57.9-140 %REC 1 8/5/2015 9:37:40 AM ND 3.8 mg/Kg 1 8/5/2015 9:37:40 AM ND 3.8 mg/Kg 1 8/5/2015 9:37:40 AM ND 3.8 mg/Kg 1 8/5/2015 3:29:26 AM 101 75.4-113 %REC 1 8/5/2015 3:29:26 AM ND 0.038 mg/Kg 1 8/5/2015 3:29:26 AM ND 0.038 mg/Kg 1 8/5/2015 3:29:26 AM ND 0.038 mg/Kg 1 8/5/2015 3:29:26 AM ND 0.076 mg/Kg 1 8/5/2015 3:29:26 AM ND 0.076 mg/Kg 1 8/5/2015 3:29:26 AM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limitspage 18 of 24
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:

APEX TITAN Lateral 2B-24

Sample ID MB-20633	SampType: MBLK	TestCode: EPA Method 300.0: Anions
Client ID: PBS	Batch ID: 20633	RunNo: 27996
Prep Date: 8/6/2015	Analysis Date: 8/5/2015	SeqNo: 842792 Units: mg/Kg
Analyte	Result PQL SPK	value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Chloride	ND 1.5	
	110 110	
Sample ID LCS-20633	SampType: LCS	TestCode: EPA Method 300.0: Anions
Sample ID LCS-20633 Client ID: LCSS	SampType: LCS Batch ID: 20633	TestCode: EPA Method 300.0: Anions RunNo: 27996
Sample ID LCS-20633 Client ID: LCSS Prep Date: 8/6/2015	SampType: LCS Batch ID: 20633 Analysis Date: 8/5/2015	TestCode: EPA Method 300.0: Anions RunNo: 27996 SeqNo: 842793 Units: mg/Kg
Sample ID LCS-20633 Client ID: LCSS Prep Date: 8/6/2015 Analyte	SampType: LCS Batch ID: 20633 Analysis Date: 8/5/2015 Result PQL SPK	TestCode: EPA Method 300.0: Anions RunNo: 27996 SeqNo: 842793 Units: mg/Kg value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual

Qualifiers:

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

WO#: 1508067

07-Aug-15

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Hall Environmental Analysis Laboratory	v. Inc.	Laboratory	vsis	Ana	Environmental	Hall
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WO#: 1508067

07-Aug-15

Client: Project:	APEX TI Lateral 21	TAN B-24									
Sample ID	MB-20600	SampTy	e: MI	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	_
Client ID:	PBS	Batch	D. 20	600	F	RunNo: 2	7957		coornang	e erguniee	
Pren Date:	8/4/2015	Analysis Dat	te 8	/5/2015		SeaNo: 8	41196	Units ma/k	(a		
nop Date.	01412010	n indigoto Da		0.001	0014 0 414 1	N DEO		un un un un			0.1
Analyte	Prognics (DRO)	Result	PQL 10	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	siguinos (birto)	9.5	10	10.00		94.9	57.9	140			
Sample ID	LCS-20600	SampTy	be: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch I	D: 20	600	F	RunNo: 2	7957				
Prep Date:	8/4/2015	Analysis Dat	te: 8	/5/2015	5	SeqNo: 8	41396	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	47	10	50.00	0	94.1	57.4	139			
Surr: DNOP		4.8		5.000		95.4	57.9	140			
Sample ID	1508067-001AMS	SampTyp	be: M	S	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	C-1	Batch I	D: 20	600	F	RunNo: 2	7957				
Prep Date:	8/4/2015	Analysis Dat	te: 8	/5/2015	5	SeqNo: 8	42444	Units: mg/H	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	47	9.9	49.70	0	93.7	42.3	146	1.90	0	
Surr: DNOP		4.1		4.970		81.7	57.9	140	0	0	
Sample ID	1508067-001AMS	SampTy	be: M	SD	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	C-1	Batch I	D: 20	600	F	RunNo: 2	7957				
Prep Date:	8/4/2015	Analysis Dat	te: 8	5/2015	5	SeqNo: 8	42445	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	47	10	49.80	0	95.3	42.3	146			
Surr: DNOP		4.1		4.980		82.5	57.9	140			
Sample ID	MB-20611	SampTyp	be: MI	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch I	D: 20	611	F	RunNo: 2	7998				
Prep Date:	8/5/2015	Analysis Dat	e: 8	6/2015	S	SeqNo: 8	43188	Units: %RE	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		12		10.00		117	57.9	140			200.00010
Sample ID	LCS-20611	SampTyp	e: LC	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID:	LCSS	Batch I	D: 20	611	F	RunNo: 2	7998			27	
Prep Date:	8/5/2015	Analysis Dat	e: 8/	6/2015	s	eqNo: 8	43210	Units: %RE	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP		4.9		5.000		98.9	57.9	140	Change of Long		

Qualifiers:

D

Н

* Value exceeds Maximum Contaminant Level.

B Analyte detected in the associated Method BlankE Value above quantitation range

Sample pH Not In Range

- J Analyte detected below quantitation limits
- Page 20 of 24

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

Sample Diluted Due to Matrix

S % Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

RL Reporting Detection Limit

P

QC	SUMMARY REPORT		
Hall	Environmental Analysis Laborator	v. Inc.	

WO#: 1508067

07-Aug-15

Client: Project: APEX TITAN Lateral 2B-24

Troject.	Lateral 21	5-24									
Sample ID	MB-20569	SampTy	pe: M	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	PBS	Batch	ID: 20	569	F	RunNo: 27950					
Prep Date:	8/3/2015	Analysis Da	ate: 8/	4/2015	S	eqNo: 84	40959	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Surr: BFB	e Organics (GRO)	ND 920	5.0	1000		91.5	75.4	113			
Sample ID	LCS-20569	SampTy	pe: LC	s	Tes	Code: EF	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	LCSS	Batch	ID: 20	569	R	unNo: 2	7950				
Prep Date:	8/3/2015	Analysis Da	ate: 8/	4/2015	S	eqNo: 84	40960	Units: mg/H	٢g		
Analyte		Result	PQL	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		1000		1000		105	75.4	113	_		
Sample ID	5ML RB	SampTy	pe: ME	BLK	Tes	Code: EF	A Method	8015D: Gaso	line Rang	e	
Client ID:	PBS	Batch	ID: R2	7950	R	unNo: 2	7950				
Prep Date:		Analysis Da	ate: 8/	4/2015	S	eqNo: 84	40981	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range	Organics (GRO)	ND	5.0								
Surr: BFB		910		1000		91.1	75.4	113			
Sample ID	2.5UG GRO LCS	SampTy	pe: LC	s	Test	Code: EF	PA Method	8015D: Gaso	line Rang	e	
Client ID:	LCSS	Batch	ID: R2	7950	R	unNo: 2	7950				
Prep Date:		Analysis Da	ate: 8/	4/2015	S	eqNo: 84	40982	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	95.2	79.6	122			
Surr: BFB		1000		1000		101	75.4	113			
Sample ID	1508067-015AMS	SampTy	pe: MS	3	Test	Code: EF	PA Method	8015D: Gaso	line Rang	е	
Client ID:	C-15	Batch	ID: R2	7950	R	unNo: 27	7950				
Prep Date:		Analysis Da	ate: 8/	5/2015	S	eqNo: 84	40984	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cacoline Danas			47	23.74	0	97.6	62.5	151			
Gasonne Range	Organics (GRO)	23	4.7			100					
Surr: BFB	Organics (GRO)	23 970	4.7	949.7		103	75.4	113			
Surr: BFB	Organics (GRO)	23 970 SampTy	4.7	949.7	Test	103 Code: EF	75.4 PA Method	113 8015D: Gaso	line Rang	e	
Sample ID 1 Client ID: 0	Organics (GRO) 1508067-015AMSD C-15	23 970 SampTy Batch	4.7 pe: MS ID: R2	949.7 SD 7950	Test	103 Code: EF	75.4 PA Method 7950	113 8015D: Gasc	line Rang	e	
Sample ID Client ID: (Prep Date:	Organics (GRO) 1508067-015AMSD C-15	23 970 SampTy Batch Analysis Da	4.7 pe: MS ID: R2 ate: 8/	949.7 5D 7950 5/2015	Test R S	103 Code: EF unNo: 27 eqNo: 84	75.4 PA Method 7950 40985	113 8015D: Gaso Units: mg/K	bline Rang	e	

Qualifiers:

D

Н

* Value exceeds Maximum Contaminant Level.

Analyte detected in the associated Method Blank Е Value above quantitation range

Sample pH Not In Range

В

Р

Analyte detected below quantitation limits J

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ND Not Detected at the Reporting Limit

Sample Diluted Due to Matrix

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Client: APEX TITAN **Project:**

Lateral 2B-24

Sample ID	1508067-015AMSD	SampTy	pe: MS	SD	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID:	C-15	Batch	ID: R2	7950	F	RunNo: 2	7950				
Prep Date:		Analysis Da	ite: 8/	5/2015	S	SeqNo: 8	40985	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	23	4.7	23.74	0	95.8	62.5	151	1.90	22.1	
Surr: BFB		970		949.7		102	75.4	113	0	0	
Sample ID	LCS-20610	SampTy	pe: LC	S	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID:	LCSS	Batch	ID: 20	610	F	RunNo: 2	8000				
Prep Date:	8/5/2015	Analysis Da	ite: 8/	6/2015	5	SeqNo: 8	43531	Units: %RE	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1000		1000		102	75.4	113			
Sample ID	MB-20610	SampTy	pe: ME	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	
Client ID:	PBS	Batch	ID: 20	610	F	RunNo: 2	8000				
Prep Date:	8/5/2015	Analysis Da	ite: 8/	6/2015	5	SeqNo: 8	43532	Units: %RE	C		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		910		1000		90.6	75.4	113			

Qualifiers:

Value exceeds Maximum Contaminant Level. *

D Sample Diluted Due to Matrix

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

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1508067 07-Aug-15

WO#:

Hall Environmental Analysis Laboratory, Inc.

Client: Project:

APEX TITAN Lateral 2B-24

Sample ID	MB-20569	SampT	ype: ME	BLK	Tes	TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch	D: 20	569	· F	RunNo: 2	7950				
Prep Date:	8/3/2015	Analysis D	ate: 8/	4/2015	5	SeqNo: 8	40998	Units: mg/k	٢g		
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-Brom	nofluorobenzene	1.0		1.000		101	80	120			
Sample ID	LCS-20569	SampT	ype: LC	S	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batch	ID: 20	569	F	RunNo: 2	7950				
Prep Date:	8/3/2015	Analysis D	ate: 8/	4/2015	S	SeqNo: 8	40999	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		1.1	0.050	1.000	0	108	76.6	128			
Toluene		1.1	0.050	1.000	0	109	75	124			
Ethylbenzene		1.1	0.050	1.000	0	110	79.5	126			
Xylenes, Total		3.5	0.10	3.000	0	118	78.8	124			
Surr: 4-Brom	nofluorobenzene	1.1		1.000		111	80	120			
Sample ID	5ML RB	SampT	ype: ME	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Sample ID Client ID:	5ML RB PBS	SampT Batch	ype: ME	3LK 7950	Tes	tCode: E RunNo: 2	PA Method 7950	8021B: Vola	tiles		
Sample ID Client ID: Prep Date:	5ML RB PBS	SampT Batch Analysis D	ype: ME 1D: R2 ate: 8/	BLK 7950 4/2015	Tes F	tCode: E RunNo: 2 SeqNo: 8	PA Method 7950 41022	8021B: Vola Units: mg/H	tiles (g		
Sample ID Client ID: Prep Date: Analyte	5ML RB PBS	SampT Batch Analysis D Result	ype: ME ID: R2 ate: 8 / PQL	BLK 7950 4/2015 SPK value	Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC	PA Method 7950 41022 LowLimit	8021B: Vola Units: mg/K HighLimit	tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene	5ML RB PBS	SampT Batch Analysis D Result ND	ype: ME a ID: R2 ate: 8/ PQL 0.050	BLK 7950 4/2015 SPK value	Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC	PA Method 7950 41022 LowLimit	8021B: Vola Units: mg/K HighLimit	tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene	5ML RB PBS	SampT Batch Analysis D Result ND ND	ype: ME 1D: R2 ate: 8/4 PQL 0.050 0.050	BLK 7950 4/2015 SPK value	Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC	PA Method 7950 41022 LowLimit	8021B: Vola Units: mg/K HighLimit	tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene	5ML RB PBS	SampT Batch Analysis D Result ND ND ND	ype: ME ID: R2 ate: 8/ PQL 0.050 0.050 0.050	BLK 7950 4/2015 SPK value	Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC	PA Method 7950 41022 LowLimit	8021B: Vola Units: mg/k HighLimit	tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	5ML RB PBS	SampT Batch Analysis D Result ND ND ND ND	ype: ME DD: R2 PQL 0.050 0.050 0.050 0.10	8LK 7950 4/2015 SPK value	Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC	PA Method 7950 41022 LowLimit	8021B: Vola Units: mg/k HighLimit	tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom	5ML RB PBS	SampT Batch Analysis D Result ND ND ND 1.0	ype: ME a ID: R2 ate: 8/4 PQL 0.050 0.050 0.050 0.050 0.10	BLK 7950 4/2015 SPK value 1.000	Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC 99.5	PA Method 7950 41022 LowLimit 80	8021B: Vola Units: mg/# HighLimit 120	tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID	5ML RB PBS nofluorobenzene 100NG BTEX LCS	SampT Batch Analysis D Result ND ND ND ND 1.0 SampT	ype: ME alD: R2 aate: 8/4 0.050 0.050 0.050 0.050 0.10 ype: LC	BLK 7950 4/2015 SPK value 1.000	Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC 99.5 tCode: E	PA Method 7950 41022 LowLimit 80 PA Method	8021B: Vola Units: mg/# HighLimit 120 8021B: Vola	tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID Client ID:	5ML RB PBS nofluorobenzene 100NG BTEX LCS LCSS	SampT Batch Analysis D Result ND ND ND 1.0 SampT Batch	ype: ME 1D: R2 ate: 8/- PQL 0.050 0.050 0.050 0.10 ype: LC 1D: R2	BLK 7950 4/2015 SPK value 1.000 S 7950	Tes F SPK Ref Val Tes F	tCode: E RunNo: 2 SeqNo: 8 %REC 99.5 tCode: E RunNo: 2	PA Method 7950 41022 LowLimit 80 PA Method 7950	8021B: Volat Units: mg/# HighLimit 120 8021B: Volat	tiles (g %RPD tiles	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date:	5ML RB PBS offuorobenzene 100NG BTEX LCS LCSS	SampT Batch Analysis D Result ND ND ND 1.0 SampT Batch Analysis D	ype: ME ate: 8/4 PQL 0.050 0.050 0.050 0.050 0.10 ype: LC 1D: R2 ate: 8/4	BLK 7950 4/2015 SPK value 1.000 S 7950 4/2015	Tes F SPK Ref Val Tes F S	tCode: E RunNo: 2 SeqNo: 8 %REC 99.5 tCode: E RunNo: 2 SeqNo: 8	PA Method 7950 41022 LowLimit 80 PA Method 7950 41023	8021B: Volat Units: mg/# HighLimit 120 8021B: Volat Units: mg/#	tiles (g %RPD tiles	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date: Analyte	5ML RB PBS nofluorobenzene 100NG BTEX LCS LCSS	SampT Batch Analysis D ND ND ND 1.0 SampT Batch Analysis D Result	ype: ME 1D: R2 ate: 8/- PQL 0.050 0.050 0.050 0.10 ype: LC 1D: R2 ate: 8/- PQL	BLK 7950 4/2015 SPK value 1.000 S 7950 4/2015 SPK value	Tes F SPK Ref Val Tes F SPK Ref Val	tCode: E RunNo: 2 SeqNo: 8 %REC 99.5 tCode: E RunNo: 2 SeqNo: 8 %REC	PA Method 7950 41022 LowLimit 80 PA Method 7950 41023 LowLimit	8021B: Vola Units: mg/# HighLimit 120 8021B: Vola Units: mg/# HighLimit	tiles (g %RPD tiles (g %RPD	RPDLimit	Qual
Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date: Analyte Benzene	5ML RB PBS nofluorobenzene 100NG BTEX LCS LCSS	SampT Batch Analysis D ND ND ND 1.0 SampT Batch Analysis D Result 1.1	ype: ME 1D: R2 ate: 8/- PQL 0.050 0.050 0.050 0.10 ype: LC 1D: R2 ate: 8/- PQL 0.050	BLK 7950 4/2015 SPK value 1.000 S 7950 4/2015 SPK value 1.000	Tes F SPK Ref Val Tes F SPK Ref Val 0	tCode: E RunNo: 2 SeqNo: 8 %REC 99.5 tCode: E RunNo: 2 SeqNo: 8 %REC 110	PA Method 7950 41022 LowLimit 80 PA Method 7950 41023 LowLimit 76.6	8021B: Volat Units: mg/# HighLimit 120 8021B: Volat Units: mg/# HighLimit 128	tiles (g %RPD tiles (g %RPD	RPDLimit	Qual
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Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total Surr: 4-Brom Sample ID Client ID: Prep Date: Analyte Benzene Toluene Ethylbenzene Xylenes, Total	5ML RB PBS offluorobenzene 100NG BTEX LCS LCSS	SampT Batch Analysis D Result ND ND ND 1.0 SampT Batch Analysis D Result 1.1 1.1 1.1 1.1 3.5	ype: ME ale: 8/ PQL 0.050 0.050 0.050 0.10 ype: LC ale: 8/ PQL 0.050 0.050 0.050 0.050 0.050 0.050 0.050	BLK 7950 4/2015 SPK value 1.000 S 7950 4/2015 SPK value 1.000 1.000 1.000 3.000	Tes F SPK Ref Val Tes SPK Ref Val 0 0 0 0 0	tCode: E RunNo: 2 SeqNo: 8 %REC 99.5 tCode: E RunNo: 2 SeqNo: 8 %REC 110 109 108 116	PA Method 7950 41022 LowLimit 80 PA Method 7950 41023 LowLimit 76.6 75 79.5 78.8	8021B: Volat Units: mg/# HighLimit 120 8021B: Volat Units: mg/# HighLimit 128 124 126 124	tiles (g %RPD tiles (g %RPD	RPDLimit	Qual

Qualifiers:

D

Н

ND

R

S

Value exceeds Maximum Contaminant Level. *

Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Sample Diluted Due to Matrix

Not Detected at the Reporting Limit

RPD outside accepted recovery limits

Analyte detected in the associated Method Blank Е Value above quantitation range

В

- Analyte detected below quantitation limits J
- Page 23 of 24

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

WO#: 1508067

07-Aug-15

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#: 1508067

07-Aug-15

Client: APEX TITAN

Project:

Lateral 2B-24

Sample ID 1508067	-016AMS Sam	Type: M	S	TestCode: EPA Method 8021B: Volatiles						
Client ID: C-16	Bat	ch ID: R2	27950	F	RunNo: 27950					
Prep Date:	Analysis	Date: 8	/5/2015	SeqNo: 841026			Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.055	1.107	0	106	69.6	136			
Toluene	1.1	0.055	1.107	0	103	76.2	134			
Ethylbenzene	1.1	0.055	1.107	0	103	75.8	137			
Xylenes, Total	3.6	0.11	3.322	0.03134	109	78.9	133			
Surr: 4-Bromofluoroben:	zene 1.2		1.107		104	80	120			
Sample ID 1508067	-016AMSD Samp	Type: MS	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: C-16	Bat	ch ID: R2	27950	F	RunNo: 2	7950				
Prep Date:	Analysis	Date: 8/	/5/2015	S	SeqNo: 8	41027	Units: mg/l	۲g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.055	1.107	0	104	69.6	136	1.53	20	
Toluene	1.1	0.055	1.107	0	103	76.2	134	0.163	20	
Ethylbenzene	1.1	0.055	1.107	0	103	75.8	137	0.627	20	
Xylenes, Total	3.6	0.11	3.322	0.03134	108	78.9	133	0.305	20	
Surr: 4-Bromofluorobena	tene 1.2		1.107		106	80	120	0	0	
Sample ID LCS-206	10 Samp	Type: LC	s	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Bat	ch ID: 20	610	F	RunNo: 2	8000				
Prep Date: 8/5/201	5 Analysis	Date: 8/	6/2015	5	SeqNo: 8	43552	Units: %RE	C		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenz	tene 1.0		1.000		105	80	120			
Sample ID MB-2061	0 Samp	Туре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles		
Client ID: PBS	Bat	ch ID: 20	610	F	RunNo: 2	8000				
Prep Date: 8/5/201	5 Analysis	Date: 8/	6/2015	S	SeqNo: 8	43553	Units: %RE	С		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenz	ene 1.0		1.000		100	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

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Client Name: APEX AZTEC Work Order Number: 1508067 RopNo: 1 Received by/date: L/M OS (0.4/1/5)	HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Alb TEL: 505-345-397: Website: www.ha	Analysis Labo 4901 Hawk uquerque, NM FAX: 505-34 illenvironment	ratory ins NE 87109 Sam i-4107 al.com	ple Log-In Chec	k List
Received by/date:	Client Name: APEX AZTEC	Work Order Number	: 1508067		RoptNo: 1	
Logged By: Anne Thome 84/2015 7.45:00 AM Are	Received by/date: LM 08/04/15					
Completed By: Anne Thome B4/2015 Jone JM Reviewed By: B JM 9/1/15 Chain of Custody 1. Custody seels intact on sample bottles? Yes No Not Present I 2. Is Chain of Custody complete? Yes No Not Present I 3. How was the sample delivered? Courier Log In	Logged By: Anne Thorne 8/	4/2015 7:45:00 AM		ame Han		
Reviewed By: B/0 9/1/5 Chain of Custody No 1. Custody seals intact on sample bottles? Yes 2. Is Chain of Custody complete? Yes 3. How was the sample delivered? Courier 4. Was an attempt made to cool the samples? Yes 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 6. Sample(s) in proper container(s)? Yes 7. Sufficient sample volume for indicated test(s)? Yes 8. Are samples (except VOA and ONG) property preserved? Yes 9. Was preservative added to bottles? Yes 10. VOA viais have zero headspace? Yes 11. Were any sample containers received broken? Yes 12. Does paperwork match bottle labels? Yes 13. Are matrices correctly identified on Chain of Custody? Yes 14. Is it clear what analyses were requested? Yes 15. Was all indicing times able to be met? Yes 16. Was client notified of at discrepancies with this order? Yes 17. Additional remarks: Date 18. Cooler information Constrol Yes No NA 14. Is to clear what analyses were requested? <	Completed By: Anne Thorne 8/	4/2015		Ann. M.		
Chain of Custody WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	Reviewed By: Q 28/	14/15		Cana Jour		
1. Custody seals infact on sample bottles? Yes No Not Present Ø 2. Ls Chain of Custody complete? Yes Ø No Not Present Ø 3. How was the sample delivered? Countar Log In 4. Was an attempt made to cool the samples? Yes Ø No NA 5. Were all samples received at a temperature of >0° C to 6.0°C Yes Ø No NA 6. Sample(s) in proper container(s)? Yes Ø No NA 7. Sufficient sample volume for indicated test(a)? Yes Ø No NA 8. Are samples (except VOA and ONG) property preserved? Yes No NA 9. Was preservative added to bottles? Yes No NA 10. VOA viais have zero headspace? Yes No No Yes Ø 11. Were any sample containers received broken? Yes Ø No Portise checked 12. Does paperwork match bottle labels? Yes Ø No Adjusted? 14. is it clear what analyess were requested? Yes Ø No Adjusted? 14. is it clear what analyess were requested? Yes Ø No Adjusted? 14. is it clear what analyess were requested? Yes Ø <td>Chain of Custody</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Chain of Custody					
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Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes No NA Person Notified: Date Date Image: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp.°C Condition Seal Intact Seal No Seal Date Signed By Image: Signed By						
16. Was client notified of all discrepancies with this order? Yes No NA Person Notified: Date Date In Person By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: Interview Interview Interview Interview 17. Additional remarks: Interview Seal No Seal Date Signed By Interview	Special Handling (if applicable)					
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Cooler No Temp C Condition Seal Intact Seal No Seal Date Signed By	18. Cooler Information			Section 1		
t to load Man	Cooler No Temp °C Condition Seal	Intact Seal No	Seal Date	Signed By		

2	Laboratory: <u>Hav</u> PEX Address: <u>Avious</u>							Environmental					ANA	UES		Lab use only Due Date:
Aſ	РΕХ				Address: _	AND	uque	ngus	LAN	n					11	Terms of coolers
Office	Locatio	Aas	rec	NA	<u>^</u>		1	1							11	when received (C°):
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					Phone:							_			Dec /	Page of
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latrix	Date	Time	OEO	I a	Identifying Marks of Sample(s)	Star	End	107	AG	250 ml	Glass	8	1	7	11	Lab Sample ID (Lab Use Only)
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Apex TITAN, Inc. • 606 S. Rio Grande, Suite A, Downstairs • Aztec, New Mexico 87410 • Office: 505-334-5200 • Fax: 505-334-5204

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HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 21, 2015

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

RE: Lateral 2B-24

OrderNo.: 1508748

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/14/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Anal	ytical	Re	port
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Lab Order 1508748

Date Reported: 8/21/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: C-22 Project: Lateral 2B-24 Collection Date: 8/13/2015 9:30:00 AM Lab ID: 1508748-001 Matrix: SOIL Received Date: 8/14/2015 7:00:00 AM Analyses Result RL Qual Units DF Date Analyzed Batch

EPA METHOD 8015M/D: DIESEL RANGE C	RGANIC	S				Analyst	том
Diesel Range Organics (DRO)	48	9.7		mg/Kg	1	8/20/2015 3:26:34 PM	20877
Surr: DNOP	96.5	57.9-140		%REC	1	8/20/2015 3:26:34 PM	20877
EPA METHOD 8015D: GASOLINE RANGE						Analyst	NSB
Gasoline Range Organics (GRO)	7.3	4.7		mg/Kg	1	8/19/2015 2:45:04 PM	20847
Surr: BFB	136	75.4-113	S	%REC	1	8/19/2015 2:45:04 PM	20847
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.047		mg/Kg	1	8/19/2015 2:45:04 PM	20847
Toluene	ND	0.047		mg/Kg	1	8/19/2015 2:45:04 PM	20847
Ethylbenzene	ND	0.047		mg/Kg	1	8/19/2015 2:45:04 PM	20847
Xylenes, Total	ND	0.093		mg/Kg	1	8/19/2015 2:45:04 PM	20847
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	8/19/2015 2:45:04 PM	20847

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

		· · · · · ·	00	
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte dete
	D	Sample Diluted Due to Matrix	E	Value above
	Н	Holding times for preparation or analysis exceeded	J	Analyte dete
	ND	Not Detected at the Reporting Limit	Р	Sample pH 1

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 1 of 4
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Client: Project: APEX TITAN Lateral 2B-24

Sample ID MB-20893	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range O	rganics
Client ID: PBS	Batch ID: 20893	RunNo: 28339		
Prep Date: 8/20/2015	Analysis Date: 8/20/2015	SeqNo: 855806	Units: %REC	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit Qual
Surr: DNOP	9.6 10.00	96.2 57.9	140	
Sample ID LCS-20893	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range O	rganics
Client ID: LCSS	Batch ID: 20893	RunNo: 28339		
Prep Date: 8/20/2015	Analysis Date: 8/20/2015	SeqNo: 855807	Units: %REC	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit Qual
Surr: DNOP	3.9 5.000	78.4 57.9	140	
Sample ID MB-20877	SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range O	rganics
Client ID: PBS	Batch ID: 20877	RunNo: 28339		
Prep Date: 8/19/2015	Analysis Date: 8/20/2015	SeqNo: 856515	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit Qual
Diesel Range Organics (DRO)	ND 10			
Surr: DNOP	9.7 10.00	97.4 57.9	140	
Sample ID LCS-20877	SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range O	rganics
Client ID: LCSS	Batch ID: 20877	RunNo: 28339		
Prep Date: 8/19/2015	Analysis Date: 8/20/2015	SeqNo: 856516	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit Qual
Diesel Range Organics (DRO)	54 10 50.00	0 108 57.4	139	
Surr: DNOP	4.6 5.000	92.6 57.9	140	
Sample ID 1508748-001AM	S SampType: MS	TestCode: EPA Method	8015M/D: Diesel Range O	rganics
Client ID: C-22	Batch ID: 20877	RunNo: 28339		
Prep Date: 8/19/2015	Analysis Date: 8/20/2015	SeqNo: 856518	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit Qual
Diesel Range Organics (DRO)	70 10 49.90	48.38 43.5 42.3	146	
Surr: DNOP	5.0 4.990	99.6 57.9	140	
Sample ID 1508748-001AM	SD SampType: MSD	TestCode: EPA Method	8015M/D: Diesel Range O	rganics
Client ID: C-22	Batch ID: 20877	RunNo: 28339		
Prep Date: 8/19/2015	Analysis Date: 8/20/2015	SeqNo: 856519	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD R	PDLimit Qual
Diesel Range Organics (DRO)	77 9.7 48.73	48.38 58.3 42.3	146 9.13	28.9
Surr: DNOP	4.8 4.873	99.2 57.9	140 0	0

Qualifiers:

D

Н

- * Value exceeds Maximum Contaminant Level.
- B Analyte detected in the associated Method BlankE Value above quantitation range

Sample pH Not In Range

- J Analyte detected below quantitation limits
- Page 2 of 4

ND Not Detected at the Reporting Limit

Sample Diluted Due to Matrix

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix

Holding times for preparation or analysis exceeded

RL Reporting Detection Limit

Р

WO#: 1508748

21-Aug-15

Hall Ellyll Ullinchital Analysis Labulatury, in	Hall	Environmental	Analysis	Laboratory,	Inc
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Client: Project: APEX TITAN Lateral 2B-24

					_								
Sample ID MB-20847	SampTy	pe: MB	BLK	TestCode: EPA Method 8015D: Gasoline Range									
Client ID: PBS	Batch	ID: 208	847	RunNo: 28291									
Prep Date: 8/17/2015	Analysis Da	ite: 8/	18/2015	S	eqNo: 8	54187	Units: mg/h	۲g					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Gasoline Range Organics (GRO)	ND	5.0				12							
Surr: BFB	800		1000		80.3	75.4	<mark>113</mark>						
Sample ID LCS-20847	SampTy	pe: LC	S	TestCode: EPA Method 8015D: Gasoline Range									
Client ID: LCSS	Batch	ID: 208	847	RunNo: 28291									
Prep Date: 8/17/2015	Analysis Da	te: 8/	18/2015	S	eqNo: 8	54188	Units: mg/k	٢g					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	79.6	122						
Surr: BFB	840		1000		83.9	75.4	113						
Sample ID 1508748-001AMS	SampTy	pe: MS	5	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	le				
Client ID: C-22	Batch	ID: 208	847	RunNo: 28329									
Prep Date: 8/17/2015	Analysis Da	te: 8/	19/2015	S	eqNo: 8	55397	Units: mg/Kg						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Gasoline Range Organics (GRO)	28	4.8	24.18	7.280	83.8	62.5	151						
Surr: BFB	1100		967.1		119	75.4	113			S			
Sample ID 1508748-001AMS	D SampTy	pe: MS	D	Tes	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: C-22	Batch	ID: 208	847	RunNo: 28329									
Prep Date: 8/17/2015	Analysis Da	te: 8/*	19/2015	S	eqNo: 8	٢g							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Gasoline Range Organics (GRO)	39	4.9	24.34	7.280	132	62.5	151	35.4	22.1	R			
Surr: BFB	1400		973.7		141	75.4	113	0	0	S			

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

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

WO#: 1508748

21-Aug-15

Page 3 of 4

Hall Environmental Analysis Laboratory, Inc.

Client: Project: APEX TITAN Lateral 2B-24

Sample ID MB-20847	Samp	Type: ME	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 20	847	F	RunNo: 2	8291				
Prep Date: 8/17/2015	p Date: 8/17/2015 Analysis Date: 8/18/2015						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								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		93.0	80	120			
Sample ID LCS-20847	Samp	Type: LC	s	Tes	tCode: E					
Client ID: LCSS	Batcl	h ID: 20	847	F	RunNo: 2	8291				
Prep Date: 8/17/2015	Analysis D	Date: 8/	18/2015	S	BeqNo: 8	54209	Units: mg/H	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	76.6	128			
Toluene	0.96	0.050	1.000	0	96.3	75	124			
Ethylbenzene	0.99	0.050	1.000	0	99.3	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	98.6	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1 000		99.6	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

WO#: 1508748

21-Aug-15

Page 4 of 4

-90 1014

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Albuqu TEL: 505-345-3975 F. Website: www.halle	4901 1 uerque AX: 50 environ	Laboratory Hawkins NE , NM 87109 5-345-4107 mental.com	S	am	ple Log-In Check List
Client Name: APEX AZTEC V	Vork Order Number: 1	5087	48			RoptNo: 1
Received by/date: A C= 08/14/45			A LOUGH			
Logged By: Anne Thome 8/14	2015 7:00:00 AM		a	me ~	Am	-
Completed By: Anne Thome 8/15	5/2015		a	me	1-	
Reviewed By: IO 08	1/1/15					
Chain of Custody						
1. Custody seals intact on sample bottles?		Yes		No		Not Present
2. Is Chain of Custody complete?		Yes		No		Not Present
3. How was the sample delivered?		Courie	2C			
Log In						
4. Was an attempt made to cool the samples?		Yes		No		NA 🗌
5. Were all samples received at a temperature of >	•0° C to 6.0°C	Yes [2	No I		
6. Sample(s) in proper container(s)?		Yes		No		
7. Sufficient sample volume for indicated test(s)?		Yes	✓	No		
8. Are samples (except VOA and ONG) properly pro	eserved?	Yes	✓	No		
9. Was preservative added to bottles?		Yes		No		NA 🗆
10.VOA vials have zero headspace?		Yes		No		No VOA Viais 🗹
11. Were any sample containers received broken?		Yes		No		# of preserved
						bottles checked
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes	⊻.	NO		(<2 or >12 unless note
13. Are matrices correctly identified on Chain of Cust	tody?	Yes	✓	No		Adjusted?
14. Is it clear what analyses were requested?		Yes		No		
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	✓	No		Checked by:
Special Handling (if applicable)						
16. Was client notified of all discrepancies with this of	order?	Yes		No		
Person Notified:	Date					
By Whom:	Via:	eMai	I D Phone		Fax	In Person
Regarding:		11 - C - C - C - C - C - C - C - C - C -			5:20	and the summary of the second
Client Instructions:						
17. Additional remarks:						
18. Cooler Information						
Cooler No Temp °C Condition Seal Ir	ntact Seal No Se	eal Dat	te Sign	ed B	by	
1 3.0 Good Yes						

												T = (0)(). 2 (1-1-1)		CHAIN OF CUSTODY RECOR
APEX Diffice Location <u>Aztect NM</u> Project Manager <u>KSUMMULS</u> Sampler's Name <u>RANEDDeechily</u> Proj. No. Project Name <u>F250415015</u> <u>Lateral</u> Watth Date Time <u>S</u> <u>f</u> Identifying W				Laboratory Address: Contact: Phone: PO/SO #: Sampler's Sign	An An An 72 Tature	11 Br ourqu dy 1 250- ech	Ever Ever 1150 INOT	LIN LIN JIS De of C	ent IM 2200	al ers		ANALYSIS REQUESTED	Lab use only Due Date: Temp. of coolers when received (C°): 1 2 3 4 5 Pageot	
72	504150	015		Late	ral 2B-24					1 1				
Matrix	Date	Time	LOED	r Iden	ntifying Marks of Sample(s)	Start	End	VOA	AVG	al 250	Glass Jar	P/O		Lab Sample ID (Lab Use Only)
5/	8/13/15 930 C		C-22						1		XX	1508748-001		
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teling Reling Reling	uished by (MDU Uished by (Uished by (uished by (Signature) Signature) Signature) Signature)	tor	Date: 8/8/ Date: 0- 8/13/ Date: Date:	Time: Pepe 1200 Time: Rece 2/15 Time: Rece Time: Rece	ived by	: (Signa : (Signa : (Signa : (Signa	ature) ature) ature) ature)	àe zas	108	Date	15	Time: 0700 Time: Time: Time:	Will to Enterprise Tom Long Non MEE # 22104

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

August 12, 2015

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

OrderNo.: 1508348

Dear Kyle Summers:

RE: Lateral 2B-24

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/8/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report	
Lab Order 1508348	

Date Reported: 8/12/2015

Hall Environmental Analysis Laboratory, Inc.

A		Develo	DI	0.1	Thetes	DE Data Analyzed
Lab ID:	1508348-001	Matrix:	MEOH (S	OIL)	Received	Date: 8/8/2015 9:45:00 AM
Project:	Lateral 2B-24				Collection	Date: 8/7/2015 11:45:00 AM
CLIENT:	APEX TITAN			C	lient Samp	ole ID: C-19

Analyst:	KJH
15 11:55:25 AM	20683
15 11:55:25 AM	20683
Analyst:	RAA
15 10:30:06 AM	20670
15 10:30:06 AM	20670
Analyst:	RAA
15 10:30:06 AM	20670
	Analyst: 15 11:55:25 AM 15 11:55:25 AM Analyst: 15 10:30:06 AM 15 10:30:06 AM 15 10:30:06 AM 15 10:30:06 AM 15 10:30:06 AM 15 10:30:06 AM

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

Analytical	Report

Lab Order 1508348

Date Reported: 8/12/2015

Hall Environmental Analysis Laboratory, Inc.

Analyses		Result	RL Qual	Units	DF Date Analyzed
Lab ID:	1508348-002	Matrix:	MEOH (SOIL)	Received	Date: 8/8/2015 9:45:00 AM
Project:	Lateral 2B-24			Collection	Date: 8/7/2015 11:50:00 AM
CLIENT:	APEX TITAN		(Client Samp	ole ID: C-20

Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	8/10/2015 12:22:21 PM	20683
Surr: DNOP	89.5	57.9-140	%REC	1	8/10/2015 12:22:21 PM	20683
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.1	mg/Kg	1	8/10/2015 10:55:04 AM	20670
Surr: BFB	89.8	75.4-113	%REC	1	8/10/2015 10:55:04 AM	20670
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.041	mg/Kg	1	8/10/2015 10:55:04 AM	20670
Toluene	ND	0.041	mg/Kg	1	8/10/2015 10:55:04 AM	20670
Ethylbenzene	ND	0.041	mg/Kg	1	8/10/2015 10:55:04 AM	20670
Xylenes, Total	ND	0.083	mg/Kg	1	8/10/2015 10:55:04 AM	20670
Surr: 4-Bromofluorobenzene	97.4	80-120	%REC	1	8/10/2015 10:55:04 AM	20670

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 2 of 6
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 age 2 01 0
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Analytical	Report
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Lab Order 1508348

Date Reported: 8/12/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT: APEX TITAN
 Client Sample ID: C-21

 Project:
 Lateral 2B-24
 Collection Date: 8/7/2015 11:55:00 AM

 Lab ID:
 1508348-003
 Matrix: MEOH (SOIL)
 Received Date: 8/8/2015 9:45:00 AM

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 Dependence
 DE
 Dete Aredened

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	s			Analyst	: KJH
Diesel Range Organics (DRO)	160	9.9	mg/Kg	1	8/10/2015 12:49:24 PM	20683
Surr: DNOP	121	57.9-140	%REC	1	8/10/2015 12:49:24 PM	20683
EPA METHOD 8015D: GASOLINE RANGE					Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	8/10/2015 11:19:57 AM	20670
Surr: BFB	103	75.4-113	%REC	1	8/10/2015 11:19:57 AM	20670
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.043	mg/Kg	1	8/10/2015 11:19:57 AM	20670
Toluene	ND	0.043	mg/Kg	1	8/10/2015 11:19:57 AM	20670
Ethylbenzene	ND	0.043	mg/Kg	1	8/10/2015 11:19:57 AM	20670
Xylenes, Total	ND	0.087	mg/Kg	1	8/10/2015 11:19:57 AM	20670
Surr: 4-Bromofluorobenzene	101	80-120	%REC	1	8/10/2015 11:19:57 AM	20670

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method I	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 3 of 6
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	rage 5 01 0
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmenta	l Analysis	Laboratory,	Inc.
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Client: Project:

APEX TITAN Lateral 2B-24

Sample ID	MB-20683	SampTy	pe: MI	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Batch	ID: 20	683	F	RunNo: 2	8064				
Prep Date:	8/10/2015	Analysis Da	ate: 8/	/10/2015	5	SeqNo: 8	45328	Units: mg/k	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range (Organics (DRO)	ND	10								
Surr: DNOP		9.2		10.00		91.8	57.9	140			
Sample ID	LCS-20683	SampTy	pe: LC	s	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Batch	ID: 20	683	F	RunNo: 2	8064				
Prep Date:	8/10/2015	Analysis Da	ite: 8/	10/2015	5	SeqNo: 8	45329	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	62	10	50.00	0	124	57.4	139			
Surr: DNOP		5.7		5.000		115	57.9	140			
Sample ID	1508348-001AMS	SampTy	pe: MS	S	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	C-19	Batch	ID: 20	683	F	RunNo: 2	8064				
Prep Date:	8/10/2015	Analysis Da	ite: 8/	10/2015	5	SeqNo: 8	45689	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	51	9.7	48.36	0	106	42.3	146			
Surr: DNOP		4.6		4.836		94.2	57.9	140			
Sample ID	1508348-001AMS	SampTy	pe: MS	SD	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	C-19	Batch	ID: 20	683	F	RunNo: 2	8064				
Prep Date:	8/10/2015	Analysis Da	te: 8/	10/2015	S	SeqNo: 8	45690	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range C	Organics (DRO)	48	9.5	47.39	0	101	42.3	146	6.63	28.9	
Surr: DNOP		4.2		4.739		89.2	57.9	140	0	0	

Qualifiers:

Value exceeds Maximum Contaminant Level. *

D Sample Diluted Due to Matrix

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

WO#: 1508348

12-Aug-15

Page 4 of 6

Hall Environmental Analysis Laboratory, Inc.

Client: APEX TITAN **Project:**

Lateral 2B-24

Sample ID MB-20670	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015D: Gase	oline Rang	e	
Client ID: PBS	Batch	1D: 20	670	F	RunNo: 2	8068				
Prep Date: 8/7/2015	Analysis D	ate: 8/	10/2015	S	SeqNo: 8	45747	Units: mg/k	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO) Surr: BFB	ND 880	5.0	1000		87.9	75.4	113			
Sample ID LCS-20670	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	
Client ID: LCSS	Batch	ID: 20	670	F	RunNo: 2	8068				
Prep Date: 8/7/2015	Analysis D	ate: 8/	10/2015	S	SeqNo: 8	45748	Units: mg/M	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	79.6	122			
Surr: BFB	990		1000		98.8	75.4	113			

Qualifiers:

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

WO#: 1508348

12-Aug-15

Page 5 of 6

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: APE Project: Late

APEX TITAN Lateral 2B-24

Sample ID MB-20670	Samp	Type: M	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: PBS	Batc	h ID: 20	670	F	RunNo: 2	8068				
Prep Date: 8/7/2015	Analysis [Date: 8/	10/2015	S	SeqNo: 8	45787	Units: mg/k	٢g		
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	0.96		1.000		95.9	80	120			
Sample ID LCS-20670	Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID: LCSS	Batc	h ID: 20	670	F	RunNo: 2	8068				
Prep Date: 8/7/2015	Analysis [Date: 8/	10/2015	S	SeqNo: 8	45788	Units: mg/M	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	105	76.6	128			
Toluene	1.0	0.050	1.000	0	103	75	124			
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	109	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

Qualifiers:

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

WO#: 1508348

12-Aug-15

Page 6 of 6

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Analysi 4901 Albuquerqu TEL: 505-345-3975 FAX: 5 Website: www.hallenviro	Laboratory Hawkins NE 2, NM 87109 15-345-4107 1mental.com	Samp	ole Log-In Ch	eck List
Client Name: APEX AZTEC Wo	ork Order Number: 15083	48		RcptNo:	1
Received by/date: 08 Logged By: Lindsay Mangin 8/8/2	08 15 015 9:45:00 AM	(- yttlego		
Completed By: Lindsay Mangin 8/8/2	015 11:20:35 AM	C	+ 4the		
Reviewed By:	0100110				
Chain of Custody		_			
1. Custody seals intact on sample bottles?	Yes		No L	Not Present	
2. Is Chain of Custody complete?	Yes		No	Not Present	
3. How was the sample delivered?	Cour	er			
Log In					
4. Was an attempt made to cool the samples?	Yes		No 🗆		
5. Were all samples received at a temperature of >(0° C to 6.0°C Yes		No 🗀		
6. Sample(s) in proper container(s)?	Yes		No 🗆		
7. Sufficient sample volume for indicated test(s)?	Yes		No 🗆		
8. Are samples (except VOA and ONG) properly pre	served? Yes		No 🗌		
9. Was preservative added to bottles?	Yes		No 🐱	NA 🗆	
10.VOA vials have zero headspace?	Yes		No 🗆	No VOA Vials	
11. Were any sample containers received broken?	Yes		No 💌	# of preserved	
12. Does paperwork match bottle labels?	Yes		No 🗆	for pH:	>12 unless not
(Note discrepancies on chain of custody) 12 Are matrices correctly identified on Chain of Custo	ndv? Yes		No 🗆	Adjusted?	
14 Is it clear what analyses were requested?	Yes		No 🗆		
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes		No 🗆	Checked by:	
Special Handling (if applicable)					
16. Was client notified of all discrepancies with this or	rder? Yes		No 🗆	NA 🛃	
Person Notified:	Date:	-			
By Whom:	Via: 🗌 eMa	iil 🗌 Pho	one 🗌 Fax	In Person	
Regarding:					
Client Instructions:					
17. Additional remarks:					
18. <u>Cooler Information</u> Cooler No Temp °C Condition Seal Int	tact Seal No Seal D	ite S	igned By		
1 4.6 Good Yes					

																CHAIN OF CUSTODY RECO
		EX	n Az	tec,	,NM		Laboratory Address: Contact: _ Phone:	Albo Albo	IN Er nque ndy	Free	onm 21N1 eme	ental N N		ANAL	LYSIS UESTED	Lab use only Due Date: Temp. of coolers when received (C"): 4, 1 2 3 4 5 Page_1 of
Ra	er's M	Name L Du	rechilly	<u></u>	<u></u>		Sampler's Sig	nature	nll	Λ	<u>.</u>				the selection of the se	
roj. N 72	10. 50 ¹	415	615	Proje	oct Nam Lafe	eral 2B	24	ine		No/Ty	rpe of C	ontainers		1000	577	//////
Aatrix	Da	ate	Time	CoEp	G la	dentifying Marl	ks of Sample(s)	Start	End Depth	VOA	AG	250 Millass	Did Did	17	9/	Lab Sample ID (Lab Use Only)
5	8 -	7115	1145			C-1	9					1		XX		1507348-001
S			1150	Contraction of the second		C-	20				al.	1		XX		-0072
5			1155			<u> </u>	-21					1		XX		-003
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im an eling KAA	ound uishe	d by (Signature)	mal	Da 8/1	6 Rush	50% Rush ime: Fiepe	ved by	Rush (Signa		ime	000	ni-	Time 143	VI NOT	TES:
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elinq	uishe	d by (Signature)		Da	te: T	ime: Rece	ived by	(Signa	ture)		Dat	<u>a</u> .	Time	a*	

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 06, 2015

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

RE: Lateral 2B-24

OrderNo.: 1508070

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/4/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report
Lab Order 1508070

1 8/5/2015 3:54:15 AM

R27950

Date Reported: 8/6/2015

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT: APEX TITAN			Client Sampl	e ID: SP	-1	
Project: Lateral 2B-24			Collection]	Date: 8/3	3/2015 4:30:00 PM	
Lab ID: 1508070-001	Matrix:	SOIL	Received 1	Date: 8/4	/2015 7:45:00 AM	
Analyses	Result	RL Q	Jual Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS					Analys	: LGT
Chloride	ND	30	mg/Kg	20	8/6/2015 12:39:40 AM	20633
EPA METHOD 8015M/D: DIESEL RAM	NGE ORGANIC	s			Analys	t: KJH
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	8/5/2015 8:30:08 PM	20600
Surr: DNOP	84.8	57.9-140	%REC	1	8/5/2015 8:30:08 PM	20600
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	: NSB
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Surr: BFB	97.4	75.4-113	%REC	1	8/5/2015 3:54:15 AM	R27950
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.042	mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Toluene	ND	0.042	mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Ethylbenzene	ND	0.042	mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Xylenes, Total	ND	0.085	mg/Kg	1	8/5/2015 3:54:15 AM	R27950

80-120

109

%REC

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 1 of 6
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 age 1 01 0
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

Hall Environmental Anal	ysis Laborat	ory, Inc.		Lab Order 1508070 Date Reported: 8/6/201	5
CLIENT: APEX TITAN			Client Samp	le ID: BG-1	
Project: Lateral 2B-24			Collection	Date: 8/3/2015 4:35:00 PM	
Lab ID: 1508070-002	Matrix: S	OIL	Received	Date: 8/4/2015 7:45:00 AM	
Analyses	Result	RL Qua	l Units	DF Date Analyzed	Batch
EPA METHOD 300.0: ANIONS				Analys	t: LGT
Chloride	ND	30	mg/Kg	20 8/6/2015 12:52:04 AM	20633

Analytical Report

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 2 of 6
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 age 2 01 0
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			
	ND R S	Not Detected at the Reporting Limit RPD outside accepted recovery limits % Recovery outside of range due to dilution or matrix	P RL	Sample pH Not In Range Reporting Detection Limit	1 4 2 01 0

Hall Environmental Analysis Laboratory, Inc.

Client: Project:

APEX TITAN Lateral 2B-24

Sample ID MB-20633	SampType: MBLK	TestCode: EPA Method	300.0: Anions	
Client ID: PBS	Batch ID: 20633	RunNo: 27996		
Prep Date: 8/6/2015	Analysis Date: 8/5/2015	SeqNo: 842792	Units: mg/Kg	
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPD	Limit Qual
Chloride	ND 1.5			
Sample ID I CS-20633	Same Trans 100	TestOrder EDA Martha 1	000 0 4-1	
Cample ID LCG-20033	SampType: LCS	lestCode: EPA Method	300.0: Anions	
Client ID: LCSS	Batch ID: 20633	RunNo: 27996	300.0: Anions	
Client ID: LCSS Prep Date: 8/6/2015	Batch ID: 20633 Analysis Date: 8/5/2015	RunNo: 27996 SeqNo: 842793	Units: mg/Kg	
Client ID: LCSS Prep Date: 8/6/2015 Analyte	Batch ID: 20633 Analysis Date: 8/5/2015 Result PQL SPK value	RunNo: 27996 SeqNo: 842793 SPK Ref Val %REC LowLimit	Units: mg/Kg HighLimit %RPD RPD	Limit Qual

Qualifiers:

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

WO#: 1508070

06-Aug-15

Page 3 of 6

Hall Environmental Analysis Laboratory, Inc.

Client: APEX TITAN **Project:**

Lateral 2B-24

SampType: MBLK	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Batch ID: 20600	RunNo: 27957		
Analysis Date: 8/5/2015	SeqNo: 841196	Units: mg/Kg	
Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit	Qual
ND 10			
9.5 10.00	94.9 57.9	140	
SampType: LCS	TestCode: EPA Method	8015M/D: Diesel Range Organics	
Batch ID: 20600	RunNo: 27957		
Batch ID: 20600 Analysis Date: 8/5/2015	RunNo: 27957 SeqNo: 841396	Units: mg/Kg	
Batch ID: 20600 Analysis Date: 8/5/2015 Result PQL SPK value	RunNo: 27957 SeqNo: 841396 SPK Ref Val %REC LowLimit	Units: mg/Kg HighLimit %RPD RPDLimit	Qual
Batch ID: 20600 Analysis Date: 8/5/2015 Result PQL SPK value 47 10 50.00	RunNo: 27957 SeqNo: 841396 SPK Ref Val %REC LowLimit 0 94.1 57.4	Units: mg/Kg HighLimit %RPD RPDLimit 139	Qual
	SampType: MBLK Batch ID: 20600 Analysis Date: 8/5/2015 Result PQL SPK value ND 10 9.5 10.00 SampType: LCS	SampType: MBLK TestCode: EPA Method Batch ID: 20600 RunNo: 27957 Analysis Date: 8/5/2015 SeqNo: 841196 Result PQL SPK value SPK Ref Val %REC LowLimit ND 10 9.5 10.00 94.9 57.9 SampType: LCS TestCode: EPA Method	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Batch ID: 20600 RunNo: 27957 Analysis Date: 8/5/2015 SeqNo: 841196 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit ND 10 9.5 10.00 94.9 57.9 140 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics

Qualifiers:

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

WO#: 1508070

06-Aug-15

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WO#: 1508070

06-Aug-15

Hall Environmental Analysis Laboratory, Inc.

Client: Project: APEX TITAN Lateral 2B-24

SampT	/pe: ME	BLK	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
Batch	ID: R2	7950	F	RunNo: 27950					
Analysis Da	ate: 8/	4/2015	S	eqNo: 84	40981	Units: mg/K	g		
Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
ND	5.0								
910		1000		91.1	75.4	113			
Sample ID 2.5UG GRO LCS SampType: LCS									
SampTy	pe: LC	S	Tes	tCode: EF	PA Method	8015D: Gaso	line Rang	e	
SampT Batch	/pe: LC ID: R2	S 7950	Tes R	tCode: EF	PA Method 7950	8015D: Gaso	line Rang	e	
SampT Batch Analysis Da	/pe: LC ID: R2 ate: 8/	S 7950 4/2015	Tes R S	tCode: EF RunNo: 2 SeqNo: 84	PA Method 7950 40982	8015D: Gaso Units: mg/K	line Rang	e	
SampT Batch Analysis Da Result	/pe: LC ID: R2 ate: 8/ PQL	S 7950 4/2015 SPK value	Tesi R S SPK Ref Val	tCode: EF RunNo: 27 SeqNo: 84 %REC	PA Method 7950 40982 LowLimit	8015D: Gaso Units: mg/K HighLimit	iline Rang g %RPD	e RPDLimit	Qual
SampT Batch Analysis D Result 24	/pe: LC ID: R2 ate: 8/ PQL 5.0	S 7950 4/2015 SPK value 25.00	Tesi R S SPK Ref Val 0	tCode: EF RunNo: 2 SeqNo: 84 %REC 95.2	PA Method 7950 40982 LowLimit 79.6	8015D: Gaso Units: mg/K HighLimit 122	ine Rang g %RPD	RPDLimit	Qual
	SampTy Batch Analysis Da Result ND 910	SampType: ME Batch ID: R2 Analysis Date: 8/ Result PQL ND 5.0 910	SampType: MBLK Batch ID: R27950 Analysis Date: 8/4/2015 Result PQL SPK value ND 5.0 910 1000	SampType: MBLK Test Batch ID: R27950 R Analysis Date: 8/4/2015 S Result PQL SPK value SPK Ref Value ND 5.0 910 1000	SampType: MBLK TestCode: Eff Batch ID: R27950 RunNo: 2 Analysis Date: 8/4/2015 SeqNo: 8 Result PQL SPK value SPK Ref Val %REC ND 5.0 910 1000 91.1	SampType: MBLK TestCode: EPA Method Batch ID: R27950 RunNo: 27950 Analysis Date: 8/4/2015 SeqNo: 840981 Result PQL SPK value SPK Ref Val %REC LowLimit ND 5.0 1000 91.1 75.4	SampType: MBLK TestCode: EP A Method Solar Solar <td>SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Batch ID: R27950 RunNo: 27950 Analysis Date: 8/4/2015 SeqNo: 840981 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD ND 5.0 910 1000 91.1 75.4 113 113</td> <td>SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Batch 1D: R27950 RunNo: 27950 Analysis Date: 8/4/2015 SeqNo: 8/40981 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit ND 5.0 910 1000 91.1 75.4 113 113</td>	SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Batch ID: R27950 RunNo: 27950 Analysis Date: 8/4/2015 SeqNo: 840981 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD ND 5.0 910 1000 91.1 75.4 113 113	SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Batch 1D: R27950 RunNo: 27950 Analysis Date: 8/4/2015 SeqNo: 8/40981 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit ND 5.0 910 1000 91.1 75.4 113 113

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

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1977

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:

APEX TITAN Lateral 2B-24

Sample ID 5ML RB	SampT	ype: ME	BLK	Tes	tCode: E					
Client ID: PBS	Batch	h ID: R2	7950	F	7950					
Prep Date:	Analysis D	Date: 8/	4/2015	5	SeqNo: 8	41022	Units: mg/k	۲g		
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		99.5	80	120			
Sample ID 100NG BTEX LCS	SampT	ype: LC	S	Tes						
Client ID: LCSS	Batch	h ID: R2	7950	F	RunNo: 2	7950				
Prep Date:	S	SeqNo: 8	41023	Units: mg/h	٢g					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	110	76.6	128			
Toluene	1.1	0.050	1.000	0	109	75	124			
Ethylbenzene	1.1	0.050	1.000	0	108	79.5	126			
Xylenes, Total	3.5	0.10	3.000	0	116	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

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

WO#: 1508070

06-Aug-15

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Client Name: APEX AZTEC Work Order Number: 1508070 Received by/date: Image: Imag	n. J n. J No No No No No No No No	RoptNo: 1
Received by/date: C. M. 08/04/15 Logged By: Anne Thome 8/4/2015 7:45:00 AM Qm Completed By: Anne Thome 8/4/2015 7:45:00 AM Qm Reviewed By: D. 0/04/15 Qm Qm Chain of Custody A. 0/04/15 Qm Qm Chain of Custody seels intact on sample bottles? Yes N N 2. Is Chain of Custody complete? Yes N N 3. How was the sample delivered? Courier N Log In Courier Courier N 4. Was an attempt made to cool the samples? Yes N 5. Were all samples received at a temperature of >0° C to 6.0°C Yes N 6. Sample(s) in proper container(s)? Yes N 7. Sufficient sample volume for indicated test(s)? Yes N 8. Are samples (except VOA and ONG) properly preserved? Yes N 9. Was preservative added to bottles? Yes N 10. VOA vials have zero headspace? Yes N 11. Were any sample containers received broken? Yes N 12. Does paperwork match bottle labels? Yes </th <th>No No No No No No No No No No </th> <th>Not Present Not Present NA NA NA NA NA NA NA</th>	No No No No No No No No No No	Not Present Not Present NA NA NA NA NA NA NA
Logged By: Anne Thome 8/4/2015 7:45:00 AM Qm Completed By: Anne Thome 8/4/2015 Qm Reviewed By: B/0.4/1.5 Qm Chain of Custody A. 0.1/0.4/1.5 Mm 1. Custody seals intact on sample bottles? Yes Mm 2. Is Chain of Custody complete? Yes Mm 3. How was the sample delivered? Courier Log In Courier Courier 4. Was an attempt made to cool the samples? Yes Mm 5. Were all samples received at a temperature of >0° C to 6.0°C Yes Mm 6. Sample(s) in proper container(s)? Yes Mm 7. Sufficient sample volume for indicated test(s)? Yes Mm 8. Are samples (except VOA and ONG) properly preserved? Yes Mm 9. Was preservative added to bottles? Yes Mm 10. VOA viais have zero headspace? Yes Mm 11. Were any sample containers received broken? Yes Mm 12. Does paperwork match bottle labels? Yes Mm	No No No No No No No No No No	Not Present Not Present NA NA NA NA NA NA NA
Completed By: Anne Thome 8/4/2015 Anne Thome 8/4/2015 Reviewed By: B/04/1/5 B/04/1/5 Anne Thome 8/4/2015 Chain of Custody Anne Thome B/04/1/5 Anne Thome 8/4/2015 Chain of Custody Anne Thome B/04/1/5 Anne Thome N 2. Is Chain of Custody complete? Yes Yes N 3. How was the sample delivered? Courier N Log In Courier Courier N 4. Was an attempt made to cool the samples? Yes N 5. Were all samples received at a temperature of >0° C to 6.0°C Yes N 6. Sample(s) in proper container(s)? Yes N 7. Sufficient sample volume for indicated test(s)? Yes N 8. Are samples (except VOA and ONG) properly preserved? Yes N 9. Was preservative added to bottles? Yes N 10. VOA viais have zero headspace? Yes N 11. Were any sample containers received broken? Yes N 12. Does paperwork match bottle labels? Yes N	No No No No No No No No No No	Not Present Not Present NA NA NA NA NA NA NA
Reviewed By: A B/04/15 Chain of Custody 1. Custody seals intact on sample bottles? Yes N 2. Is Chain of Custody complete? Yes N 3. How was the sample delivered? Courier Log In Courier Courier 4. Was an attempt made to cool the samples? Yes N 5. Were all samples received at a temperature of >0° C to 6.0°C Yes N 6. Sample(s) In proper container(s)? Yes N 7. Sufficient sample volume for indicated test(s)? Yes N 8. Are samples (except VOA and ONG) property preserved? Yes N 9. Was preservative added to bottles? Yes N 10. VOA vials have zero headspace? Yes N 11. Were any sample containers received broken? Yes N 12. Does paperwork match bottle labels? Yes N	No No No No No No No No No No No	Not Present Not Present NA NA NA NA NA NA
Chain of Custody 1. Custody seals intact on sample bottles? Yes 2. Is Chain of Custody complete? Yes 3. How was the sample delivered? Courier Log In Courier 4. Was an attempt made to cool the samples? Yes 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 6. Sample(s) in proper container(s)? Yes 7. Sufficient sample volume for indicated test(s)? Yes 8. Are samples (except VOA and ONG) properly preserved? Yes 9. Was preservative added to bottles? Yes 10. VOA vials have zero headspace? Yes 11. Were any sample containers received broken? Yes 12. Does paperwork match bottle labels? Yes Yes Yes	No No No No No No No No No No	Not Present Not Present NA NA NA NA NA NA NA
1. Custody seals intact on sample bottles? Yes N 2. Is Chain of Custody complete? Yes N 3. How was the sample delivered? Courier Log in Courier 4. Was an attempt made to cool the samples? Yes N 5. Were all samples received at a temperature of >0° C to 6.0°C Yes N 6. Sample(s) In proper container(s)? Yes N 7. Sufficient sample volume for indicated test(s)? Yes N 8. Are samples (except VOA and ONG) properly preserved? Yes N 9. Was preservative added to bottles? Yes N 10. VOA vials have zero headspace? Yes N 11. Were any sample containers received broken? Yes N 12. Does paperwork match bottle labels? Yes Yes N	No No No No No No No No No	Not Present Not Present NA NA NA NA NA NA NA
2. Is Chain of Custody complete? Yes ✓ N 3. How was the sample delivered? Courier Log in 4. Was an attempt made to cool the samples? Yes ✓ 5. Were all samples received at a temperature of >0° C to 6.0°C Yes ✓ N 6. Sample(s) in proper container(s)? Yes ✓ N 7. Sufficient sample volume for indicated test(s)? Yes ✓ N 8. Are samples (except VOA and ONG) properly preserved? Yes ✓ N 9. Was preservative added to bottles? Yes N N 10. VOA vials have zero headspace? Yes N N 11. Were any sample containers received broken? Yes N 12. Does paperwork match bottle labels? Yes Yes N	No No No No No No No No	Not Present NA NA
3. How was the sample delivered? Courier Log In 4. Was an attempt made to cool the samples? Yes ✓ 4. Was an attempt made to cool the samples? Yes ✓ N 5. Were all samples received at a temperature of >0° C to 6.0°C Yes ✓ N 6. Sample(s) In proper container(s)? Yes ✓ N 7. Sufficient sample volume for indicated test(s)? Yes ✓ N 8. Are samples (except VOA and ONG) properly preserved? Yes ✓ N 9. Was preservative added to bottles? Yes ✓ N 10. VOA vials have zero headspace? Yes ✓ N 11. Were any sample containers received broken? Yes ✓ N 12. Does paperwork match bottle labels? Yes ✓ N	No No No No No No No	NA 🗌 NA 🗌
Log In 4. Was an attempt made to cool the samples? Yes 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 6. Sample(s) in proper container(s)? Yes 7. Sufficient sample volume for indicated test(s)? Yes 8. Are samples (except VOA and ONG) properly preserved? Yes 9. Was preservative added to bottles? Yes 10. VOA vials have zero headspace? Yes 11. Were any sample containers received broken? Yes 12. Does paperwork match bottle labels? Yes Yes Yes	No No No No No No No	NA 🗌 NA 🗌
4. Was an attempt made to cool the samples? Yes ✓ 5. Were all samples received at a temperature of >0° C to 6.0°C Yes ✓ N 6. Sample(s) In proper container(s)? Yes ✓ N 7. Sufficient sample volume for indicated test(s)? Yes ✓ N 8. Are samples (except VOA and ONG) properly preserved? Yes ✓ N 9. Was preservative added to bottles? Yes ✓ N 10. VOA vials have zero headspace? Yes ✓ N 11. Were any sample containers received broken? Yes ✓ N 12. Does paperwork match bottle labels? Yes ✓ N	No No No No No No No	NA 🗌 NA 🗌
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ✓ N 6. Sample(s) in proper container(s)? Yes ✓ N 7. Sufficient sample volume for indicated test(s)? Yes ✓ N 8. Are samples (except VOA and ONG) properly preserved? Yes ✓ N 9. Was preservative added to bottles? Yes ✓ N 10. VOA vials have zero headspace? Yes ✓ N 11. Were any sample containers received broken? Yes ✓ N 12. Does paperwork match bottle labels? Yes ✓ N	No No No No No No V	
6. Sample(s) in proper container(s)? Yes ✓ I 7. Sufficient sample volume for indicated test(s)? Yes ✓ N 8. Are samples (except VOA and ONG) properly preserved? Yes ✓ N 9. Was preservative added to bottles? Yes ✓ N 10. VOA vials have zero headspace? Yes N 11. Were any sample containers received broken? Yes N 12. Does paperwork match bottle labels? Yes ✓ N	No 🗌 No 🗌 No 🗍 No 🗹	NA 🗆
7. Sufficient sample volume for indicated test(s)? Yes ✓ N 8. Are samples (except VOA and ONG) properly preserved? Yes ✓ N 9. Was preservative added to bottles? Yes ✓ N 10. VOA vials have zero headspace? Yes ✓ N 1. Were any sample containers received broken? Yes ✓ N 2. Does paperwork match bottle labels? Yes ✓ N (Note discrepancies on chain of custody) Yes ✓ N	No 🗌 No 🗌 No 🗹	NA 🗆
8. Are samples (except VOA and ONG) properly preserved? Yes ✓ N 9. Was preservative added to bottles? Yes ✓ N 10. VOA vials have zero headspace? Yes ✓ N 11. Were any sample containers received broken? Yes ✓ N 2. Does paperwork match bottle labels? Yes ✓ N (Note discrepancies on chain of custody) Yes ✓ N	No 🗆 No 🗹	NA 🗆
9. Was preservative added to bottles? Yes N 10. VOA vials have zero headspace? Yes N 11. Were any sample containers received broken? Yes N 12. Does paperwork match bottle labels? Yes Yes N (Note discrepancies on chain of custody) Yes N	No 🗹	NA 🗆
0. VOA vials have zero headspace? Yes N 1. Were any sample containers received broken? Yes N 2. Does paperwork match bottle labels? Yes Yes N (Note discrepancies on chain of custody) Yes N		
1. Were any sample containers received broken? Yes I 2. Does paperwork match bottle labels? Yes ✓ Note discrepancies on chain of custody) Yes ✓	No 🗆	No VOA Vials
2. Does paperwork match bottle labels? Yes V N (Note discrepancies on chain of custody)	No 🗹 🛛	# of preserved bottles checked
	No 🗆	for pH: (<2 or >12 unless note
3. Are matrices correctly Identified on Chain of Custody? Yes V N		Adjusted?
4. Is it clear what analyses were requested? Yes ⊻ N		Checked by:
O. Were all holding times able to be mer? Yes (If no, notify customer for authorization.)	vo 🗆 [
pecial Handling (if applicable)		
6. Was client notified of all discrepancies with this order? Yes N	No 🗆	NA 🗹
Person Notified: Date Date Date Date Date Date Date Date	Fax	In Person
7 Additional temptre		
6. Cooler Information		

Page 1 of 1

APEX							ivormental					ANALYSIS REQUESTED				Lab use only Due Date:			
/AI	-EV					Address:	Albu	quere	que,1	UM						111	11	1111	Temp. of coolers
Office	Locatio	nP	12te	cim	IM								1) 				111	111	when received (C°): 18
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atrix	Date	Time	CoEa	Grad	Identifying Mar	ks of Sample(s)	Start	End Depth	VOA	AG	250 11 250	Glass Jar	P/O			[]]]	///	Lab	Sample ID (Lab Use Only)
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eling	ished by (Signature)			Date: T	ime: Receiv	ved by	(Signa	dure)			Date		Time			2-de	ay rush	
				Tisted				1-19-16			State of		NO.	A STATISTICS	到时间的				

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

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 8741 District IV 1220 S. St. Francis Dr., Santa Fe, NM 8

State of New Mexico Energy Minerals and Natural Resources

OIL CONS. DIV DIST. 3

OCT 0 5 2015

Form C-141 Revised August 8, 2011

30

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000 C CL E.		nto Eo. NM 97	, 505	Oil C	onser	vation D	ivision						
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		F	Releas	e Notific	ation	n and C	corrective	Acti	on				
					OF	ERATO	R	Г] Initial	Report 🕅 Fina	Rep		
Name of (Company:	Enterprise	Field Ser	vices LLC		Contact: T	homas Long		1		Tiop		
Address: (514 Reilly	Ave, Farmir	ngton, NM	1 87401		Telephone	No. 505-599	-2286	1894	A REAL PROPERTY OF			
Facility Na	me: Later	al 2A-4				Facility Ty	pe: Natural G	as Gat	hering F	Pipeline	10-10		
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Unit Letter C	Section 24	Township 27N	Line	h/South	Feet from the 1450'	Line	Vest	San Juan	æ				
1000	and the second								1200	ALL INCOMENTS			
			L	atitude 36.	565507	_Longitue	de -107.8511	15					
				NAT	URE	OF REL	EASE						
Type of Rei	lease: Natur	ral Gas and M	Natural Ga	s Liquids		Volume o	of Release 17.8	8 MCF	Volume	Recovered: None	. (
						Gas; Est	imated 5-10 Bl	BLs					
Source of F	Release: Fai	led Repair	2.2		1.15	Date and	Hour of Occur	ence:	Date an	and Hour of Discovery:			
			-		1. 1.	7/13/15 (@ 2:05 p.m.						
Nas Immed	diate Notice	Given?			nu dana d	If YES, To Whom? Courtesy Notification - Cory Smith - NMOCD; Sh							
		L Ye	S LI NO	Not Re	quirea	Ketcham			- State		10		
By Whom?	Runell Sea	ale			-	Date and Time 7/24/15 at :8:00 a.m.							
ivas a vvale	ercourse Re	ached?	□ Yes	No No		ITTES, V	olume impactin	g the vv	atercours	e	4		
	a straight					5.00				Mar Harrison			
f a Waterco	ourse was Ir	mpacted, Des	scribe Full	y.*			August 1	1.00		1. S			
vere compl	e pipeline w eted on Aug	vas isolated, gust 10, 2015	blown dow	vn, locked out	and tag	iged out for	safety and env	ironmen	tal conce	rns. Repairs and remed	liation		
Describe Ar approximate and transpo 'Final" C-14	rea Affected ely 27 feet lo orted to a Ne 1.	and Cleanup ong by 15 fee ew Mexico Oi	p Action: T et wide by il Conserva	The contamina 11.5 feet dee ation approve	ant mass p. Appr d land fa	s was remo oximately 2 arm facility.	ved by mechan 26 cubic yards A third party c	ical exca of hydro corrective	avation. T carbon ir e action r	The final excavation mean npacted soil were excar eport is included with the	asured vated is		
horoby con	tify that the	information g	given abov	ve is true and	complet	e to the be	st of my knowle	dge and	understa	and that pursuant to NM			
ules and re which may elieve the o pround wate operator of	gulations al endanger pu operator of li er, surface v responsibilij	I operators a ublic health o iability should vater, human y for complia	the envir their ope health or ance with a	ronment. The rations have the the environm any other fede	accepta ailed to ent. In a ral, stat	ance of a C adequately addition, NM e, or local la	ase notification -141 report by t investigate and MOCD acceptar aws and/or regu	s and pe he NMO d remedi nce of a ilations.	CD mark ate conta C-141 re	ed as "Final Report" do amination that pose a the port does not relieve the	OCD ises es not reat to		
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CORRECTIVE ACTION REPORT

Property:

Lateral 2A-4 Pipeline Release NW 1/4, S24 T27N R10W San Juan County, New Mexico

September 15, 2015 Apex Project No. 7250415014

Prepared for:

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

Prepared by:

gnea

Ranee Deechilly Environmental Scientist

umm

Kyle Summers, CPG Branch Manager/Senior Geologist

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

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CORRECTIVE ACTION REPORT

Lateral 2A - 4 Pipeline Release NW 1/4, S24 T27N R10W San Juan County, New Mexico

Apex Project No. 7250415014

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral 2A-4 pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 24 in Township 27 North and Range 10 West in rural San Juan County, New Mexico (36.56551N, 107.85112W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site 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.

On July 13, 2015, a natural gas pipeline release was reported by Enterprise personnel. On July 23, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by soil discoloration 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

In accordance with the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the 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	Ranking Score		
	<50 feet 20		
Depth to Groundwater	50 to 99 feet	10	0
	>100 feet	0	
Wellhead Protection Area • <1,000 feet from a water	Yes	20	0
source, or; <200 feet from private domestic water source.	No	0	ů
	<200 feet	20	
Distance to Surface Water Body	200 to 1,000 feet	10	20
	>1,000 feet	0	
Total Ran	20		

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

- No water wells were identified on the Office of the State Engineer website database within one mile of the Site. In this area groundwater is anticipated to be encountered at depths of over 100 feet below grade surface (bgs). This information supports a ranking of "0" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking of "0".
- The release point is located approximately 198 feet from a small ephemeral wash that is identified as a "blue line" on the United States Geological Society topographic map, resulting in a distance to surface water ranking of "20".

3.0 RESPONSE ACTIONS

3.1 Soil Excavation Activities

On July 23, 2015, Enterprise initiated excavation activities at the Site to repair the subsurface leak, and remediate potential hydrocarbon impact. During corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support. Ranee Deechilly, an Apex environmental professional, provided environmental support.

After a brief delay to evaluate pipeline repair options (the leak was located relatively near a pipe reduction weld connecting a 6-inch diameter pipe with a 4-inch diameter pipe), excavation activities were completed on August 10, 2015, resulting in a final excavation measuring approximately 27 feet long by 15 feet wide, with a total depth of approximately 11.5 feet bgs. Confirmation soil samples C-1 through C-8 were collected from the sidewalls and base of the excavation.

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

A total of approximately 226 cubic yards of hydrocarbon affected soils were transported to the Envirotech Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean imported fill and contoured to surrounding grade.



Figure 3 is a site map that indicates the approximate 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 eight (8) confirmation soil samples (C-1 through C-8) from the resulting excavation for laboratory analysis. 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 sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis.

3.3 Laboratory Analytical Methods

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

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

4.0 DATA EVALUATION

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

4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory reporting limits associated with the final confirmation samples (C-1 through C-8) collected from the excavated area to the OCD *RALs* for sites having a total ranking score of "20".

- The laboratory analyses of confirmation samples collected from soils remaining in place did not indicate benzene concentrations above the laboratory reporting limits, 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 do not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD RAL of 50 mg/kg.



 The laboratory analyses of the confirmation samples collected from soils remaining in place did not indicate combined TPH GRO/DRO concentrations above the laboratory reporting limits, which are below the OCD RAL of 100 mg/kg for a Site ranking of "20".

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

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

5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2A-4 pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 24 in Township 27 North and Range 10 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by 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.

On July 13, 2015, a natural gas pipeline release was reported by Enterprise personnel. On June 23, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The pipeline was subsequently repaired. Natural gas was released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by soil discoloration 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 poorly sorted silty sand with limited clay.
- The final excavation measured approximately 27 feet long by 15 feet wide, with a total depth of approximately 11.5 feet bgs.
- Prior to backfilling, eight (8) confirmation samples soil samples were collected from the resulting final excavation for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD *RALs* for a Site ranking of "20".
- A total of approximately 226 cubic yards of hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill contoured to surrounding grade.

Based on field observations and laboratory analytical results, no additional investigation or corrective action 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.





NW1/4 Sec24 T27N R10W San Juan County, New Mexico 36.56551N, 107.85112W

Project No. 7250415014

Z: Houston South/Drafting/New Mexico 04/2015/7250415014/Figure 2.mxd 8/4/2015 WGS 1984 Web Mercator Auxiliary Sphere Projected Coordinate System

Apex TITAN, Inc.

606 South Rio Grande, Suite A Aztec, NM 87410 Phone: (505) 334-5200

www.apexcos.com bsidiary of Apex Companies, LLC FIGURE 2

Site Vicinity Map



District J 1625 N. French Dr., Hobbs, NM 88240 District II 1301 W. Grand Avenue, Artesia, NM 88210 District III 1000 Rio Brazos Road, Azteo, 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

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.

Form C-138 Revised March 12, 2007

1.

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE
1. Generator Name and Address: ENTERPRISE FIELD SERVICES, LLC, 614 Reilly Ave., Farmington, NM 87401 REVISED 7-24-15
2. Originating Site: Lateral 2A-4 Pipeline release
3. Location of Material (Street Address, City, State or ULSTR): UL C, S24, T27N, R10W San Juan County
4. Source and Description of Waste: Soil impacted with hydrocarbons associated with a pipeline release. Envirotech Inc is authorized to sign the Generator Waste Testing Certification. Estimated Volume 60 yd ³ Known Volume (to be entered by the operator at the end of the haul) 00 yd ³ bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Yad is Runell Seale</u> , representative or authorized agent for <u>Enterprise Field Serivces</u> , <u>LLC</u> SIGNATURE OF REPRESENTATIVE PRIN'T NAME do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. Operator Use Only: Waste Acceptance Frequency & Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
□ MSDS Information □ RCRA Hazardous Waste Analysis ⊠ Process Knowledge □ Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I,, representative for do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.
5. Transporter: West States, ABL,
CD Permitted Surface Waste Management Facility
Name and Facility Permit #: Envirotech Inc. Soil Remediation Facility Permit # NM-01-0011
Address of Facility. Hillsop, New Mexico # 43 Koad 7175 South of Block Attie (d, 1
Method of Treatment and/or Disposal:
Evaporation Injection Treating Plant A Landfarm Landfill Other
Vaste Acceptance Status:
IGNATURE: Rend Runne TITLE: Waste Coordinator DATE: 7-24-15 TELEPHONE NO.: 505-632-0615
Surface Waste Management Facility Authorized Agent

Number		
1625 N. French Dr., Hobbs, NM 88240 District II	State of New Mexico Energy Minerals and Natural R	9 705 /- 0707 Form C-13
1301 W. Grand Avenue, Artesia, NM 88210 District III	Oil Concernation Divisi	Surface Waste Management Facility Operati
1000 Rio Brazos Road, Aztec, NM 87410 District IV	1220 South St. Francis I	and Generator shall maintain and make the
1220 S. St. Francis Dr., Santa Fe, NM 87505	Santa Fe, NM 87505	
REQUEST FO	OR APPROVAL TO ACC	CEPT SOLID WASTE
1. Generator Name and Address: ENTERPRISE FIELD SERVICE	S, LLC, 614 Reilly Ave., Farmington	n, NM 87401 REVISED 7-24-15
2. Originating Site: Lateral 2A-4 Pipeline release		A., 2015
3. Location of Material (Street Address, UL C, S24, T27N, R10W San Ju	City, State or ULSTR): an County	174g all
4. Source and Description of Waste: Soil impacted with hydrocarbons Envirotech Inc is authorized to sign th Estimated Volume <u>60 yd</u> ³ Known V	associated with a pipeline release. e Generator Waste Testing Certi Volume (to be entered by the operator a	fication. at the end of the haul) _ / / / / yd bbls
5 GENERATO	R CERTIFICATION STATEMEN	T OF WASTE STATUS
1. Runel Leale 7/24/19 R	unell Seale , representative or auth	norized agent for Enterprise Field Serivces, LLC
SIGNATURE OF REPRESENTATI	VE PRINT NAME	
do hereby certify that according to the Resource July 1988 regulatory determination, the above	rce Conservation and Recovery Act (R e described waste is: (Check the appro	(CRA) and the US Environmental Protection Agency's priate classification)
RCRA Exempt: Oil field wastes get exempt waste. Operator Use Only	nerated from oil and gas exploration an Waste Accentance Frequency MM	id production operations and are not mixed with non-
RCRA Non-Exempt: Oil field wast	e which is non-hazardous that does not	evceed the minimum standards for usets harardous h
characteristics established in RCRA regises subpart D, as amended. The following of the appropriate items)	alations, 40 CFR 261.21-261.24, or list locumentation is attached to demonstra	ted hazardous waste as defined in 40 CFR, part 261, ate the above-described waste is non-hazardous. (Check
MSDS Information RCRA Hazardo	ous Waste Analysis 🖾 Process Know	wledge 🔲 Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WA	STE TESTING CERTIFICATION	STATEMENT FOR LANDFARMS
I, represent the oil field waste have been subjected to the conform to the specific requirements applical samples are attached to demonstrate the above	paint filter test and tested for chloride ble to landfarms pursuant to Section 15 ve-described waste conform to the requ	do hereby certify that representative samples of content and that the samples have been found to 5 of 19.15.36 NMAC. The results of the representative airements of Section 15 of 19.15.36 NMAC.
5. Transporter:	· Foutz West States	HR1
OCD Permitted Surface Waste Managemen	it Facility	
Name and Facility Permit #: Envirotech	Inc. Soil Remediation Facility	Permit # NM-01-0011
Address of Facility: Hilltop, New Mex	ico #243 UR 7175, 5	bouth of Bloomsfield, NM
Method of Treatment and/or Disposal:		
Evaporation Injection	🔲 Treating Plant 🛛 Landfarm	n 🗌 Landfill 🗋 Other
Waste Acceptance Status:		
\$	APPROVED D	ENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Kendra Running	TITLE: Waste Coor	dinater DATE: 8/10/15
SIGNATURE: Kand Run Surface Waster Management Facility	Y Authorized Acent	EPHONE NO.: 505-632-0615
Sumer reactioningental racial	O	6

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SITE PHOTOGRAPHS



Lateral 2A-4 Pipeline Release

Photograph 1

View of early excavation activities, facing south.



Photograph 2

View of the fully exposed Lateral 2A-4 pipeline and initial excavation, facing northeast.



Photograph 3

View of the final excavation, facing north.



Page 1 of 2



Lateral 2A-4 Pipeline Release

Photograph 4

View of the final excavation, facing southeast.





TABLE 1 Lateral 2A-4 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)
New Mexico Ene Department, Oil Co	rgy, Mineral & N onservation Div Action Level	latural Resources rision, Remediation	10	NE	NE	NE	50	1	00
1				Excavation Co	nfirmation Samples		State and the second	70. Sto. 1. 1	States and the
C-1	8.10.15	11.5	< 0.043	< 0.043	< 0.043	<0.087	ND	<4.3	<10
C-2	8.10.15	1 to 11.5	<0.047	<0.047	<0.047	< 0.094	ND	<4.7	<9.9
C-3	8.10.15	1 to 11.5	< 0.044	<0.044	< 0.044	<0.088	ND	<4.4	<9.9
C-4	8.10.15	1 to 11.5	<0.049	< 0.049	<0.049	<0.098	ND	<4.9	<9.7
C-5	8.10.15	11.5	<0.044	<0.044	<0.044	<0.089	ND	<4.4	<9.9
C-6	8.10.15	1 to 11.5	<0.042	<0.042	<0.042	<0.084	ND	<4.2	<9.8
C-7	8.10.15	1 to 11.5	<0.047	<0.047	<0.047	< 0.093	ND	<4.7	<9.8
C-8	8.10.15	1 to 11.5	<0.042	< 0.042	<0.042	<0.083	ND	<4.2	<10

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

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

August 12, 2015

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

RE: Lateral 2A-4

OrderNo.: 1508405

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/11/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical	Report

Date Reported: 8/12/2015

of 11

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Project: Lateral 2A-4 Lab ID: 1508405-001	Client Sample ID: C-1 Collection Date: 8/10/2015 2:00:00 PM Matrix: MEOH (SOIL) Received Date: 8/11/2015 7:40:00 AM						
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst	DJF	
Gasoline Range Organics (GRO)	ND	4.3	mg/Kg	1	8/11/2015 10:44:59 AM	R28109	
Surr: BFB	105	70-130	%REC	1	8/11/2015 10:44:59 AM	R28109	
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	S			Analyst:	KJH	
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/11/2015 12:52:11 PM	20702	
Surr: DNOP	80.8	57.9-140	%REC	1	8/11/2015 12:52:11 PM	20702	
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst:	DJF	
Benzene	ND	0.043	mg/Kg	1	8/11/2015 10:44:59 AM	20686	
Toluene	ND	0.043	mg/Kg	1	8/11/2015 10:44:59 AM	20686	
Ethylbenzene	ND	0.043	mg/Kg	1	8/11/2015 10:44:59 AM	20686	
Xylenes, Total	ND	0.087	mg/Kg	1	8/11/2015 10:44:59 AM	20686	
Surr: 1,2-Dichloroethane-d4	98.9	70-130	%REC	1	8/11/2015 10:44:59 AM	20686	
Surr: 4-Bromofluorobenzene	105	70-130	%REC	1	8/11/2015 10:44:59 AM	20686	
Surr: Dibromofluoromethane	113	70-130	%REC	1	8/11/2015 10:44:59 AM	20686	
Surr: Toluene-d8	99.5	70-130	%REC	1	8/11/2015 10:44:59 AM	20686	

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

Analytical	Re	port
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1

1

1

%REC

%REC

%REC

Date Reported: 8/12/2015

8/11/2015 11:12:28 AM 20686

8/11/2015 11:12:28 AM 20686

8/11/2015 11:12:28 AM 20686

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

CLIENT:	APEX TITAN			Client Samp	le ID: C-	2	
Project:	Lateral 2A-4			Collection	Date: 8/1	10/2015 2:05:00 PM	
Lab ID:	1508405-002	Matrix:	MEOH (SOIL)	Received	Date: 8/1	1/2015 7:40:00 AM	
Analyses		Result	RL Qua	l Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015D MOD: GASO	LINE RANGE				Analyst	DJF
Gasoline	Range Organics (GRO)	ND	4.7	mg/Kg	1	8/11/2015 11:12:28 AM	R28109
Surr: E	BFB	105	70-130	%REC	1	8/11/2015 11:12:28 AM	R28109
EPA MET	HOD 8015M/D: DIESEL R	ANGE ORGANIC	S			Analyst:	KJH
Diesel R	ange Organics (DRO)	ND	9.9	mg/Kg	1	8/11/2015 1:13:33 PM	20702
Surr: [DNOP	83.1	57.9-140	%REC	1	8/11/2015 1:13:33 PM	20702
EPA MET	HOD 8260B: VOLATILES	SHORT LIST				Analyst:	DJF
Benzene		ND	0.047	mg/Kg	1	8/11/2015 11:12:28 AM	20686
Toluene		ND	0.047	mg/Kg	1	8/11/2015 11:12:28 AM	20686
Ethylben	zene	ND	0.047	mg/Kg	1	8/11/2015 11:12:28 AM	20686
Xylenes,	Total	ND	0.094	mg/Kg	1	8/11/2015 11:12:28 AM	20686
Surr: 1	1,2-Dichloroethane-d4	101	70-130	%REC	1	8/11/2015 11:12:28 AM	20686

70-130

70-130

70-130

101

120

94.9

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/12/2015

8/11/2015 1:35:01 PM

8/11/2015 1:35:01 PM 20702

8/11/2015 11:40:00 AM 20686

Analyst: KJH

Analyst: DJF

20702

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8015M/D: DIESEL RANGE ORGANICS

EPA METHOD 8260B: VOLATILES SHORT LIST

Diesel Range Organics (DRO)

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

Surr: DNOP

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT: APEX TITAN Client Sample ID: C-3 Collection Date: 8/10/2015 2:10:00 PM Project: Lateral 2A-4 Lab ID: 1508405-003 Matrix: MEOH (SOIL) Received Date: 8/11/2015 7:40:00 AM **RL** Qual Units **DF** Date Analyzed Analyses Result Batch EPA METHOD 8015D MOD: GASOLINE RANGE Analyst: DJF 8/11/2015 11:40:00 AM R28109 Gasoline Range Organics (GRO) ND 4.4 mg/Kg 1 Surr: BFB 109 70-130 %REC 1 8/11/2015 11:40:00 AM R28109

9.9

57.9-140

0.044

0.044

0.044

0.088

70-130

70-130

70-130

70-130

mg/Kg

%REC

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%REC

%REC

%REC

%REC

1

1

1

1

1

1

1

1

1

1

ND

84.3

ND

ND

ND

ND

101

102

119

96.7

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	в	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical	Report
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Date Reported: 8/12/2015

8/11/2015 12:07:31 PM 20686

8/11/2015 12:07:31 PM 20686 8/11/2015 12:07:31 PM 20686

8/11/2015 12:07:31 PM 20686

8/11/2015 12:07:31 PM 20686

Hall Environmental Analysis Laboratory, Inc.

Xylenes, Total

Surr: Toluene-d8

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

CLIENT: AI	PEX TITAN		Client Sample ID: C-4						
Project: La	ateral 2A-4	Collection Date: 8/10/2015 2:15:00 PM							
Lab ID: 15	508405-004	Matrix:	MEOH (SOIL)	Received	Date: 8/1	1/2015 7:40:00 AM			
Analyses		Result	RL Qual	Units	DF	Date Analyzed	Batch		
EPA METHO	DD 8015D MOD: GASO	LINE RANGE				Analyst:	DJF		
Gasoline Ra	nge Organics (GRO)	ND	4.9	mg/Kg	1	8/11/2015 12:07:31 PM	R28109		
Surr: BFB		103	70-130	%REC	1	8/11/2015 12:07:31 PM	R28109		
EPA METHO	DD 8015M/D: DIESEL R	ANGE ORGANIC	s			Analyst:	KJH		
Diesel Range	e Organics (DRO)	ND	9.7	mg/Kg	1	8/11/2015 1:59:48 PM	20702		
Surr: DNC	DP	86.8	57.9-140	%REC	1	8/11/2015 1:59:48 PM	20702		
EPA METHO	D 8260B: VOLATILES	SHORT LIST				Analyst:	DJF		
Benzene		ND	0.049	mg/Kg	1	8/11/2015 12:07:31 PM	20686		
Toluene		ND	0.049	mg/Kg	1	8/11/2015 12:07:31 PM	20686		
Ethylbenzen	e	ND	0.049	mg/Kg	1	8/11/2015 12:07:31 PM	20686		

0.098

70-130

70-130

70-130

70-130

mg/Kg

%REC

%REC

%REC

%REC

1

1

1

1

1

ND

100

98.3

119

95.0

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in t
	D	Sample Diluted Due to Matrix	E	Value above quantita

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- R R D buisde accepted recovery mints
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytic	cal Re	port
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Date Reported: 8/12/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: C-5 Collection Date: 8/10/2015 2:20:00 PM **Project:** Lateral 2A-4 Lab ID: 1508405-005 Matrix: MEOH (SOIL) Received Date: 8/11/2015 7:40:00 AM **RL** Qual Units Analyses Result **DF** Date Analyzed Batch EPA METHOD 8015D MOD: GASOLINE RANGE Analyst: DJF 8/11/2015 12:35:04 PM R28109 Gasoline Range Organics (GRO) ND 4.4 mg/Kg 1 Surr: BFB 108 70-130 %REC 8/11/2015 12:35:04 PM R28109 1 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: KJH ND 8/11/2015 2:21:17 PM Diesel Range Organics (DRO) 20702 9.9 mg/Kg 1 Surr: DNOP 86.2 8/11/2015 2:21:17 PM 20702 57.9-140 %REC 1 E

PA METHOD 8260B: VOLATILES SH	HORT LIST				Analyst:	DJF
Benzene	ND	0.044	mg/Kg	1	8/11/2015 12:35:04 PM	20686
Toluene	ND	0.044	mg/Kg	1	8/11/2015 12:35:04 PM	20686
Ethylbenzene	ND	0.044	mg/Kg	1	8/11/2015 12:35:04 PM	20686
Xylenes, Total	ND	0.089	mg/Kg	1	8/11/2015 12:35:04 PM	20686
Surr: 1,2-Dichloroethane-d4	110	70-130	%REC	1	8/11/2015 12:35:04 PM	20686
Surr: 4-Bromofluorobenzene	99.8	70-130	%REC	1	8/11/2015 12:35:04 PM	20686
Surr: Dibromofluoromethane	124	70-130	%REC	1	8/11/2015 12:35:04 PM	20686
Surr: Toluene-d8	95.3	70-130	%REC	1	8/11/2015 12:35:04 PM	20686

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 5 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical R	eport
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Date Reported: 8/12/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN		Client Sample ID: C-6						
Project: Lateral 2A-4		Collection Date: 8/10/2015 2:25:00 PM						
Lab ID: 1508405-006	Matrix:	MEOH (S	OIL)	Received	Date: 8/1	1/2015 7:40:00 AM		
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch	
EPA METHOD 8015D MOD: GASOL	INE RANGE					Analyst	DJF	
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	8/11/2015 1:02:40 PM	R28109	
Surr: BFB	104	70-130		%REC	1	8/11/2015 1:02:40 PM	R28109	
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	S				Analyst	KJH	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/11/2015 2:44:22 PM	20702	
Surr: DNOP	90.0	57.9-140		%REC	1	8/11/2015 2:44:22 PM	20702	
EPA METHOD 8260B: VOLATILES	SHORT LIST					Analyst	DJF	
Benzene	ND	0.042		mg/Kg	1	8/11/2015 1:02:40 PM	20686	
Toluene	ND	0.042		mg/Kg	1	8/11/2015 1:02:40 PM	20686	
Ethylbenzene	ND	0.042		mg/Kg	1	8/11/2015 1:02:40 PM	20686	
Xylenes, Total	ND	0.084		mg/Kg	1	8/11/2015 1:02:40 PM	20686	
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	8/11/2015 1:02:40 PM	20686	
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	1	8/11/2015 1:02:40 PM	20686	
Surr: Dibromofluoromethane	127	70-130		%REC	1	8/11/2015 1:02:40 PM	20686	
Surr: Toluene-d8	95.2	70-130		%REC	1	8/11/2015 1:02:40 PM	20686	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 6 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analy	vtical	Re	port
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1

1

1

%REC

%REC

%REC

8/11/2015 1:30:15 PM

8/11/2015 1:30:15 PM

8/11/2015 1:30:15 PM

20686

20686

20686

Date Reported: 8/12/2015

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

CLIENT:	APEX TITAN		(Client Sampl	e ID: C-	7	
Project:	Lateral 2A-4			Collection	Date: 8/1	0/2015 2:30:00 PM	
Lab ID:	1508405-007	Matrix:	MEOH (SOIL)	Received	Date: 8/1	1/2015 7:40:00 AM	
Analyses		Result	RL Qual	Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015D MOD: GASO	LINE RANGE				Analyst	DJF
Gasoline	Range Organics (GRO)	ND	4.7	mg/Kg	1	8/11/2015 1:30:15 PM	R28109
Surr: E	BFB	107	70-130	%REC	1	8/11/2015 1:30:15 PM	R28109
EPA MET	HOD 8015M/D: DIESEL R	ANGE ORGANIC	S			Analyst	: KJH
Diesel R	ange Organics (DRO)	ND	9.8	mg/Kg	1	8/11/2015 3:05:40 PM	20702
Surr: I	ONOP	82.8	57.9-140	%REC	1	8/11/2015 3:05:40 PM	20702
EPA MET	HOD 8260B: VOLATILES	SHORT LIST				Analyst	DJF
Benzene	í.	ND	0.047	mg/Kg	1	8/11/2015 1:30:15 PM	20686
Toluene		ND	0.047	mg/Kg	1	8/11/2015 1:30:15 PM	20686
Ethylben	zene	ND	0.047	mg/Kg	1	8/11/2015 1:30:15 PM	20686
Xylenes,	Total	ND	0.093	mg/Kg	1	8/11/2015 1:30:15 PM	20686
Surr: 1	1,2-Dichloroethane-d4	105	70-130	%REC	1	8/11/2015 1:30:15 PM	20686

70-130

70-130

70-130

99.4

124

95.1

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Ana	lytical	Re	port
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Date Reported: 8/12/2015

20686

20686

20686

20686

20686

20686

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Samp	e ID: C-	8	
Project: Lateral 2A-4			Collection	Date: 8/1	0/2015 2:35:00 PM	
Lab ID: 1508405-008	Matrix:	MEOH (SOI	L) Received	Date: 8/1	1/2015 7:40:00 AM	
Analyses	Result	RL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASO	LINE RANGE				Analyst	DJF
Gasoline Range Organics (GRO)	ND	4.2	mg/Kg	1	8/11/2015 1:57:52 PM	R28109
Surr: BFB	105	70-130	%REC	1	8/11/2015 1:57:52 PM	R28109
EPA METHOD 8015M/D: DIESEL R	ANGE ORGANIC	s			Analyst	KJH
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	8/11/2015 3:27:11 PM	20702
Surr: DNOP	82.5	57.9-140	%REC	1	8/11/2015 3:27:11 PM	20702
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst	DJF
Benzene	ND	0.042	mg/Kg	1	8/11/2015 1:57:52 PM	20686
Toluene	ND	0.042	mg/Kg	1	8/11/2015 1:57:52 PM	20686

Ethylbenzene ND 0.042 8/11/2015 1:57:52 PM mg/Kg 1 Xylenes, Total ND 0.083 mg/Kg 1 8/11/2015 1:57:52 PM Surr: 1,2-Dichloroethane-d4 108 70-130 %REC 1 8/11/2015 1:57:52 PM Surr: 4-Bromofluorobenzene 1 8/11/2015 1:57:52 PM 100 70-130 %REC Surr: Dibromofluoromethane 128 70-130 %REC 1 8/11/2015 1:57:52 PM Surr: Toluene-d8 70-130 %REC 8/11/2015 1:57:52 PM 93.8 1

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:

APEX TITAN Lateral 2A-4

Sample ID MB-20689	SampType: MI	BLK	TestCode: EPA Method 8015M/D: Diesel Range Organics										
Client ID: PBS	Batch ID: 20	689	RunNo: 28093										
Prep Date: 8/10/2015	Analysis Date: 8	/12/2015	5	SeqNo: 8	46969	Units: %RE	с						
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				
0 01100		40.00		70.0	57.0	440							
Surr: DNOP	7.7	10.00		76.6	57.9	140							
Sample ID LCS-20689	SampType: LC	10.00	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics					
Sample ID LCS-20689 Client ID: LCSS	SampType: LC Batch ID: 20	10.00 CS 0689	Tes	tCode: El	PA Method 8093	8015M/D: Die	esel Rang	e Organics					
Sample ID LCS-20689 Client ID: LCSS Prep Date: 8/10/2015	SampType: LC Batch ID: 20 Analysis Date: 8	10.00 CS 0689 /12/2015	Tes F S	tCode: El RunNo: 2 SeqNo: 8	57.9 PA Method 8093 46970	8015M/D: Die Units: %RE	esel Rang	e Organics					
Sample ID LCS-20689 Client ID: LCSS Prep Date: 8/10/2015 Analyte	7.7 SampType: LC Batch ID: 20 Analysis Date: 8 Result PQL	10.00 CS 0689 /12/2015 SPK value	Tes F S SPK Ref Val	76.6 tCode: El RunNo: 2 SeqNo: 8 %REC	PA Method 8093 46970 LowLimit	8015M/D: Die Units: %RE HighLimit	esel Rang C %RPD	e Organics	Qual				

Qualifiers:

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

Page 9 of 11

- WO#: 1508405 12-Aug-15

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: AP Project: La

APEX TITAN Lateral 2A-4

Sample ID mb-20686	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8260B: Vola	tiles Shor	t List		
Client ID: PBS	Batc	h ID: 20	686	F	RunNo: 2	8109					
Prep Date: 8/10/2015	Analysis D	Date: 8/	11/2015	S	SeqNo: 8	47203	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									
Xylenes, Total	ND	0.10									
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130				
Surr: 4-Bromofluorobenzene	0.48		0.5000		97.0	70	130				
Surr: Dibromofluoromethane	0.61		0.5000		122	70	130				
Surr: Toluene-d8	0.45		0.5000		90.2	70	130				
Sample ID Ics-20686	SampT	Type: LC	S	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	t List		
Client ID: LCSS	Batc	h ID: 20	686	F	RunNo: 2	8109					
Prep Date: 8/10/2015	Analysis D	Date: 8/	11/2015	S	SeqNo: 8	47204	Units: mg/k	٢g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.050	1.000	0	100	70	130				
Toluene	1.0	0.050	1.000	0	100	70	130				
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		105	70	130				
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.6	70	130				
Surr: Dibromofluoromethane	0.63		0.5000		127	70	130				
Surr: Toluene-d8	0.48		0.5000		95.9	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

Page 10 of 11

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

12-Aug-15

WO#: 1508405

QC SUMMARY REPORT

WO#: 1508405

12-Aug-15

Hall Environmenta	l Analysis	Laboratory,	Inc
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Client: A Project: D

APEX TITAN Lateral 2A-4

Sample ID rb	1	SampTy	pe: ME	BLK	TestCode: EPA Method 8015D Mod: Gasoline Range									
Client ID: PI	BS	Batch	D: R2	8109	F	RunNo: 28109								
Prep Date:		Analysis Da	te: 8/	11/2015	S	SeqNo: 8	47211	Units: mg/k	۲g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Sasoline Range C	Organics (GRO)	ND	5.0											
Surr: BFB		490		500.0		98.3	70	130						
Sample ID 2.	5ug gro lcs	SampTy	pe: LC	s	Tes	tCode: E	PA Method	8015D Mod:	Gasoline	Range				
Client ID: LO	css	Batch	D: R2	8109	F	RunNo: 2	8109							
Prep Date:		Analysis Da	te: 8/	11/2015	S	SeqNo: 8	47212	Units: mg/H	٨g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Basoline Range C	Organics (GRO)	25	5.0	25.00	0	98.1	70	123						
Surr: BFB		510		500.0		102	70	130						
Sample ID 15	508405-001ams	SampTy	De: MS	8	Tes	tCode: E	PA Method	8015D Mod:	Gasoline	Range				
Client ID: C-	-1	Batch	D: R2	8109	F	RunNo: 2	8109							
Prep Date:		Analysis Da	te: 8/	11/2015	S	GeqNo: 8	47213	Units: mg/ł	٢g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Basoline Range O	Organics (GRO)	21	4.3	21.66	0	95.0	54.9	131						
Surr: BFB		480		433.3		110	70	130						
Sample ID 15	508405-001amsd	SampTy	be: MS	SD	Tes	tCode: E	PA Method	8015D Mod:	Gasoline	Range				
Client ID: C-	-1	Batch	D: R2	8109	F	RunNo: 2	8109							
Prep Date:		Analysis Da	te: 8/	11/2015	S	eqNo: 8	47214	Units: mg/k	۲g					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
asoline Range O	Organics (GRO)	21	4.3	21.66	0	95.5	54.9	131	0.546	20				
Surr: BFB		460		433.3		107	70	130	0	0				

Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Detection Limit

Page 11 of 11

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental An Albuqu TEL: 503-343-3975 F/ Website: www.haller	4901 H Agol H Bergue, LX: 50 Avironi	Laboratory lawkins NE NM 87109 8-345-4107 mental.com	Sam	ple Log-In	Check List
Client Name: APEX Titan	Work Order Number: 1	50840)5		Rcpt	No: 1
Received by/date: UAG	08 11 15					
Logged By: Ashley Gallegos	8/11/2015 7:40:00 AM		~ ~	t J		
Completed By: Ashley Gallegos	8/11/2015 8:12:49 AM		\$	B		
Reviewed By: Qa C	8/11/15					
Chain of Custody	1 1 1					
1. Custody seals intact on sample bottles?		Yes		No 🗌	Not Present	V
2, Is Chain of Custody complete?		Yes	\checkmark	No	Not Present	
3. How was the sample delivered?		Courie	μ			
Log In						<i>x</i>
4. Was an attempt made to cool the samples?		Yes	\checkmark	No 🗌	NA	
5. Were all samples received at a temperature	of >0° C to 6.0°C	Yes	/	No 🗌	NA	
6. Sample(s) in proper container(s)?		Yes	v	No 🗌		
7. Sufficient sample volume for indicated test(s)	?	Yes	~	No 🗆		
8. Are samples (except VOA and ONG) properly	preserved?	Yes		No	1. B	
9. Was preservative added to bottles?		Yes		No 🗹	NA	
10.VOA vials have zero headspace?		Yes		No 🗌	No VOA Vials	~
11. Were any sample containers received broke	n?	Yes		No 🗹	Astonesad	
12. Does paperwork match bottle labels?		Yes	~	No 🗌	# of preserved bottles checked for pH:	<2 or >12 unless note
12 Are matrices correctly identified on Chain of (Custody?	Yes		No	Adjusted	?
14 Is it clear what analyses were requested?	ouslosy:	Yes	~	No 🗌		
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	~	No 🗌	Checked I	by:
Special Handling (if applicable)						
16 Was client notified of all discrepancies with th	nis order?	Yes		No 🗌	NA	>
Deres Mettert		_				
By Whom:	Via	eMai	Phon	e 🗌 Fax	In Person	
Regarding:						-
Client Instructions:						-
17. Additional remarks:						
18. Cooler Information						
Cooler No Temp °C Condition Se	al Intact Seal No Se	al Dat	e Sig	ned By	1	
1 1.0 Good Yes					1	

i i

											15					CH	AIN OF CUSTODY RECOP
		,			Lat	oratory:	the	IN En	UNON	men	<u>1a </u>		ANALYSIS REQUEST		111	11	Lab use only Due Date:
1	-EV	·			Add	lress: _	Alb	inqu	igu	er Ni	M			11	11		Temp. of coolers
offic	e Locatio	on <u>tet</u>	ect	NN	<u> </u>		۸	1 0			121			11	111	11	when received (C'):
							An	dy ti	aun	an				1 Bec	111	11	
roie	oct Mana	oor K	5.10	mala		/so #·	725	ALIC	TAIL	1				3/	11	111	
ampl	er's Name	echilly	<u>, , , , , , , , , , , , , , , , , , , </u>		Samı R	oler's Sign	ature	ly	1	•			A BIA	E C	///	///	
roj. N 725	10. 50415	014	Proje	La-	me tral 2A-	ч			No/Ty	rpe of (ontainers		RUZI	///	11	111	
atrix	Date	Time	JOED	Brab	Identifying Marks of	Sample(s)	Start Depth	End Depth	VOA	AG 1U	Class Glass	D/d	177	11	111		Lab Sample 1D (Lab Use Only)
S	8/1915	1400			C-1						1		XX				1508405-001
S	1	1405			C-2						1	1	XX				-002
3		1410			(-3	a Trine and					1		XX				-003
S		1415			C-4						1		XX				-004
S		1420	8		(5						1		XX				-005
S		1425			C-6						1		XX				-004
5		1430			C-7						1		XX				-007
<u>S</u>	Y	1435			(-8			45			1		XX				-008
			-			5											
im a	round time		mal		5% Rush 0 50%	Rush X	100%	Rush		500							
elino	juished by	(Şignature)		8	Date: Time: 14/15 1750	Preceiv	ved by:	(Signa	ture)	t	8710	jist	Time: 1750	NOTES:			
	uished by	(Signature)	eb	E 8/	Date: Time: Date: Time:	Receiv	ved by:	(Signa all (Signa	ture	-05	ØS/II Dati	115	- 0740 Time:	В	NINA	interp FE#	nse Tom Long N 22101
eling	uished by	(Signature)		-	Date: Time:	Receiv	ved by:	: (Signa	ture)		Date	e:	Time:	6			

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

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

State of New Mexico Energy Minerals and Natural Resources

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

OIL CONS. DIV DIST. 3

OCT 26 2015

Form C-141 Revised August 8, 2011

100

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

		F	Releas	e Notifica	ation and (Corrective	e Acti	on					
					OPERATO	R	\triangleright	Initial	Report		Final Re		
Name of C	company:	Enterprise F	Field Ser	vices LLC	Contact:	Thomas Long	0000		_	1			
Address: 6	514 Reilly A	Ave, Farmin	gton, NN	187401	Telephon	e No. 505-599	-2286	havine F	lineline		-		
acility Na	me: Navaj	O C#2IVI			Facility I	ype: Natural G	bas Gat	nering F	Ipeline		-		
Surface O	wner: Nav	ajo Nation		Mineral O	wner: Navajo I	Nation		API No.					
				LOCA		ON OF RELEASE							
Jnit Letter	Section	Township	Range	Feet from	North South	Iorth South Feet from			County	County			
L	31	27N	8W	the 2492	Line	ne the 874 Line San Juan							
			L	atitude 36.53	80553 Longitu	de -107.7282	79						
				NATL	JRE OF REL	EASE							
ype of Rel	ease: Natur	al Gas and N	latural Ga	is Liquids	Volume of	Release Unkno	own	Volume	Recovered	: None			
ource of F	Release: Inte	ernal Corrosio	on		Date and I	Hour of Occurre	nce:	Date an	d Hour of D	iscove	ry:		
las Immer	liato Notico	Given?			9/30/15@	12:25 p.m.	mith M	9/30/15	@ 1:30 p.n	n.	DA		
vas immed	nate NOtice			Not	IT TES, 10	whom? Cory S	annun – N	INIUCD; S	sieve Austin	- ININE	PA		
Required													
y Whom?	Thomas L	ong			Date and	Time 10/14/201	5 7:45 a.	m.	1000				
Vas a Wate	ercourse Re	eached?			If YES, Vo	lume Impacting	the Wate	ercourse					
			☐ Yes	🖾 No									
a Waterco escribe C ay. Enterp epairs and	ourse was In ause of Prol prise dispato d remediation	mpacted, Des blem and Rei ched a technic on was initiate	scribe Full medial Ac cian and c ed on Octo	y.* tion: On Septen confirmed the le ober 13, 2015.	nber 30, 2015, a bak. The pipeline It was determine	third party repo was isolated, o d the release w	rted a ga lepressu as repor	as leak wi rized, loc table on (thin the Nav ked out and October 14,	vajo C# taggeo 2015 d	2M right- d out. lue the		
a Waterco Describe C vay. Enterp Repairs and olume of in Describe An nvironmer ubmitted w	ourse was In ause of Prolo orise dispato d remediation mpacted sul rea Affected ntal contract with the "Final	mpacted, Des blem and Rei ched a technic on was initiate bsurface soils I and Cleanup or is oversaw al" C-141.	scribe Full medial Ac cian and c ed on Octo s. p Action: F v excavatio	y.* tion: On Septen confirmed the le ober 13, 2015. Repairs and add on activities and	nber 30, 2015, a eak. The pipeline It was determine ditional remediati	third party repo was isolated, c d the release w on were comple mation samples	erted a ga lepressu as report eted on C . A third	as leak wi rized, loci table on (October 18 party cor	thin the Nav ked out and October 14, 5, 2015. A t rective actio	tagged 2015 d hird pa	22M right- d out. lue the arty art will be		
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f a Waterco Describe C vay. Enter, Repairs and olume of in Describe An invironmer ubmitted v hereby cerules and re rhich may alieve the o round water perator of ignature:	ourse was In ause of Prolorise dispate d remediation mpacted sulf rea Affected that contract with the "Final rtify that the egulations a endanger properator of I er, surface w responsibility	mpacted, Des blem and Ren ched a technic on was initiate bsurface soils I and Cleanup or is oversaw al" C-141. Information g II operators a ublic health o iability should water, human ty for complia	given abor re require r the envir d their ope health or mace with a	y.* tion: On Septen confirmed the le ober 13, 2015. Repairs and add on activities and ve is true and co d to report and/ ronment. The a erations have fa the environment any other federa	mber 30, 2015, a bak. The pipeline It was determine ditional remediati d collected confir complete to the be for file certain rel acceptance of a 0 illed to adequate nt. In addition, N al, state, or local	third party report was isolated, or ad the release we on were comple- mation samples ease notification C-141 report by ly investigate an IMOCD accepta laws and/or reg OIL COI	eted on C as report eted on C . A third edge and the NMC ad remed ince of a ulations. NSERV	as leak wi rized, loci table on C October 18 party cor d understa erform co DCD mark liate conta C-141 re VATION	thin the Nav ked out and Dctober 14, 5, 2015. A t rective action and that pur rective action and action at a state	hird pa bhird pa bhir	22M right- d out. lue the arty ort will be o NMOCI releases rt" does n e a threat ve the		
a Waterco Describe C vay. Entern Repairs and olume of in Describe An invironmer ubmitted v hereby cerules and re- vhich may elieve the o round water perator of Signature:	ourse was In ause of Prolo orise dispate d remediation mpacted sulf rea Affected ntal contract with the "Final endanger properator of I er, surface w responsibility me: Jon E. F	mpacted, Des blem and Ren ched a technic on was initiate bsurface soils I and Cleanup or is oversaw al" C-141. Information g II operators a ublic health o iability should water, human ty for complia	scribe Full medial Ac cian and c ed on Octo s. p Action: F v excavation given about re require or the envir d their ope n health or mance with a	y.* tion: On Septen confirmed the le ober 13, 2015. Repairs and add on activities and ve is true and con d to report and/ ronment. The a erations have fa the environmen any other federa	nber 30, 2015, a eak. The pipeline It was determine ditional remediati d collected confir omplete to the be for file certain rel acceptance of a 0 iled to adequate nt. In addition, N al, state, or local	third party repo was isolated, o d the release w on were comple mation samples est of my knowle ease notification C-141 report by ly investigate ar IMOCD accepta laws and/or reg OIL COI	eted on C as report ated on C . A third adge and the NMC ad remed ance of a ulations. NSERN al Specia	as leak wi rized, loci table on (Dctober 18 party cor d understa erform co DCD mark liate conta C-141 re VATION	thin the Nav ked out and Dctober 14, 5, 2015. A t rective action and that pur rective action	hird pa bhird pa bhir	22M right- d out. lue the arty ort will be o NMOCI releases rt" does n e a threat we the		
a Waterco bescribe C vay. Enterp Repairs and olume of in bescribe An nvironmer ubmitted v hereby cen ales and re- thich may alieve the of round water perator of ignature: rinted Nan	ourse was In ause of Prolo orise dispate d remediation mpacted sulf rea Affected ntal contract with the "Final endanger pro- operator of I er, surface w responsibility me: Jon E. F or, Environm	mpacted, Des blem and Ren ched a technic on was initiate bsurface soils I and Cleanup or is oversaw al" C-141. Information g Il operators a ublic health o iability should water, human ty for complia fields	scribe Full medial Ac cian and c ed on Octo s. p Action: F v excavation given about re require or the envir d their ope n health or mance with a	y.* tion: On Septen confirmed the le ober 13, 2015. Repairs and add on activities and ve is true and con d to report and/ ronment. The a erations have fa the environmen any other federa	mber 30, 2015, a eak. The pipeline It was determine ditional remediati d collected confir complete to the be for file certain rel acceptance of a 0 illed to adequate nt. In addition, N al, state, or local Approved Approval D	third party report was isolated, or a was isolated, or a dthe release with on were complete mation samples east of my knowle ease notification C-141 report by ly investigate an IMOCD accepta laws and/or reg OIL COI by Environment Date: $12/7/12$	eted on C as report eted on C . A third edge and the NMC and remed ince of a ulations. NSERV al Specia	as leak wi rized, loc table on (Dctober 18 party cor d understa erform co DCD mark liate conta C-141 re VATION alist:	thin the Nav ked out and Dctober 14, 5, 2015. A t rective action and that pur rective action	hird pa bhird pa on repo suant to ons for I Repon at pose ot reliev	22M right- d out. lue the arty ort will be o NMOCI releases rt" does n e a threat ve the		
a Waterce Describe C vay. Enterp Repairs and olume of in Describe An nvironmer ubmitted v hereby cer ules and re vhich may elieve the of round water perator of ignature: 'rinted Nan itle: Direct	burse was In ause of Prolorise dispato d remediation mpacted sulf rea Affected that contract with the "Final endanger properator of I er, surface v responsibility ne: Jon E. F or, Environn ress:jefields	mpacted, Des blem and Ren ched a technic on was initiate bsurface soils I and Cleanup or is oversaw al" C-141. information g II operators a ublic health o iability should water, human ty for complia fields mental @eprod.com	scribe Full medial Ac cian and c ed on Octo s. p Action: F v excavation given about re require or the envir d their open health or mance with a	y.* tion: On Septen confirmed the le ober 13, 2015. Repairs and add on activities and ve is true and co d to report and/ ronment. The a erations have fa the environment any other federa	mber 30, 2015, a bak. The pipeline It was determine ditional remediati d collected confir omplete to the ba /or file certain rel acceptance of a (illed to adequate nt. In addition, N al, state, or local Approved Approval E Conditions	third party report was isolated, or ad the release we on were complete mation samples east of my knowled ease notification C-141 report by ly investigate an IMOCD acceptation laws and/or reging OIL COI by Environment Date: $12/7/1$	eted on C as report eted on C . A third edge and as and pe the NMC ince of a ulations. NSERV al Specia	as leak wi rized, loci table on 0 Dctober 19 party cor d understa erform co DCD mark liate conta C-141 re VATION alist:	thin the Nav ked out and Dctober 14, 5, 2015. A t rective action and that pur rective action and that pur rective action add that pur rective	hird pa bhird pa bhir	22M right- d out. lue the arty ort will be o NMOCI releases rt" does n e a threat ve the		

	•	•						OIL CI	ONS. DIV	DIST. 3			
District I 1625 N. French Dr	r., Hobbs, N	NM 88240		Stat	te o	f New Me	xico Natural	N	IOV 302	015 Bo	For	m C-141	
Bistrict II 811 S. First St., Ar	rtesia, NM	88210		Energy	Re	esources	Natural	Su	hmit 1 Con	to approp	risto Dist	trict Office	
District III 1000 Rio Brazos F	Road, Azter	c, NM 87410			noo	nation Di	vision	in accordance with 19.15.29 NMA					
District IV 1220 S. St. Francis	is Dr., Sant	a Fe, NM 875	05	1220.5	Sout	th St Fran	cis Dr						
				San	ta F	Fe, NM 87	505						
1.		R	elease	e Notifica	atio	on and C	orrective	Act	ion			1.00	
					0	PERATO	R	[Initial I	Report	🗆 Fii	nal Report	
Name of Com	npany: E	interprise F	ield Serv	ices LLC		Contact: T	homas Long						
Address: 614	Reilly A	ve, Farming	gton, NM	87401	-	Telephone No. 505-599-2286 Facility Type: Natural Gas Gathering Pipeline							
	DI M	20-0		Minanal O									
Surface Owne	er: BLW			Mineral O	wne	r: BLM			APINO).			
Linit Lottor S	oction	Tourship	Pango	LOCA Foot from	TIO	N OF REI	LEASE	Eas	Most	County	_	_	
L	L 12 25N 8W				Lin	e	the 935	Line	UCS I	San Juar	1		
			L	.atitude 36.4	4141	5 Longitud	le -107.6396	7					
Turne of Dalage	. Mature	1 Cas and M	at well O a	NATU	JRE	OF REL	EASE		Volume	Dessuarad	Mana		
Source of Release	ase: Natura	pected Interr	atural Gas	ion		Date and H	our of Occurrer	nce:	Date and	Hour of D	iscovery	-	
Was Immediate	Notion C	livon?				10/28/15 @	10:15 a.m.	ev Notif	10/28/15	@ 11:40 a	.m.	D.	
was immediate	e Notice G		No	Not		Katherina D	iemer - BLM	sy Noti	ication to C	ory Smith -	- NIVIOCI	<i>D</i> ,	
Required													
By Whom? The	omas Lon	ig iched?			_	Date and Ti	me 11/13/2015	6 @ 8:0	1 a.m.		-	-	
The a tractor		loneu.	Yes	🛛 No		11 120, 100							
If a Watercours	se was Im	pacted, Des	cribe Fully	1.*							- Martin	8.6	
Describe Caus	e of Probl	lem and Rer	nedial Act	ion: On Octobe	er 28	, 2015, Enter	prise techniciar	ns disco	overed a ga	s leak on th	ne Latera	al 2C-6	
pipeline. No flu environmental	concerns.	observed on Repairs an	the groun d remedia	tion began on	e pipe Nove	eline was isol ember 12, 20	ated, blown down 15. It was dete	wn, loc rmined	that the rel	tagged ou ease met re	t for safe	ty and criteria	
due to the volu	me of imp	pacted subsu	urface soil.		200000								
S. Sector		19.70									6.1	1200 2	
Describe Area	Affected a	and Cleanup ctivities and	Action: R	epairs and add	dition	nal remediation	n are in progre	ss. At	hird party e	nvironment	al contra	ictor is	
submitted with	the "Final	l" C-141.		coumpies for c				A dilla	purty conoc		roport w		
G										See 14	in the second		
I hereby certify rules and regul	that the in ations all	nformation g	jiven abov	e is true and c	ompl	lete to the be	st of my knowle ase notification	edge an	d understan	nd that purs	suant to l	NMOCD	
which may end	langer put	blic health o	r the envir	onment. The a	accep	ptance of a C	-141 report by	the NM	OCD marke	d as "Final	Report"	does not	
ground water, s	rator of lia surface wa	ability should ater, human	health or	rations have fa the environme	nt. I	to adequately n addition, N	NOCD accepta	d reme	diate contai a C-141 rep	mination the	at pose a ot relieve	the	
operator of res	ponsibility	for complia	nce with a	ny other feder	al, st	ate, or local la	aws and/or reg	ulation	S.	DI //01/		8	
Signature:	Von	, Fu	ld				OIL COM	ISER	VATION	DIVISIC	TN		
Printed Name:	Jon E. Fie	elds				Approved b	y Environmenta	al Spec	ialist:	inossa	te	5	
Title: Director,	Environm	ental				Approval Da	ate: 121712	015	Expiration	Date:			
E-mail Address	riefielde	Deprod com				Conditione	of Approval:			1			
	Jonenagu	soprod.com				Conditions	or Approval.			Attached			
Date: //	77	- 70/5	Phone	a: (713)381-66	84								
Attach Addition	nal Shee	ts If Neces	sary		51	NCSIG	5241201	8		1	PT PV		

District I
1625 N. French Dr., Hobbs, NM 88240
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Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

OIL CONS. DIV DIST. 3

NOV 3 0 2015 Revised August 8, 2011

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

				Sa	inta Fe, NM 8	7505			1. 1. 1. 1. A. S.		
		F	Releas	e Notific	ation and	Corrective	e Actie	on	and the second		
					OPERATO	DR		Initial	Report D Final Re		
Name of C	ompany:	Enterprise I	Field Ser	vices LLC	Contact:	Thomas Long	14	•			
Address: 614 Reilly Ave, Farmington, NM 87401					Telephor	Telephone No. 505-599-2286					
Facility Na	me: Bruin	gton #15E			Facility T	ype: Natural C	Gas Gath	nering F	Pipeline		
Surface O	wner: Priv	ate		Mineral	Owner: Private	er: Private API N			lo.		
				100							
Unit Letter	Dit Letter Section Township Range Feet from North South Feet from				Feet from	n Eastwest County					
F	15	30N	11W	the 1877	Line	the 2168	Line	9	San Juan		
5 97 J.				atitude 36.	814070 Longi	ude -107.980	30		The states		
				NAT	URE OF RE	LEASE					
Type of Rel	ease: Natur	ral Gas and M	Natural Ga	as Liquids	Volume o	f Release Unkn	own	Volume	Recovered: None		
Source of R	elease: Su	spected Inter	nal Corro	sion	Date and	Date and Hour of Occurrence: Date and H			nd Hour of Discovery:		
Nac Immor	liato Notico	Civon?			11/12/15	@ 10:34 a.m.	Notifia	11/12/1	5@11:20 a.m.		
Required	nate notice	Ye:	s 🗌 No	Not	11 125, 10	o whom? Courte	sy Notific	ation to	Cory Smith – NMOCD;		
By Whom?	Thomas Lo	ona			Date and	Time 11/21/201	5@1:57	p.m.			
Was a Wate	ercourse Re	ached?			If YES, Vo	olume		p			
			☐ Yes	🖾 No							
Describe Ar overseeing submitted w	ea Affected excavation vith the "Fina tify that the	I and Cleanu activities and al" C-141.	p Action: I will colle	Repairs and a ct samples for	dditional remedia determination of	tion are in progre impacted soils.	ess. A thi A third pa	rd party arty corre	environmental contractor is ective action report will be		
rules and re which may e relieve the c ground wate operator of	gulations al andanger pro- operator of l er, surface v responsibili	Il operators a ublic health o iability should water, humar ty for complia	the require or the envi their open health or ance with	to report an ironment. The erations have the environm any other fede	d/or file certain re acceptance of a failed to adequate tent. In addition, l aral, state, or loca	lease notification C-141 report by ely investigate ar NMOCD accepta I laws and/or reg	the NMO and remediance of a gulations.	cD mark ate contr C-141 re	rrective actions for releases ked as "Final Report" does r amination that pose a threat eport does not relieve the		
Signature: Jon Fuld						OIL CONSERVATION DIVISION					
Printed Name: Jon E. Fields					Approved	Approved by Environmental Specialist:					
Title: Directo	or, Environn	mental	1		Approval	Approval Date: 2010 2015 Expiration Date:					
E-mail Addr	ess:jefields	@eprod.com			Condition	s of Approval:			Attached		
Date: /	11-23	2019	Phor	ne: (713)381-6	684						
Attach Addi	tional She	ets If Neces	ssary		NCS	534129	7032	2			

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

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

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Address: 614 Reilly Ave, Farmington, NM 87401 T						Telephon	e No. 505-599	-2286		la alla a		
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Surface O	wner: BLN	1	19 6	Mineral	Owner:	BLM			API N	D.		
				LOC	ATION	OF RE	LEASE					
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By Whom?	Thomas L	ong				Date and	Hour 6/17/20	15@1:3	1 p.m.			
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OIL CONS. DIV DIST. 3 OCT 0 9 2015

CORRECTIVE ACTION REPORT

Property:

Lateral 2C Pipeline Release NW 1/4, S1 T25N R8W San Juan County, New Mexico

September 1, 2015 Apex Project No. 7250415013

Prepared for:

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

Prepared by:

rechul neel

Ranee Deechilly Environmental Scientist

assumes

Kyle Summers, CPG Branch Manager/Senior Geologist

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

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CORRECTIVE ACTION REPORT

Lateral 2C Pipeline Release NW 1/4, S1 T25N R8W San Juan County, New Mexico

Apex Project No. 7250415013

1.0 INTRODUCTION

1.1 Site Description & Background

The Lateral 2C pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 1 in Township 25 North and Range 8 West in rural San Juan County, New Mexico (36.43331N, 107.64040W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site 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.

On June 16, 2015, a natural gas pipeline release was reported by Enterprise personnel. On June 23, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The release was identified, and ultimately repaired by replacing approximately 39 feet of pipe. Natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by soil discoloration at the ground surface and a flow path of evaporated liquid from the release point downslope to a neighboring ephemeral wash.

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 EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.

2.0 SITE RANKING

In accordance with the ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases,* Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the 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:

1


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

- Depth to groundwater is anticipated to be less than 50 feet below grade surface (bgs) based on proximity to the nearby wash that supports tamarisk and other riparian vegetation, 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 approximately 50 feet from an ephemeral wash, resulting in a distance to surface water ranking of "20".

3.0 RESPONSE ACTIONS

3.1 Soil Excavation Activities

Beginning on June 23, 2015, Enterprise initiated corrective action activities at the Site to repair the subsurface leak, and remediate potential hydrocarbon impact. The release was identified and ultimately repaired by replacing approximately 39 feet of the pipe. Natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by soil discoloration at the ground surface and a narrow flow path of evaporated liquid from the release point downslope to a nearby ephemeral wash. During the corrective action activities, Halo Services, Inc., provided heavy equipment and labor support. Souder, Miller & Associates (SMA) provided environmental support during the initial stages of the corrective action activities, and beginning on July 14, 2015, Heather Woods and Ranee Deechilly, Apex environmental professionals, aided in the completion of the project.

On June 23, 2013, SMA oversaw excavation activities and performed field screenings of soil samples collected from the excavation for the presence of volatile organic compounds (VOCs) utilizing a photoionization detector (PID). The resulting PID readings indicated that hydrocarbon affected soils apparently remained in place at the Site.

Corrective action activities resumed at the Site on July 14, 2015 and were completed on July 16, 2015. On July 16, 2015, analytical confirmation soil samples C-1 through C-8 were collected from the sidewalls and bases of the excavation and confirmation soil sample C-9 was collected from the wash to confirm impact was not present.



The overall surface expression of the final excavation measured approximately 24 feet long by 31 feet wide, with a total depth of approximately six (6) to seven (7) feet bgs. Additional soils were removed following sampling to allow the replacement of a larger section of pipe.

The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated, poorly sorted sand and silty sand underlain by shale.

A total of approximately 260 cubic yards of hydrocarbon affected soils were transported to the Envirotech Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean fill and 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 10.6 eV PID to evaluate VOCs and aid in determining the excavation limits.

Advance notification of the sampling schedule was provided to the local BLM and OCD district offices; however, no BLM or OCD representatives were in attendance during the collection of samples.

Apex's soil sampling program included the collection of eight (8) confirmation samples (C-1 through C-8) from the resulting excavation and one (1) confirmation sample (C-9) from the wash located east of the excavation for laboratory analysis. 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 sample cooler and completed chain-of-custody form were relinquished to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis.

3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) SW-846 Method #8260. The soil samples were also analyzed for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015.

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

4.0 DATA EVALUATION

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

3



4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or laboratory reporting limits associated with the final confirmation samples (C-1 through C-9) collected from the excavation and wash to the OCD *RALs* for sites having a total ranking score of "40".

- The laboratory analyses of confirmation samples collected from soils remaining in place do not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD *RAL* of 10 milligrams per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples collected from soils remaining in place indicate combined TPH GRO/DRO concentrations ranging from below the laboratory reporting limits to 65 mg/kg, which are below the OCD RAL of 100 mg/kg for a Site ranking of "40".

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

5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2C pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 1 in Township 25 North and Range 8 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

On June 16, 2015, a natural gas pipeline release was reported by Enterprise personnel. On June 23, 2015, Enterprise initiated excavation activities to facilitate the repair of the pipeline, and to remediate potential hydrocarbon impact. The release was identified and the pipeline was repaired by replacing approximately 39 feet of pipe. Natural gas and pipeline liquids were released from the pipeline as a result of internal corrosion. The surface expression of the release was characterized by soil discoloration at the ground surface and a flow path of evaporated liquid from the release point downslope to a neighboring ephemeral wash.

- The primary objective of the corrective actions was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated, poorly sorted sand and silty sand underlain by shale.
- The overall surface expression of the final excavation measured approximately 24 feet long by 31 feet wide, with a total depth of approximately six (6) to seven (7) feet bgs.
- Prior to backfilling, eight (8) confirmation samples were collected from the resulting final excavation and one (1) confirmation sample was collected from the wash located east of



the excavation for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD *RALs* for a Site ranking of "40".

 A total of approximately 260 cubic yards of hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with and clean filland 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 report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.

5





NW1/4 Sec1 T25N R8W San Juan County, New Mexico 36.43331N, 107.64040W



Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, NM 87410 Phone: (505) 334-5200 www.apexcos.com A Subsidiary of Apex Companies, LLC <u>FIGURE 1</u> Topographic Map Thompson Mesa, NM Quadrangle 1985

Project No. 7250415013



NW1/4 Sec1 T25N R8W San Juan County, New Mexico 36.43331N, 107.64040W

Project No. 7250415013



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

FIGURE 2 Site Vicinity Map



Z:\Houston South\Drafting\New Mexico 04\2015\7250415013\Figure 3.dwg 09/08/15



APPENDIX B

Executed C-138 Solid Waste Acceptance Form

1

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

State of New Mexico Energy Minerals and Natural Resources

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

Form C-138 Revised August 1. 2011

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

REQUEST FOR APPR	OVAL TO ACCEPT SOLID WASTE
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Fa	rmington, NM 87401
2. Originating Site. Lateral 2C Pipeline	, W/ 20/S
3. Location of Material (Street Address, City, State or Unit Letter D Section 1 Township 25 North Range	ULSTR): 5 West; 36.43331, -107.64040
 Source and Description of Waste: Hydro-excavated Estimated Volume 50 yd bbls Known Volum 	soil impacted with hydrocarbons associated with a pipeline release. ne (to be entered by the operator at the end of the haul) 3000 yd ³ bbls
5. GENERATOR CERTIFIC	ATION STATEMENT OF WASTE STATUS
I, Thomas Long representative or authorized a	agent for Enterprise Field Services, LLC do hereby
certify that according to the Resource Conservation and Re regulatory determination, the above described waste is: (Ch	covery Act (RCRA) and the US Environmental Protection Agency's July 1988 neck the appropriate classification)
RCRA Exempt: Oil field wastes generated from o exempt waste. Operator Use Only: Waste Accept	il and gas exploration and production operations and are not mixed with non- trance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste which is non characteristics established in RCRA regulations, 40 CF subpart D, as amended. The following documentation the appropriate items)	-hazardous that does not exceed the minimum standards for waste hazardous b ?R 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, is attached to demonstrate the above-described waste is non-hazardous. (Chec
MSDS Information RCRA Hazardous Waste Ana	alysis Process Knowledge Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WASTE TESTIN	NG CERTIFICATION STATEMENT FOR LANDFARMS
I, <u>June Log</u> 7-13-15, representative for <u>Enterprise Fiel</u> Generator Signature complete the required testing/sign the Generator Waste Test	d Services, LLC authorize Envirotech, Inc. to
N O	
representative samples of the of field waste have been sub have been found to conform to the specific requirements and of the representative samples are attached to demonstrate the 19 15 36 NMAC	Envirotech, Inc. do hereby certify that jected to the paint filter test and tested for chloride content and that the samples oplicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results he above-described waste conform to the requirements of Section 15 of
6. Transporter: Halo I Barra, Dash	, Richl, Loboto
OCD Permitted Surface Waste Management Facility	
Name and Facility Permit #: Envirotech, Inc. Soil Remed	iation Facility * Permit #: NM 01-0011
Method of Treatment and/or Disposal:	ng Plant 🛛 Landfarm 🗌 Landfill 🗌 Other
Waste Acceptance Status:	
APPROVED	DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Condia Runing	TITLE: Waste Coordinato DATE: 2-2015
SIGNATURE: Surface Waste Management Facility Authorized Age	TELEPHONE NO.: 505-632-0615
0	



APPENDIX C

Photographic Documentation

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SITE PHOTOGRAPHS

Lateral 2C Pipeline Release

Photograph 1

View of the partially exposed Lateral 2C pipeline, facing northeast.



Photograph 2

View of the initial excavation and fully exposed pipeline, facing southwest.



Photograph 3

View of the final excavation and repaired pipeline, including additional excavation to replace a longer section of pipeline, facing southwest.



Apex Job #7250415013

Page 1 of 3



SITE PHOTOGRAPHS

Lateral 2C Pipeline Release

Photograph 4

View of the final excavation and repaired pipeline, including additional excavation to replace a longer section of pipeline, facing northwest.



Photograph 5

View of the final excavation and repaired pipeline, facing north.



Photograph 5

View of the final excavation and repaired pipeline, facing south.



Apex Job #7250415013

Page 2 of 3

SITE PHOTOGRAPHS



Lateral 2C Pipeline Release

Photograph 5

View of the final excavation and repaired pipeline, facing southwest.





APPENDIX D

Table



TABLE 1Lateral 2C Pipeline ReleaseSOIL 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)
New Mexico Ene Department, Oil C	rgy, Mineral & N onservation Div Action Level	latural Resources ision, Remediation	10	NE	NE	NE	50	1	00
As average in the		Charles States of		Excavation Co	nfirmation Samples				the second second
C-1	7/16/2015	1 to 7	< 0.031	< 0.031	< 0.031	< 0.062	ND	<3.1	<10
C-2	7/16/2015	1 to 7	< 0.033	< 0.033	< 0.033	<0.067	ND	<3.3	30
C-3	7/16/2015	1 to 7	<0.031	< 0.031	<0.031	<0.061	ND	<3.1	<9.7
C-4	7/16/2015	1 to 6	< 0.034	< 0.034	< 0.034	<0.068	ND	<3.4	<9.9
C-5	7/16/2015	1 to 6	< 0.033	< 0.033	< 0.033	<0.066	ND	<3.3	<9.9
C-6	7/16/2015	1 to 6	< 0.033	< 0.033	<0.033	<0.067	ND	<3.3	65
C-7	7/16/2015	7	<0.031	< 0.031	<0.031	<0.062	ND	<3.1	<10
C-8	7/16/2015	6	< 0.035	< 0.035	< 0.035	<0.070	ND	<3.5	<9.8
C-9	7/16/2015	0 to 0.5	< 0.031	< 0.031	< 0.031	< 0.062	ND	<3.1	<10

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

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established



APPENDIX E

Laboratory Analytical Reports & Chain of Custody Documentation

1



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

July 20, 2015

Heather Woods APEX TITAN 606 S. Rio Grande Unit A Aztec, NM 87410 TEL: (505) 716-2787 FAX

OrderNo.: 1507769

Dear Heather Woods:

RE: Lateral 2C

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/17/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

7/17/2015 11:17:16 AM R27576

CLIENT: APEX TITAN Client Sample ID: C-1 **Project:** Lateral 2C Collection Date: 7/16/2015 2:15:00 PM 1507769-001 Matrix: SOIL Received Date: 7/17/2015 6:45:00 AM Lab ID: Analyses Result **RL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: DJF Gasoline Range Organics (GRO) ND 3.1 mg/Kg 1 7/17/2015 11:17:16 AM R27576 Surr: BFB 100 %REC 70-130 1 7/17/2015 11:17:16 AM R27576 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: JME Diesel Range Organics (DRO) ND 10 mg/Kg 7/17/2015 1:54:25 PM 20300 1 Surr: DNOP 107 57.9-140 %REC 7/17/2015 1:54:25 PM 20300 1 EPA METHOD 8260B: VOLATILES SHORT LIST Analyst: DJF Benzene ND 0.031 mg/Kg 1 7/17/2015 11:17:16 AM R27576 Toluene ND 0.031 mg/Kg 7/17/2015 11:17:16 AM R27576 1 Ethylbenzene ND 0.031 mg/Kg 7/17/2015 11:17:16 AM R27576 1 Xylenes, Total ND 0.062 mg/Kg 7/17/2015 11:17:16 AM R27576 1 Surr: 1,2-Dichloroethane-d4 104 70-130 7/17/2015 11:17:16 AM R27576 %REC 1 Surr: 4-Bromofluorobenzene 96.5 70-130 %REC 1 7/17/2015 11:17:16 AM R27576 Surr: Dibromofluoromethane 107 70-130 %REC 1 7/17/2015 11:17:16 AM R27576

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

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Surr: Toluene-d8

- E Value above quantitation range
- J Analyte detected below quantitation limits

Hall Environmental Analysis Laboratory, Inc.

- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Page 1 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical	Report
I ab Order 1	507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			С	lient Sampl	e ID: C-	2	
Project: Lateral 2C				Collection	Date: 7/1	6/2015 2:20:00 PM	
Lab ID: 1507769-002	Matrix: SOIL			Received Date: 7/17/2015 6:45:00 AM			
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE					Analyst:	DJF
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Surr: BFB	96.8	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s				Analyst:	JME
Diesel Range Organics (DRO)	30	10		mg/Kg	1	7/17/2015 2:21:32 PM	20300
Surr: DNOP	106	57.9-140		%REC	1	7/17/2015 2:21:32 PM	20300
EPA METHOD 8260B: VOLATILES	SHORT LIST					Analyst:	DJF
Benzene	ND	0.033		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Toluene	ND	0.033		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Ethylbenzene	ND	0.033		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Xylenes, Total	ND	0.067		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
Surr: 4-Bromofluorobenzene	98.7	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
Surr: Dibromofluoromethane	104	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
Surr: Toluene-d8	96.9	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576

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

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND
 - Not Detected at the Reporting Limit
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Page 2 of 13

Analytical	Report
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Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN	Client Sample ID: C-3						
Project: Lateral 2C	Collection Date: 7/16/2015 2:25:00 PM						
Lab ID: 1507769-003	Matrix:	SOIL	Received I	Date: 7/1	7/2015 6:45:00 AM		
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch	
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst:	DJF	
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	7/17/2015 12:12:10 PM	R2757	
Surr: BFB	98.9	70-130	%REC	1	7/17/2015 12:12:10 PM	R2757	
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	S			Analyst:	JME	
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	7/17/2015 2:48:30 PM	20300	
Surr: DNOP	106	57.9-140	%REC	1	7/17/2015 2:48:30 PM	20300	
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst:	DJF	
Benzene	ND	0.031	mg/Kg	1	7/17/2015 12:12:10 PM	R2757	
Toluene	ND	0.031	mg/Kg	1	7/17/2015 12:12:10 PM	R27576	
Ethylbenzene	ND	0.031	mg/Kg	1	7/17/2015 12:12:10 PM	R27576	
Xylenes, Total	ND	0.061	mg/Kg	1	7/17/2015 12:12:10 PM	R27576	
Surr: 1,2-Dichloroethane-d4	98.6	70-130	%REC	1	7/17/2015 12:12:10 PM	R27576	
Surr: 4-Bromofluorobenzene	104	70-130	%REC	1	7/17/2015 12:12:10 PM	R27576	
Surr: Dibromofluoromethane	105	70-130	%REC	1	7/17/2015 12:12:10 PM	R27576	
Surr: Toluene-d8	94.9	70-130	%REC	1	7/17/2015 12:12:10 PM	R27576	

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

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Ρ Sample pH Not In Range
- RL Reporting Detection Limit
- Page 3 of 13

Analytical	Report
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7/17/2015 12:39:42 PM R27576

7/17/2015 12:39:42 PM R27576

Hall Environmental Anal	lysis Labora	tory, In	с.		Date Reported: 7/20/201	15
CLIENT: APEX TITAN Project: Lateral 2C			Client Sampl Collection I	e ID: C- Date: 7/	-4 16/2015 2:30:00 PM	
Lab ID: 1507769-004	Matrix: SOIL Received I			Date: 7/	17/2015 6:45:00 AM	
Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst	DJF
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Surr: BFB	102	70-130	%REC	1	7/17/2015 12:39:42 PM	R27576
EPA METHOD 8015M/D: DIESEL R	ANGE ORGANIC	s			Analyst	JME
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	7/17/2015 12:38:13 PM	20300
Surr: DNOP	114	57.9-140	%REC	1	7/17/2015 12:38:13 PM	20300
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst	DJF
Benzene	ND	0.034	mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Toluene	ND	0.034	mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Ethylbenzene	ND	0.034	mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Xylenes, Total	ND	0.068	mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Surr: 1,2-Dichloroethane-d4	101	70-130	%REC	1	7/17/2015 12:39:42 PM	R27576
Surr: 4-Bromofluorobenzene	97.6	70-130	%REC	1	7/17/2015 12:39:42 PM	R27576

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

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Surr: Dibromofluoromethane

Surr: Toluene-d8

- E Value above quantitation range
- J Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- Analyte detected in the associated Method Blank В
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Sample pH Not In Range Р
- RL Reporting Detection Limit
- Page 4 of 13

Analytical	Report
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Date Reported: 7/20/2015

7/17/2015 1:07:10 PM

7/17/2015 1:07:10 PM

7/17/2015 1:07:10 PM

7/17/2015 1:07:10 PM

R27576

R27576

R27576

R27576

CLIENT: APEX TITAN Client Sample ID: C-5 **Project:** Lateral 2C Collection Date: 7/16/2015 2:35:00 PM Lab ID: 1507769-005 Matrix: SOIL Received Date: 7/17/2015 6:45:00 AM Analyses Result **RL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: DJF Gasoline Range Organics (GRO) 7/17/2015 1:07:10 PM R27576 ND 3.3 mg/Kg 1 103 %REC Surr: BFB 70-130 1 7/17/2015 1:07:10 PM R27576 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: JME Diesel Range Organics (DRO) ND 7/17/2015 3:15:16 PM 20300 9.9 mg/Kg 1 Surr: DNOP %REC 111 57.9-140 1 7/17/2015 3:15:16 PM 20300 **EPA METHOD 8260B: VOLATILES SHORT LIST** Analyst: DJF 7/17/2015 1:07:10 PM Benzene ND 0.033 mg/Kg 1 R27576 Toluene ND 0.033 mg/Kg 1 7/17/2015 1:07:10 PM R27576 Ethylbenzene ND 0.033 mg/Kg 1 7/17/2015 1:07:10 PM R27576 Xylenes, Total ND 0.066 mg/Kg 1 7/17/2015 1:07:10 PM R27576

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Hall Environmental Analysis Laboratory, Inc.

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

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Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
 - ND Not Detected at the Reporting Limit De
 - P Sample pH Not In Range
 - RL Reporting Detection Limit
- Page 5 of 13
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Analytical	Report
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Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Client Sampl	e ID: C-	6	
Project: Lateral 2C			Collection I	Date: 7/1	6/2015 2:40:00 PM	
Lab ID: 1507769-006	Matrix:	SOIL	Received I	Date: 7/1	7/2015 6:45:00 AM	
Analyses	Result	RL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst:	DJF
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Surr: BFB	98.6	70-130	%REC	1	7/17/2015 10:49:47 AM	R27576
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	S			Analyst:	JME
Diesel Range Organics (DRO)	65	9.8	mg/Kg	1	7/17/2015 11:40:10 AM	20300
Surr: DNOP	106	57.9-140	%REC	1	7/17/2015 11:40:10 AM	20300
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst:	DJF
Benzene	ND	0.033	mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Toluene	ND	0.033	mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Ethylbenzene	ND	0.033	mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Xylenes, Total	ND	0.067	mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Surr: 1,2-Dichloroethane-d4	101	70-130	%REC	1	7/17/2015 10:49:47 AM	R27576
Surr: 4-Bromofluorobenzene	99.5	70-130	%REC	1	7/17/2015 10:49:47 AM	R27576
Surr: Dibromofluoromethane	101	70-130	%REC	1	7/17/2015 10:49:47 AM	R27576
Surr: Toluene-d8	93.9	70-130	%REC	1	7/17/2015 10:49:47 AM	R27576

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

Qualifiers:

*

- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit Decco
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Page 6 of 13
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Analy	tical	Rep	ort
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Date Reported: 7/20/2015

7/17/2015 1:34:36 PM R27576

CLIENT: APEX TITAN			Client Sampl	e ID: C-	7	
Project: Lateral 2C			Collection I	Date: 7/1	6/2015 2:45:00 PM	
Lab ID: 1507769-007	Matrix:	SOIL	Received I	Date: 7/1	7/2015 6:45:00 AM	
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE				Analyst:	DJF
Gasoline Range Organics (GRO)	ND	3.1	mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Surr: BFB	103	70-130	%REC	1	7/17/2015 1:34:36 PM	R27576
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	s			Analyst:	JME
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	7/17/2015 12:06:59 PM	20300
Surr: DNOP	108	57.9-140	%REC	1	7/17/2015 12:06:59 PM	20300
EPA METHOD 8260B: VOLATILES	SHORT LIST				Analyst:	DJF
Benzene	ND	0.031	mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Toluene	ND	0.031	mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Ethylbenzene	ND	0.031	mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Xylenes, Total	ND	0.062	mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Surr: 1,2-Dichloroethane-d4	95.9	70-130	%REC	1	7/17/2015 1:34:36 PM	R27576
Surr: 4-Bromofluorobenzene	94.1	70-130	%REC	1	7/17/2015 1:34:36 PM	R27576
Surr: Dibromofluoromethane	101	70-130	%REC	1	7/17/2015 1:34:36 PM	R27576

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

Qualifiers	ŝ.	
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Surr: Toluene-d8

- Value above quantitation range Е
- J Analyte detected below quantitation limits

Hall Environmental Analysis Laboratory, Inc.

- RSD is greater than RSDlimit 0
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н
- ND Not Detected at the Reporting Limit
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- Page 7 of 13

Analytic	al Rep	ort
Analytic	al Rep	ort

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN			Clien	t Sampl	e ID: C-	8	
Project: Lateral 2C			Col	lection	Date: 7/1	6/2015 2:50:00 PM	
Lab ID: 1507769-008	Matrix:	SOIL	R	eceived	Date: 7/1	7/2015 6:45:00 AM	
Analyses	Result	RL	Qual Un	iits	DF	Date Analyzed	Batch
EPA METHOD 8015D MOD: GASOL	INE RANGE	6				Analyst:	DJF
Gasoline Range Organics (GRO)	ND	3.5	m	g/Kg	1	7/17/2015 2:02:10 PM	R2757
Surr: BFB	100	70-130	%	REC	1	7/17/2015 2:02:10 PM	R27576
EPA METHOD 8015M/D: DIESEL RA	ANGE ORGANIC	S				Analyst:	JME
Diesel Range Organics (DRO)	ND	9.8	m	g/Kg	1	7/17/2015 12:33:31 PM	20300
Surr: DNOP	105	57.9-140	%	REC	1	7/17/2015 12:33:31 PM	20300
EPA METHOD 8260B: VOLATILES	SHORT LIST					Analyst:	DJF
Benzene	ND	0.035	m	g/Kg	1	7/17/2015 2:02:10 PM	R27576
Toluene	ND	0.035	m	g/Kg	1	7/17/2015 2:02:10 PM	R27576
Ethylbenzene	ND	0.035	m	g/Kg	1	7/17/2015 2:02:10 PM	R27576
Xylenes, Total	ND	0.070	m	g/Kg	1	7/17/2015 2:02:10 PM	R27576
Surr: 1,2-Dichloroethane-d4	96.8	70-130	%	REC	1	7/17/2015 2:02:10 PM	R27576
Surr: 4-Bromofluorobenzene	96.0	70-130	%	REC	1	7/17/2015 2:02:10 PM	R27576
Surr: Dibromofluoromethane	104	70-130	%	REC	1	7/17/2015 2:02:10 PM	R27576
Surr: Toluene-d8	96.2	70-130	%	REC	1	7/17/2015 2:02:10 PM	R27576

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. Value above quantitation range Е
- Analyte detected below quantitation limits J
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Page 8 of 13

Ana	lytical	Report	
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Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc. **CLIENT: APEX TITAN** Client Sample ID: C-9 **Project:** Lateral 2C Collection Date: 7/16/2015 3:10:00 PM Lab ID: 1507769-009 Received Date: 7/17/2015 6:45:00 AM Matrix: SOIL Analyses Result **RL** Qual Units **DF** Date Analyzed Batch **EPA METHOD 8015D MOD: GASOLINE RANGE** Analyst: DJF Gasoline Range Organics (GRO) ND 3.1 mg/Kg 7/17/2015 2:29:44 PM R27576 1 Surr: BFB 101 %REC 70-130 1 7/17/2015 2:29:44 PM R27576 EPA METHOD 8015M/D: DIESEL RANGE ORGANICS Analyst: JME Diesel Range Organics (DRO) ND 7/17/2015 1:00:36 PM 10 mg/Kg 20300 1 Surr: DNOP 106 57.9-140 %REC 1 7/17/2015 1:00:36 PM 20300 EPA METHOD 8260B: VOLATILES SHORT LIST Analyst: DJF Benzene ND 0.031 mg/Kg 7/17/2015 2:29:44 PM R27576 1 Toluene ND 0.031 mg/Kg 1 7/17/2015 2:29:44 PM R27576 Ethylbenzene ND 0.031 mg/Kg 1 7/17/2015 2:29:44 PM R27576 Xylenes, Total ND 0.062 mg/Kg 7/17/2015 2:29:44 PM R27576 1 Surr: 1,2-Dichloroethane-d4 101 70-130 %REC 7/17/2015 2:29:44 PM 1 R27576

70-130

70-130

70-130

%REC

%REC

%REC

1

1

1

7/17/2015 2:29:44 PM

7/17/2015 2:29:44 PM

7/17/2015 2:29:44 PM

R27576

R27576

R27576

102

105

95.5

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

Qualifiers:

*

Surr: 4-Bromofluorobenzene

Surr: Dibromofluoromethane

Surr: Toluene-d8

- E Value above quantitation range
- Analyte detected below quantitation limits J
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- Page 9 of 13

Then the on the one of the of	Hal	Environmenta	l Analysis	Laboratory,	Inc.
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Client: Project:

APEX TITAN Lateral 2C

Sample ID	MB-20300	SampTy	pe: M	BLK	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics			
Client ID:	PBS	Batch	ID: 20	300	F	RunNo: 2	7562						
Prep Date:	7/17/2015	Analysis Da	te: 7	/17/2015	S	SeqNo: 8	27775	Units: mg/l	۲g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
iesel Range (Surr: DNOP	Organics (DRO)	ND 11	10	10.00		110	57.9	140					
Sample ID	LCS-20300	SampTy	pe: LC	cs	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	19		
Client ID:	LCSS	Batch	ID: 20	300	F	RunNo: 2	7562						
Prep Date:	7/17/2015	Analysis Da	te: 7	/17/2015	5	SeqNo: 8	27776	Units: mg/k	٢g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
iesel Range	Organics (DRO)	53	10	50.00	0	107	57.4	139			1.8		
Surr: DNOP		5.1		5.000		102	57.9	140			1.4		
Sample ID	1507769-001AMS	SampTy	pe: M	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics			
Client ID:	C-1	Batch	ID: 20	300	RunNo: 27562								
Prep Date:	7/17/2015	Analysis Da	te: 7	/17/2015	S	SeqNo: 8	27820	Units: mg/k	٢g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
iesel Range	Organics (DRO)	50	10	49.80	0	101	42.3	146					
Surr: DNOP		5.5		4.980		110	57.9	140					
Sample ID	1507769-001AMS	SampTy	pe: M	SD	Tes	tCode: E	PA Method	8015M/D: Di	esel Range	e Organics	5		
Client ID:	C-1	Batch	ID: 20	300	RunNo: 27562								
Prep Date:	7/17/2015	Analysis Da	te: 7	/17/2015	5	SeqNo: 8	27821	Units: mg/k	٢g				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
iesel Range (Organics (DRO)	55	9.8	48.92	0	113	42.3	146	9.55	28.9			
Surr: DNOP		5.5		4.892		112	57.9	140	0	0			
Sample ID	MB-20285	SampTy	pe: M	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Rang	e Organics			
Client ID:	PBS	Batch	D: 20	285	F	RunNo: 2	7574						
Prep Date:	7/16/2015	Analysis Da	te: 7	/18/2015	5	SeqNo: 8	28348	Units: %RE	C				
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Surr: DNOP		11		10.00		113	57.9	140		50.00			
Sample ID	LCS-20285	SampTy	pe: LC	cs	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	184		
Oliant ID.	LCSS	Batch	D: 20	285	F	RunNo: 2	7574						
Client ID:				14012045	5	SeaNo: 8	28353	Units: %RE	C				
Prep Date:	7/16/2015	Analysis Da	te: 7	10/2015									
Prep Date:	7/16/2015	Analysis Da Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighL imit	%RPD	RPDLimit	Qual		

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

- J Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit Page 10 of 13

Sample pH Not In Range P

RL Reporting Detection Limit 1507769

WO#:

20-Jul-15

WO#: 1507769

20-Jul-15

Hall	Environmental	Analysis	Laboratory,	Inc

Client: APEX TITAN **Project:**

Lateral 2C

Sample ID rb	Samp	Гуре: М	BLK	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List	
Client ID: PBS	Batc	h ID: R2	7576	F	RunNo: 2	7576				
Prep Date:	Analysis [Date: 7/	17/2015	5	SeqNo: 8	28444	Units: mg/k	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								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		105	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.49		0.5000		98.6	70	130		D	6.3
Sample ID 100NG LCS	Samp	Type: LC	s	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List	
ient ID: LCSS Batch ID: R27576				F	RunNo: 2	7576				
Prep Date:	Analysis E	Date: 7/	17/2015	5	SeqNo: 8	28445	Units: mg/h	٢g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.9	70	130			
Toluene	0.99	0.050	1.000	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.54		0.5000		108	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.50		0.5000		99.5	70	130			
Sample ID 1507769-002ams	Samp	Type: MS	8	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List	a al
Client ID: C-2	Batc	h ID: R2	7576	F	RunNo: 2	7576				
Prep Date:	Analysis E	Date: 7/	17/2015	S	SeqNo: 8	28446	Units: mg/h	٨g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.033	0.6676	0	95.6	70	130			6 11
Foluene	0.67	0.033	0.6676	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	0.33		0.3338		99.1	70	130			
Surr: 4-Bromofluorobenzene	0.32		0.3338		97.0	70	130			
Surr: Dibromofluoromethane	0.35		0.3338		105	70	130			
Surr: Toluene-d8	0.32		0.3338		96.0	70	130			-
Sample ID 1507769-002ams	d Samp1	Type: MS	SD	Tes	tCode: E	PA Method	8260B: Vola	tiles Short	List	
Client ID: C-2	Batc	h ID: R2	7576	F	RunNo: 2	7576				
Prep Date:	Analysis Date: 7/17/2015			S	SeqNo: 8	28447	Units: mg/h	٨g		
		DOI	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDI imit	Qua
Analyte	Result	PQL	Of it value	or it iter var	TOTILO				IN DENIN	OL CLOU
Analyte Benzene	Result 0.66	0.033	0.6676	0	98.5	70	130	2.98	20	G C C C C

Qualifiers:

* Value exceeds Maximum Contaminant Level.

Е Value above quantitation range

- J Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit

R RPD outside accepted recovery limits

S Spike Recovery outside accepted recovery limits

Analyte detected in the associated Method Blank В

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit ND

Sample pH Not In Range

Page 11 of 13

- Р RL
- Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

APEX TITAN **Client: Project:**

Lateral 2C

Sample ID 1507769-002amsd	SampT	ype: MS	SD	Tes	tCode: El	PA Method	8260B: Vola	tiles Short	List		
Client ID: C-2	Batch	ID: R2	27576	F	RunNo: 2	7576					
Prep Date:	Analysis D	ate: 7	/17/2015	S	SeqNo: 8	28447	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: 1,2-Dichloroethane-d4	0.34		0.3338		101	70	130	0	0		
Surr: 4-Bromofluorobenzene	0.34		0.3338		102	70	130	0	0		
Surr: Dibromofluoromethane	0.36		0.3338		107	70	130	0	0		
Surr: Toluene-d8	0.33		0.3338		99.1	70	130	0	0		

- * Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- 0 RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits
- в Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
 - Not Detected at the Reporting Limit
- P Sample pH Not In Range

ND

RL Reporting Detection Limit Page 12 of 13

WO#: 1507769

20-Jul-15

WO#: 1507769

20-Jul-15

Hall Environmental Analysis Laboratory, Inc.

Client: APEX TITAN Project: Lateral 2C

Sample ID rb SampType: MBLK TestCode: EPA Method 8015D Mod: Gasoline Range Client ID: PBS Batch ID: R27576 RunNo: 27576 Prep Date: Analysis Date: 7/17/2015 SeqNo: 828452 Units: mg/Kg %REC HighLimit **RPDLimit** Analyte Result PQL SPK value SPK Ref Val LowLimit %RPD Qual ND 5.0 Gasoline Range Organics (GRO) Surr: BFB 500 500.0 70 99.3 130 TestCode: EPA Method 8015D Mod: Gasoline Range Sample ID 2.5ug gro lcs SampType: LCS Batch ID: R27576 Client ID: LCSS RunNo: 27576 Prep Date: Analysis Date: 7/17/2015 SeqNo: 828453 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC HighLimit %RPD RPDLimit Analyte LowLimit Qual Gasoline Range Organics (GRO) 25 5.0 25.00 0 70 123 101 Surr: BFB 500 500.0 101 70 130 Sample ID 1507769-001ams TestCode: EPA Method 8015D Mod: Gasoline Range SampType: MS Client ID: C-1 Batch ID: R27576 RunNo: 27576 Prep Date: Analysis Date: 7/17/2015 SegNo: 828454 Units: mg/Kg Result SPK value SPK Ref Val %REC %RPD **RPDLimit** Analyte PQL LowLimit HighLimit Qual Gasoline Range Organics (GRO) 16 3.1 15.61 0 99.5 54.9 131 Surr: BFB 310 312.1 99.7 70 130 Sample ID 1507769-001amsd TestCode: EPA Method 8015D Mod: Gasoline Range SampType: MSD Client ID: C-1 Batch ID: R27576 RunNo: 27576 Prep Date: Analysis Date: 7/17/2015 SeqNo: 828455 Units: mg/Kg %RPD Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit **RPDLimit** Qual Gasoline Range Organics (GRO) 16 3.1 15.61 1.08 0 101 54.9 131 20 Surr: BFB 310 312.1 99.0 70 130 0 0

Qualifiers:

* Value exceeds Maximum Contaminant Level.

E Value above quantitation range

- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit

R RPD outside accepted recovery limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
 - Not Detected at the Reporting Limit
- P Sample pH Not In Range

ND

RL Reporting Detection Limit

Page 13 of 13

ENVIRONMENTAL ANALYSIS LABORATORY	4 Albuqu TEL: 505-345-3975 FA Website: www.hallen	901 Hawk erque, NM X: 505-345 wironmente	ins NE 87109 Samj 5-4107 al.com	ole Log-In Cl	neck List
Client Name: APEX AZTEC	Work Order Number: 18	507769		RcptNo:	1
Received by/date:ATT_07//7/15			0 A		
Logged By: Anne Thorne	7/17/2015 6:45:00 AM		anne Som	-	
Completed By: Anne Thorne	7/17/2015		anne Ham	-	
Reviewed By: MG OTI	2/15				
Chain of Custody	1.1				
1. Custody seals intact on sample bottles?	,	res 🗹	No 🗌	Not Present	
2. Is Chain of Custody complete?	1	res 🗹	No 🗌	Not Present	
3. How was the sample delivered?	2	Courier			
the second s					
Log In					
4. Was an attempt made to cool the samples	?	Yes 🗹	No 🛄	NA	
5. Were all samples received at a temperature	e of >0°C to 6.0°C Y	'es 🗹	No 🗌		
6. Sample(s) in proper container(s)?	,	Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test(s)?	res 🗹	No 🗌		
8. Are samples (except VOA and ONG) prope	rly preserved?	res 🗹	No 🗌		
9. Was preservative added to bottles?	١	res 🗌	No 🗹	NA 🗌	
10. VOA vials have zero headspace?		íes 🗌	No 🗌	No VOA Vials 🗹	
11. Were any sample containers received brok	en?	Yes 🗆	No 🗹	A	
			_	bottles checked	
12. Does paperwork match bottle labels?	`	res 🗹	No	for pH:	r>12 unless note
(Note discrepancies on chain or custody)	f Custody?	(es 🗸	No 🗌	Adjusted?	
14. Is it clear what analyses were requested?	, outdooj.	res 🗹	No 🗆		
15. Were all holding times able to be met? (If no, notify customer for authorization.)	1	res 🗹	No 🗌	Checked by:	
pecial Handling (if applicable)					
16 Was client notified of all discrepancies with	this order?	res 🗌	No 🗌	NA 🗹	

Person Notified.	 			1 m	Date				e and some service and		
By Whom:	 				Via:	•	Mail	F	hone 🗌 Fax	🗌 In Pe	erson
Regarding:	 and the second	Frank and the feat	Name Provide	er er foren de l'Au	-				- an and shot & "count after		
Client Instructions:	 		r. 14		- /						

17. Additional remarks:

18. Cooler Information

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

Page 1 of 1

					CHAIN OF CUSTODY RECO
A	Laboratory:	Hall Environ	omental	ANALYSIS REQUESTED	Lab use only Due Date:
APEX	Address: Al	buquerque, N	m	- /	Temp. of coolers
Office Location Aztec, NM	·			- /	when received (G°)?
	Contact: <u>Ar</u> Phone:	ndy Freema	^		
Project Manager Headhar	Woods PO/SO #: D	irect Bill to El	nkrprise	- X	
Sampler's Name	Sampler's Signat	ure .		×Y	
Bane Duchilly / H	eather Woods	Steels W	2	PH	
Proj. No. Project N	lame	No/Type o	of Containers	1 6	
7250415013 Lat	eral 2C			1 2/ 2/	
Aatrix Date Time O r m a p b	Identifying Marks of Sample(s)	Start Depth End Depth VOA	and	00	Lab Sample ID (Lab Use Only)
5 7/14/15 1415	C-1		11	XX	1507719-001
S 7/14/15 1420	C-2		1	XX	-702
5 7/18/151425	C-3		11	XX	
5 7/10/151430	C-4		11	XX	-004
5 7/14/15 1435	C-5		11	XX	-005
57110151440	C-6		11	XX	-006
5 7/11/15/1445	C-7		11	XX	-007
5 7/10/15 1450	C-B		1	XX	-008
5 7/11-15 1510	C.9		Ť	r. Y x	-009
4710/0 510	NFS HW				
furn around time 🔲 Normal 🗌	25% Rush 0 50% Rush	100% Rush Sam	e Day		
Relinquished by (Signature)	Date: Time: Receive	d by: (Signature)	57/17/15	Time: NC	Direct bill the Enteronice
Relinquished by (Signature)	Date: Time: Receive	ed by: (Signature)	Date:	Time:	Attn: Tom Love 1 Johnan
Relinquished by (Signature) Date: Time: Received by: (Signature)		ed by: (Signature)	Date:	Time:	Sandoval
Relinquished by (Signature)	ed by: (Signature)	Date:	Time:	Non-AFE: N21790	

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

District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1009 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141 Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC. OIL CONS. DIV DIST. 3

Oil Conservation Division 1220 South St. Francis Dr. Santa Eo NIM 97505

0 0 0 2015

		-	Contract of the second	08	inita	re, NIVI O	1505	and have a second		Γ	FC U	8 2013			
	ALC: NO	F	Releas	e Notific	atio	on and (Corrective	e Actio	on		T				
					0	PERATO	R] Initial	Report		Final Repor			
Name of C	company:	Enterprise I	Field Ser	vices LLC		Contact: Thomas Long									
Address: 6	14 Reilly	Ave, Farmin	gton, NM	1 87401		Telephon	e No. 505-599	9-2286	150			5 5 A 3 6 A			
Facility Na	Facility Name: Navajo C#2M						/pe: Natural C	Gas Gatl	nering I	Pipeline		water a state			
Surface O	wner: Nav	ajo Nation		Mineral	Owne	er: Navajo N	lation		APIN	lo.					
	1.1			100	ATIC		EASE	1. 200		25.35					
Unit Letter	it Letter Section Township Range Feet from					orth South	Feet from	East	Vest	County					
L	31	27N	8W	the 2492	Lin	ne	the 874	Line	-	San Ju	an				
			L	atitude <u>36.</u>	53055	53 Longitu	de <u>-107.7282</u>	279	1						
T (D.)		10		NAT	TUR	E OF REL	EASE		Maluma	Deserves	d. 1.1	and the p			
Type of Rel	ease: Natu	ral Gas and N	Natural Ga	as Liquids		Volume of	Release 5-7 BI	BLS	Volume	Recovere	d: Nor	ne			
Source of R	Source of Release: Internal Corrosion						lour of Occurre 12:25 p.m.	nce:	Date an 9/30/15	d Hour of @ 1:30 p.	Discov .m.	very:			
Was Immediate Notice Given?						If YES, To	Whom? Cory S	Smith – NI	MOCD; §	Steve Aust	in - NN	IEPA			
By Whom?	Thomas L	ong		1.1.5	1	Date and T	ime 10/14/201	5 7:45 a.r	n.	11111					
Was a Watercourse Reached?						If YES, Vo	ume Impacting	the Wate	ercourse						
If a Waterco	ourse was l	mpacted. Des	scribe Ful	lv.*	-			1.51	-	1000		the second			
way. Enterp Repairs and	orise dispato d remediatio	ched a techni on were comp	cian and o pleted on 0	confirmed the October 13, 20	leak. 015.	The pipeline	was isolated, o	lepressur	ized, loc	ked out an	d tagg	ed out.			
Describe Ar approximate and transpo "Final" C-14	rea Affected ely 26.5 fee orted to a No. 1.	l and Cleanu t long by 15 f ew Mexico O	p Action: eet wide I il Conserv	The contamina by 12 feet dee vation approve	ant ma ep. Ap ed land	ass was remo proximately d farm facility	oved by mechan 180 cubic yards . A third party	nical exca s of hydro corrective	avation. T carbon is action	The final ex mpacted so report is in	kcavati oil were cluded	on measured e excavated with this			
I hereby cer rules and re which may a relieve the o ground wate operator of	tify that the gulations a endanger p operator of er, surface responsibilj	information (Il operators a ublic health o liability should water, human ty for complia	given abo re require or the envi d their ope health or ance with	ve is true and ed to report an ronment. The erations have the environm any other fede	comp d/or fi e acce failed nent. I eral, si	lete to the be le certain rele ptance of a (to adequate in addition, N tate, or local	est of my knowle ease notification C-141 report by y investigate an IMOCD accepta laws and/or reg	edge and ns and pe the NMO nd remedi ance of a gulations.	understa rform co CD marl iate cont C-141 re	and that purrective ac ked as "Fin amination to port does	tions for al Rep that po not reli	t to NMOCD or releases port" does not ose a threat to ieve the			
Classet	A	IK.	11				OIL CO	NSERV	ATIO	N DIVIS	ON	1			
Signature: A ON Pledo						-			1	(1	1)			
Printed Name: Jon E. Fields						Approved	by Environment	al Specia	list:	han	Y.	-			
Title: Direct	or, Environi	mental	18			Approval D	Date: 21301	2015	Expiratio	n Date:					
E-mail Addr	ress:jefields	@eprod.com				Conditions	of Approval:			Attached					
Date: //	2-1-2	013	Phor	ne: (713)381-6	684										
Attach Add	itional She	ets If Neces	ssary			N	F1521	421	101.						
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OIL CONS. DIV DIST. 3 DEC 08 2015

Navajo C #2M Well Tie Pipeline Release (9/30/15) Report

Unit Letter L, Section 31, Township 27 North, Range 8 West San Juan County, New Mexico

November 17, 2015

Prepared for: Enterprise Field Services, LLC 614 Reilly Avenue Farmington, New Mexico 87401

Prepared by: Rule Engineering, LLC 501 Airport Drive, Suite 205 Farmington, New Mexico 87401



Enterprise Field Services, LLC Navajo C #2M Well Tie Pipeline Release (9/30/15) Report

Prepared for:

Enterprise Field Services, LLC 614 Reilly Avenue Farmington, New Mexico 87401

Prepared by:

Rule Engineering, LLC 501 Airport Drive, Suite 205 Farmington, New Mexico 87401

Heather M. Wood

Heather M. Woods, P.G., Area Manager

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

November 17, 2015
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1.0 Introduction

The Enterprise Field Services, LLC (Enterprise) Navajo C #2M well tie pipeline release site is located in Unit Letter L, Section 31, Township 27 North, Range 8 West, in San Juan County, New Mexico. The release resulted from a corrosion hole in the pipeline discovered on September 30, 2015.

On September 30, 2015, Enterprise initiated repair activities at the location. The release consisted of an unknown quantity of natural gas and condensate. Site work included replacement of the segment of compromised pipeline with new pipe and excavation of hydrocarbon impacted soils.

A topographic map of the location reproduced from the United States Geological Society quadrangle map of the area is included as Figure 1 and an aerial site map is included as Figure 2.

Site Name	Navajo C #2M Well Tie Pipeline Release							
Site Location Description	Unit Letter L, Section 21, Township 27 North, Range 4 West (N36.53056, W107.72825)							
Land Jurisdiction	Navajo Nation Allotment							
Discovery Date	September 30, 2015							
Release Report Date	September 30, 2015	Reported by	Thomas Long					
Agency Notification	New Mexico Oil Conservation Division (NMOCD) and Navajo Nation Environmental Protection Agency (NNEPA)							
Pipeline Diameter	4-inches	Release Source	Corrosion Hole					
Substance(s) Released	Natural Gas and Condensate	Volume Released	Undetermined					
NMOCD Site Rank	30							
Distance to Surface Water	600 feet to east	Surface Water Name	Blanco Wash					
Estimated Depth to Groundwater	Less than 50 feet below grade surface (bgs)	Distance to Water Well or Spring	Greater than 1,000 feet					
Contractor	Halo Services, Inc. (Halo)	Remedial Excavation Dimensions	26.5 feet by 15 feet by 12 feet in depth					
Volume of Soil Transported for Disposal/Remediation	Approximately 180 cubic yards (cumulative with 7/10/15 release)	Disposal Facility	Envirotech Landfarm (Permit #NM- 01-0011)					

2.0 Release Summary



3.0 NNEPA/NMOCD Site Ranking

The release site is located on the Navajo Nation under the jurisdiction of NNEPA. Based on NNEPA recommendations, remediation of soils associated with natural gas and condensate releases are assigned a site rank in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993).

Depth to groundwater at the site is estimated to be less than 50 feet below grade surface (bgs). Blanco Wash is located approximately 600 east of the release location. A review was completed of the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 foot radius of the location.

Based on the ranking score of 30, action levels for remediated soils at the site are as follows: 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

4.0 Field Activity

On September 30, 2015, Enterprise initiated pipeline repair activities. Halo provided heavy equipment operation and pipeline repair support. Rule Engineering, LLC (Rule) personnel provided excavation guidance and collected confirmation samples from the resultant excavation with an impacted area measuring approximately 26.5 feet by 15 feet and 12 feet in depth. The repair included the replacement of approximately 29 feet of compromised pipeline with new pipe. A previous release was discovered on this pipeline on July 10, 2015, about 30 feet north of the September 30, 2015 release location (details provided in separate report). Approximately 180 cubic yards of hydrocarbon impacted soils (368 cumulative cubic yards associated with both releases) were removed from the area during the repairs.

A depiction of the excavation with sample locations and summary of analytical results is included as Figure 3. A copy of the executed C-138 Solid Waste Acceptance Form is included in Appendix A and a photograph log is included in Appendix B.

5.0 Soil Sampling

Rule collected confirmation soil samples from the sidewalls and base of the excavation, as well as from a stockpile of overburden soils associated with extended excavation area for pipeline repair access. Soil samples SC-1 through SC-8 and SP-1 were collected on October 13, 2015. Each confirmation soil sample is a representative composite comprised of three to five equivalent aliquots of soil collected from the sampled area.

Soil samples collected for laboratory analysis were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis

Rule

Laboratory in Albuquerque, New Mexico. All samples were analyzed for BTEX per U.S. Environmental Protection Agency (USEPA) Method 8021B and TPH (GRO/DRO) per USEPA 8015D. Laboratory analytical results are summarized in Table 1, and the analytical laboratory report is included in Appendix C.

A portion of each sample was also field screened for volatile organic compounds (VOCs). Field screening for VOC vapors was conducted with a photoionization detector (PID). Before beginning field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field screening results are summarized in Table 1.

6.0 Laboratory Analytical Results

Laboratory analytical results for confirmation samples SC-1 through SC-8 reported benzene concentrations ranging from below the laboratory detection limits to 0.16 mg/kg, which are below the NNEPA/NMOCD action level. Total BTEX concentrations for confirmation samples SC-1 through SC-8 were reported ranging from below the laboratory reporting limits to 0.53 mg/kg, which are below the NNEPA/NMOCD action level. Total TPH (GRO/DRO) concentrations for confirmation samples SC-1 through SC-8 were reported below the NNEPA/NMOCD action level. Total TPH (GRO/DRO) concentrations for confirmation samples SC-1 through SC-8 were reported below the NNEPA/NMOCD action level. Laboratory analytical results for stockpile confirmation sample SP-1 reported benzene, total BTEX and TPH (GRO/DRO) concentrations below the laboratory reporting limits, which are below the NNEPA/NMOCD action level. Laboratory reporting limits for stockpile confirmation sample SP-1 reported benzene, total BTEX and TPH (GRO/DRO) concentrations below the laboratory reporting limits, which are below the NNEPA/NMOCD action level. Laboratory reporting limits for stockpile confirmation sample SP-1 reported benzene, total BTEX and TPH (GRO/DRO) concentrations below the laboratory reporting limits, which are below the NNEPA/NMOCD action levels. Laboratory analytical results are summarized in Table 1.

7.0 Conclusions

The Enterprise Navajo C #2M well tie pipeline release site is located in Unit Letter L, Section 31, Township 27 North, Range 8 West, in San Juan County, New Mexico, on Navajo Nation Allotment land. The release resulted from a corrosion hole in the pipeline discovered on September 30, 2015. Subsequent to pipeline repair, approximately 180 cubic yards of hydrocarbon impacted soils excavated in conjunction with a secondary release discovered about 30 feet north of the original release were transported to the Envirotech Landfarm. Confirmation samples were collected from the sidewalls and base of the resultant excavation with an estimated impact area measuring approximately 26.5 feet by 15 feet and 12 feet in depth. Laboratory analytical results for the soil confirmation samples SC-1 through SC-8 and SP-1 reported benzene, total BTEX, and TPH (GRO/DRO) concentrations below NNEPA/NMOCD action levels.

Based on laboratory analytical results of the final confirmation soil samples, no further work is recommended.

8.0 Closure and Limitations

This report has been prepared for the exclusive use of Enterprise and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with

Rule

Enterprise. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule

Table

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Table 1. Excavation Closure Laboratory Analytical ResultsNavajo C #2M Well Tie Pipeline (9/30/15) ReleaseSan Juan County, New MexicoEnterprise Field Services, LLC

						Laboratory Analytical Results					
Sample ID	Date	Sample Type	Location	Sample Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
			NNEPA/NMOCD Act	ion Levels*	10				50	1(00
SC-1	10/13/15	Composite	South Wall	1 to 12	< 0.047	< 0.047	<0.047	< 0.095	ND	<4.7	<10
SC-2	10/13/15	Composite	West Wall (South)	1 to 12	<0.048	<0.048	< 0.048	< 0.097	ND	<4.8	<9.7
SC-3	10/13/15	Composite	East Wall (South)	1 to 12	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<10
SC-4	10/13/15	Composite	Base (South)	12	0.055	0.13	< 0.047	0.20	0.39	<4.7	<9.9
SC-5	10/13/15	Composite	Base (North)	12	0.16	0.070	< 0.050	0.25	0.48	<5.0	<9.9
SC-6	10/13/15	Composite	East Wall (North)	1 to 12	< 0.049	< 0.049	< 0.049	<0.098	ND	<4.9	<9.9
SC-7	10/13/15	Composite	North Wall	1 to 12	<0.049	< 0.049	< 0.049	<0.099	ND	<4.9	<9.7
SC-8	10/13/15	Composite	West Wall (North)	1 to 12	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<9.7
SP-1	10/13/15	Composite	Stockpile		<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10

Notes: mg/kg - milligrams/kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

DRO - diesel range organics

ND - not detected above the laboratory reporting limits

*NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993) for site rank of 30



Figures

Rule



Document Name: 151019 Enterprise Navajo C#2M OCT ReleaseTopo Map

Sources: Earl, HERE, DeLorme, TomTom, Intermap, Increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Earl China (Hong Kong), swisaboo, Mapmyindia, © OpenStreetMap contributions, and the GIS User Community



Document Name: 151019 Enterprise Navajo C#2M OCT Release Aerial Site Map

Aerial Image Credit: Google Earth; Accessed Oct. 21, 2015



Document Name: 151019 Enterprise Navajo C#2M OCT Excavation Soil Analytical Map

Aerial Image Credit: Google Earth; Accessed Oct. 21, 2015

Appendix A

Executed C-138 Solid Waste Acceptance Form

Rule

District 1 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources 97057-0748 Form C-138 Revised August 1, 2011

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

	REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE
1.	Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2.	Originating Site: Navajo C#2M Lateral Pipeline Oct, 2015
3.	Location of Material (Street Address, City, State or ULSTR): Section 31 Township 27 North Range 8 West; 36 .53083, -107.72794
4.	Source and Description of Waste: Hydro-excavated soil impacted with hydrocarbons associated with a pipeline release (yd) bbls Known Volume (to be entered by the operator at the end of the haul) 368 (yd) bbls
5.	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
reg	PRINT & SIGN NAME rtify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 gulatory 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 \square Monthly \square Weekly \square 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 CRCRA Hazardous Waste Analysis Process Knowledge Other (Provide description in Box 4)
	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, s	Them Lay 10-14-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to
I, rep ha of	do hereby certify that presentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples we been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 15.36 NMAC
6.	Transporter: Halo Cotant, Enviratech, OtE Trucking, BET, 3E Emergy
OC Nan Add	D Permitted Surface Waste Management Facility ne and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 ress of Facility: Hilltop, NM
Met	hod of Treatment and/or Disposal:
Wa	ste Acceptance Status:
PRI	NT NAME: Eric Liese TITLE: Land Farm Administrator DATE: 10/15/1
SIG	NATURE:

Appendix B

Photograph Log



Photograph Log Navajo C #2M Well Tie Pipeline (9/30/15) Release Enterprise Field Services, LLC

A PAR
Description: Facing north, general view of final excavation activities.



Rule

Appendix C

Analytical Laboratory Reports

Rule



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

October 23, 2015

Heather Woods Rule Engineering LLC 501 Airport Dr., Ste 205 Farmington, NM 87401 TEL: (505) 860-2712 FAX

RE: Enterprise Navajo C #2M

OrderNo.: 1510720

Dear Heather Woods:

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

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1510720 Date Reported: 10/23/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT: Rule Engineering LLC
 Client Sample ID: SC-1

 Project:
 Enterprise Navajo C #2M
 Collection Date: 10/13/2015 4:00:00 PM

 Lab ID:
 1510720-001
 Matrix: SOIL
 Received Date: 10/15/2015 7:00:00 AM

 Analyses
 Result
 RL
 Oual
 Units
 DF
 Date Analyzed
 Batch

Anaryses	Result	NL V	Quar On	1113	DI	Date Analyzeu	Daten
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS	S				Analyst	КЈН
Diesel Range Organics (DRO)	ND	10	mg	g/Kg	1	10/16/2015 6:20:35 PM	21874
Surr: DNOP	171	70-130	S %	REC	1	10/16/2015 6:20:35 PM	21874
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.7	mg	g/Kg	1	10/21/2015 2:05:35 PM	21873
Surr: BFB	85.2	75.4-113	%	REC	1	10/21/2015 2:05:35 PM	21873
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.047	mg	g/Kg	1	10/21/2015 2:05:35 PM	21873
Toluene	ND	0.047	mg	g/Kg	1	10/21/2015 2:05:35 PM	21873
Ethylbenzene	ND	0.047	m	g/Kg	1	10/21/2015 2:05:35 PM	21873
Xylenes, Total	ND	0.095	m	g/Kg	1	10/21/2015 2:05:35 PM	21873
Surr: 4-Bromofluorobenzene	100	80-120	%	REC	1	10/21/2015 2:05:35 PM	21873

Qualifiers:		Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 1510720

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Date Reported: 10/23/2015

Analyst: NSB

Analyst: NSB

10/21/2015 3:15:30 PM 21873

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 8015D: GASOLINE RANGE

Gasoline Range Organics (GRO)

EPA METHOD 8021B: VOLATILES

Surr: 4-Bromofluorobenzene

Surr: BFB

Benzene

Toluene

Ethylbenzene

Xylenes, Total

CLIENT:	Rule Engineering LLC	Client Sample ID: SC-2							
Project:	Enterprise Navajo C #2M		Collection Date: 10/13/2015 3:45:00 PM						
Lab ID: 1510720-002		Matrix: SOIL			Received Date: 10/15/2015 7:00:00 AM				
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch	
	HOD 8015M/D: DIESEL RAN	GE ORGANICS		H, I	14. CT. 1		Analyst	KJH	
Diesel Range Organics (DRO)		ND	9.7		mg/Kg	1	10/16/2015 7:24:34 PM	21874	
Surr: DNOP		147	70-130	S	%REC	1	10/16/2015 7:24:34 PM	21874	

4.8

75.4-113

0.048

0.048

0.048

0.097

80-120

mg/Kg

%REC

mg/Kg

mg/Kg

mg/Kg

mg/Kg

%REC

ND

86.5

ND

ND

ND

ND

103

the second se				
Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report Lab Order 1510720

Date Reported: 10/23/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC **Client Sample ID: SC-3** Project: Enterprise Navajo C #2M Collection Date: 10/13/2015 4:30:00 PM 1510720-003 Lab ID: Matrix: 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			1.1	Analyst	КЈН
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/16/2015 7:45:59 PM	21874
Surr: DNOP	188	70-130	S	%REC	1	10/16/2015 7:45:59 PM	21874
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Surr: BFB	87.0	75.4-113		%REC	1	10/21/2015 4:25:35 PM	21873
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.048		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Toluene	ND	0.048		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Ethylbenzene	ND	0.048		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Xylenes, Total	ND	0.097		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	10/21/2015 4:25:35 PM	21873

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report Lab Order 1510720

Date Reported: 10/23/2015

Hall Environmental Analysis Laboratory, Inc.

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Analyses		Result	RL Oual	Units	DF Date Analyzed	E		
Lab ID:	1510720-004	Matrix:	Matrix: SOIL Received Date: 10/15/2015 7:00:0					
Project:	Enterprise Navajo C #2M			Collection	Date: 10/13/2015 3:00:00 PM			
CLIENT:	Rule Engineering LLC		0	lient Samp	le ID: SC-4			

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	S			Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/16/2015 8:07:33 PM	21874
Surr: DNOP	127	70-130	%REC	1	10/16/2015 8:07:33 PM	21874
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	10/21/2015 4:48:55 PM	21873
Surr: BFB	87.7	75.4-113	%REC	1	10/21/2015 4:48:55 PM	21873
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	0.055	0.047	mg/Kg	1	10/21/2015 4:48:55 PM	21873
Toluene	0.13	0.047	mg/Kg	1	10/21/2015 4:48:55 PM	21873
Ethylbenzene	ND	0.047	mg/Kg	1	10/21/2015 4:48:55 PM	21873
Xylenes, Total	0.20	0.095	mg/Kg	1	10/21/2015 4:48:55 PM	21873
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	10/21/2015 4:48:55 PM	21873

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Hall Environmental Analysis Laboratory, Inc.

Lab Order 1510720 Date Reported: 10/23/2015

CLIENT: Rule Engineering LLC Project: Enterprise Navajo C #2M Lab ID: 1510720-005	Client Sample ID: SC-5 Collection Date: 10/14/2015 9:30:00 AM Matrix: 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			Analys	: KJH			
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	10/16/2015 8:29:00 PM	21874			
Surr: DNOP	125	70-130	%REC	1	10/16/2015 8:29:00 PM	21874			
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	NSB			
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	10/21/2015 5:12:06 PM	21873			
Surr: BFB	87.8	75.4-113	%REC	1	10/21/2015 5:12:06 PN	21873			
EPA METHOD 8021B: VOLATILES					Analys	NSB			
Benzene	0.16	0.050	mg/Kg	1	10/21/2015 5:12:06 PM	21873			
Toluene	0.070	0.050	mg/Kg	1	10/21/2015 5:12:06 PM	21873			
Ethylbenzene	ND	0.050	mg/Kg	1	10/21/2015 5:12:06 PM	21873			
Xylenes, Total	0.25	0.10	mg/Kg	1	10/21/2015 5:12:06 PM	21873			
Surr: 4-Bromofluorobenzene	103	80-120	%REC	1	10/21/2015 5:12:06 PM	21873			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 1510720

Date Reported: 10/23/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Project: Lab ID:	Rule Engineering LLC Enterprise Navajo C #2M 1510720-006	Client Sample ID: SC-6Collection Date: 10/14/2015 10:13:00 AMMatrix: SOILReceived Date: 10/15/2015 7:00:00 AM							
Analyses	the second second	Result	RL Qu	al Units	DF	Date Analyzed	Batch		
EPA MET	HOD 8015M/D: DIESEL RAN	GE ORGANIC	S			Analyst:	КЈН		
Diesel R	ange Organics (DRO)	ND	9.9	mg/Kg	1	10/16/2015 8:50:19 PM	21874		
Surr: [DNOP	128	70-130	%REC	1	10/16/2015 8:50:19 PM	21874		
EPA MET	HOD 8015D: GASOLINE RAM	NGE				Analyst:	NSB		
Gasoline	Range Organics (GRO)	ND	4.9	mg/Kg	1	10/21/2015 5:35:24 PM	21873		
Surr: E	BFB	86.2	75.4-113	%REC	1	10/21/2015 5:35:24 PM	21873		
EPA MET	HOD 8021B: VOLATILES					Analyst:	NSB		

EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.049	mg/Kg	1	10/21/2015 5:35:24 PM	21873
Toluene	ND	0.049	mg/Kg	1	10/21/2015 5:35:24 PM	21873
Ethylbenzene	ND	0.049	mg/Kg	1	10/21/2015 5:35:24 PM	21873
Xylenes, Total	ND	0.098	mg/Kg	1	10/21/2015 5:35:24 PM	21873
Surr: 4-Bromofluorobenzene	102	80-120	%REC	1	10/21/2015 5:35:24 PM	21875

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Dogo 6 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report Lab Order 1510720

Date Reported: 10/23/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT: Rule Engineering LLC
 Client Sample ID: SC-7

 Project: Enterprise Navajo C #2M
 Collection Date: 10/14/2015 10:18:00 AM

 Lab ID: 1510720-007
 Matrix: SOIL
 Received Date: 10/15/2015 7:00:00 AM

 Analyses
 Result
 RL Qual Units
 DF Date Analyzed
 Batch

renaryses	recourt	THE Y	ai enits	-	Dute Amaryzeu	Duten
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANIC	s	and a second	-	Analyst	KJH
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	10/16/2015 9:11:41 PM	21874
Surr: DNOP	128	70-130	%REC	1	10/16/2015 9:11:41 PM	21874
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	10/21/2015 5:58:36 PM	21873
Surr: BFB	85.8	75.4-113	%REC	1	10/21/2015 5:58:36 PM	21873
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.049	mg/Kg	1	10/21/2015 5:58:36 PM	21873
Toluene	ND	0.049	mg/Kg	1	10/21/2015 5:58:36 PM	21873
Ethylbenzene	ND	0.049	mg/Kg	1	10/21/2015 5:58:36 PM	21873
Xylenes, Total	ND	0.099	mg/Kg	1	10/21/2015 5:58:36 PM	21873
Surr: 4-Bromofluorobenzene	99.9	80-120	%REC	1	10/21/2015 5:58:36 PM	21873

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 7 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Analytical Report

Lab Order 1510720

Date Reported: 10/23/2015

Hall Environmental Analysis Laboratory, Inc.

and the second							
Analyses		Result	RI	Qual	Units	DF Date Analyzed	Batch
Lab ID:	1510720-008	Matrix:	SOIL		Received	Date: 10/15/2015 7:00:00 A	Μ
Project:	Enterprise Navajo C #2M				Collection	Date: 10/14/2015 10:15:00	AM
CLIENT:	Rule Engineering LLC			0	lient Samp	le ID: SC-8	

EPA METHOD 8015M/D: DIESEL RANGE C	RGANIC	S				Analyst: KJH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/16/2015 9:32:56 PM 21874
Surr: DNOP	181	70-130	S	%REC	1	10/16/2015 9:32:56 PM 21874
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/21/2015 10:14:10 PM 21873
Surr: BFB	87.0	75.4-113		%REC	1	10/21/2015 10:14:10 PM 21873
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	10/21/2015 10:14:10 PM 21873
Toluene	ND	0.048		mg/Kg	1	10/21/2015 10:14:10 PM 21873
Ethylbenzene	ND	0.048		mg/Kg	1	10/21/2015 10:14:10 PM 21873
Xylenes, Total	ND	0.096		mg/Kg	1	10/21/2015 10:14:10 PM 21873
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	10/21/2015 10:14:10 PM 21873

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 8 of 11
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix		

Hall Environmental Analysis Laboratory, Inc.

WO#: 1510720

23-Oct-15

Client: Project:	Rule Eng Enterprise	ineering I e Navajo	LLC C #2M			- 2					5.98.2.W
Sample ID Client ID:	MB-21874 PBS	Samp Bato	Type: M th ID: 21	BLK 1874	Tes F	stCode: E RunNo: 2	PA Method 9559	8015M/D: Di	esel Rang	e Organics	
Prep Date:	10/15/2015	Analysis I	Date: 1	0/16/2015		SeqNo: 9	00607	Units: mg/l	٢g		
Analyte	in the second	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Surr: DNOP	Organics (DRO)	ND 12	10	10.00	de la composición de la compos	124	70	130			
Sample ID	LCS-21874	Samp	Type: Lo	cs	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	LCSS	Bato	h ID: 21	1874	F	RunNo: 2	9559				
Prep Date:	10/15/2015	Analysis I	Date: 1	0/16/2015		SeqNo: 9	00608	Units: mg/l	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	55	10	50.00	0	109	57.4	139			
Surr: DNOP		6.6		5.000		131	70	130			S
Sample ID	1510720-001AMS	Samp	Туре: М	s	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	SC-1	Bato	h ID: 21	1874	F	RunNo: 2	9559				
Prep Date:	10/15/2015	Analysis I	Date: 1	0/16/2015	5	SeqNo: 9	02219	Units: mg/l	٨g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	70	9.8	48.92	0	143	42.3	146			
Surr: DNOP		9.5		4.892		193	70	130			S
Sample ID	1510720-001AMS) Samp	Туре: М	SD	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	SC-1	Bato	h ID: 21	1874	F	RunNo: 2	9559				
Prep Date:	10/15/2015	Analysis I	Date: 1	0/16/2015		SeqNo: 9	02220	Units: mg/l	٨g		
Analyte		Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range	Organics (DRO)	75	10	50.45	0	148	42.3	146	6.76	28.9	S
Surr: DNOP		9.8		5.045		195	70	130	0	0	S
Sample ID	MB-21912	Samp	Type: M	BLK	Tes	stCode: E	PA Method	8015M/D: Di	esel Rang	e Organics	
Client ID:	PBS	Bato	h ID: 21	1912	F	RunNo: 2	9662				
Prep Date:	10/19/2015	Analysis	Date: 1	0/20/2015		SeqNo: 9	03701	Units: %RE	C		
Analyte		Result	POL	SPK value	SPK Ref Val	%REC	Lowl imit	Highl imit	%RPD	RPDLimit	Qual
Surr: DNOP		10	1 GL	10.00	or render run	101	70	130			
Sample ID	LCS-21912	Samo	Type: L	CS.	Tee	tCode: E	PA Method	8015M/D· Di	esel Rang	e Organice	
Client ID:	1099	Bate	h ID 2	1912	100	RunNo: 2	9662	coronic. Di	obor riang	o organica	
Bron Data:	10/10/2015	Analysis	Date: 4	0/20/2045		Seallo: 0	03702		C		
Frep Date:	10/19/2015	Analysis	Date. 1	0/20/2015		JeqNU. 9	03102	Offica. 76RE			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sur: DNOP		4.9		5.000		91.1	10	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

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WO#: 1510720 23-Oct-15

Hall Environmenta	al Analysis	Laborat	ory,	Inc
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Client: Project:	Rule Eng Enterprise	ineering L e Navajo (LC C #2M	C					Suin		5
Sample ID	5ML RB	SampT	ype: MI	BLK	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	11.2.1
Client ID:	PBS	Batch	DID: R	9711	F	RunNo: 2	9711				
Prep Date:		Analysis D	ate: 1	0/21/2015	S	SeqNo: 9	04700	Units: %RE	с		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		870		1000		86.9	75.4	113			
Sample ID	2.5UG GRO STD	SampT	ype: LC	s	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID:	LCSS	Batch	DID: R	29711	F	RunNo: 2	9711				
Prep Date:		Analysis D	ate: 1	0/21/2015	5	SeqNo: 9	04701	Units: %RE	c		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	Station 12	940		1000		93.9	75.4	113		A. S.	10-
Sample ID	MB-21873	SampT	ype: M	BLK	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	e	181 5
Client ID:	PBS	Batch	n ID: 21	873	F	RunNo: 2	9711				
Prep Date:	10/15/2015	Analysis D	ate: 1	0/21/2015	S	SeqNo: 9	04723	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Basoline Rang	e Organics (GRO)	ND	5.0		1.1.28						1.2
Surr: BFB	ale and	840		1000	114 - 124	84.4	75.4	113	- de	in a section	
Sample ID	LCS-21873	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	e	14.19
Client ID:	LCSS	Batch	n ID: 21	873	F	RunNo: 2	9711				
Prep Date:	10/15/2015	Analysis D	Date: 1	0/21/2015	5	SeqNo: 9	04724	Units: mg/h	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Basoline Rang	ge Organics (GRO)	26	5.0	25.00	0	105	79.6	122	1	1.1.1	1
Surr: BFB		930		1000	l an an l	92.9	75.4	113		1.135	CAR .
Sample ID	1510720-001AMS	SampT	ype: M	S	Tes	tCode: E	PA Method	8015D: Gaso	oline Rang	e	
Client ID:	SC-1	Batch	h ID: 21	873	F	RunNo: 2	9711				
Prep Date:	10/15/2015	Analysis D	Date: 1	0/21/2015	5	SeqNo: 9	04726	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sasoline Rang	e Organics (GRO)	22	5.0	24.83	0	89.4	62.5	151	1	N. Ale	1000
Surr: BFB		920		993.0		92.7	75.4	113	1.00	Sec. 1	1 m
Sample ID	1510720-001AMS	D SampT	ype: M	SD	Tes	tCode: E	PA Method	8015D: Gase	oline Rang	e	
Client ID:	SC-1	Batch	h ID: 21	873	F	RunNo: 2	9711				
Prep Date:	10/15/2015	Analysis D	Date: 1	0/21/2015	5	SeqNo: 9	04727	Units: mg/k	٢g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sasoline Rang	e Organics (GRO)	21	5.0	24.78	0	84.6	62.5	151	5.62	22.1	
Surr: BFB		920		991.1		93.2	75.4	113	0	0	

Qualifiers:

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- 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 10 of 11

Hall Environmental Analysis Laboratory, Inc.

WO#: 1510720

23-Oct-15

Client: Project:	Rule Eng Enterpris	ineering L e Navajo (.LC C #2M	1							1	
Sample ID	MB-21873	Samp	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles		1111	
Client ID:	PBS	Batc	h ID: 21	873	F	RunNo: 2	9711					
Prep Date:	10/15/2015	Analysis [Date: 10	0/21/2015	5	SeqNo: 9	04747	Units: mg/k	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	and the second second	ND	0.050	1.00					1 1 1			
Toluene		ND	0.050									
Ethylbenzene		ND	0.050									
Xylenes, Total		ND	0.10									
Surr: 4-Bron	nofluorobenzene	1.0		1.000		100	80	120				_
Sample ID	LCS-21873	Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles			
Client ID:	LCSS	Batc	h ID: 21	873	F	RunNo: 2	9711					
Prep Date:	10/15/2015	Analysis [Date: 10	0/21/2015	5	SeqNo: 9	04748	Units: mg/k	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		1.0	0.050	1.000	0	104	80	120	H 1 1 1 1 1			
Toluene		0.96	0.050	1.000	0	96.2	80	120				
Ethylbenzene		0.96	0.050	1.000	0	96.1	80	120				
Xylenes, Total		2.9	0.10	3.000	0	96.6	80	120				
Surr: 4-Bron	nofluorobenzene	1.1		1.000		107	80	120				
Sample ID	1510720-002AMS	Samp	Type: MS	S	Tes	tCode: E	PA Method	8021B: Vola	tiles			
Client ID:	SC-2	Batc	h ID: 21	873	F	RunNo: 2	9711					
Prep Date:	10/15/2015	Analysis [Date: 1	0/21/2015	5	SeqNo: 9	04751	Units: mg/l	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.75	0.048	0.9625	0	78.4	69.6	136				
Toluene		0.78	0.048	0.9625	0.02095	78.9	76.2	134				
Ethylbenzene		0.80	0.048	0.9625	0	82.6	75.8	137				
Xylenes, Total		2.5	0.096	2.887	0.06142	84.2	78.9	133				
Surr: 4-Bron	nofluorobenzene	1.0		0.9625		105	80	120				_
Sample ID	1510720-002AMS	D Samp	Type: MS	SD	Tes	stCode: E	PA Method	8021B: Vola	tiles			
Client ID:	SC-2	Batc	h ID: 21	873	F	RunNo: 2	9711					
Prep Date:	10/15/2015	Analysis [Date: 1	0/21/2015	:	SeqNo: 9	04752	Units: mg/l	۲g			
Analyte	1.1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene		0.83	0.047	0.9425	0	88.4	69.6	136	9.92	20		
Toluene		0.82	0.047	0.9425	0.02095	84.6	76.2	134	4.74	20		
Ethylbenzene		0.82	0.047	0.9425	0	87.4	75.8	137	3.58	20		
Xylenes, Total		2.5	0.094	2.828	0.06142	87.8	78.9	133	1.98	20		
Surr: 4-Bron	nofluorobenzene	1.0		0.9425		107	80	120	0	0		

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
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- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 11 of 11

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental A Albuq TEL: 505-345-3975 F Website: www.halk	nalysis 4901 wergus AX: 50 enviroi	Laborato Hawkins 1 , NM 871 05-345-41 mental.co	^{NE} 09 Samj 07	ole Log-In Check List
Client Name: RULE ENGINEERING LL	Work Order Number:	15107	20		RoptNo: 1
Received by/date:	10/15/15				
ogged By: Lindsay Mangin	10/15/2015 7:00:00 AM			+4the	
Completed By Lindsay Mangin	10/15/2015 7:52:29 AM			ALAMAD	
Reviewed By:	inlistis			0.00	
hain of Custody	tofistis				
1. Custody seals intact on sample bottles?		Yes		No 🗆	Not Present
2. Is Chain of Custody complete?		Yes		No 🗌	Not Present
3. How was the sample delivered?		Cour	ier		
og in					
4. Was an attempt made to cool the samples	?	Yes		No 🗆	
5. Were all samples received at a temperatur	e of >0° C to 6.0°C	Yes	V	No 🗌	NA 🗌
6. Sample(s) in proper container(s)?		Yes	¥	No 🗌	
7. Sufficient sample volume for indicated test	(s)?	Yes		No 🗌	
8. Are samples (except VOA and ONG) propo	erly preserved?	Yes		No	
9. Was preservative added to bottles?		Yes		No 🗹	NA 🗆
10. VOA vials have zero headspace?		Yes		No 🗌	No VOA Vials
11. Were any sample containers received bro	ken?	Yes		No 🖋	# of proconcid
			-		bottles checked
12. Does paperwork match bottle labels?		Yes		No	for pH: (<2 or >12 unless note
3 Are matrices correctly identified on Chain	of Custody?	Yes	V	No 🗌	Adjusted?
4. Is it clear what analyses were requested?		Yes		No 🗆	
15. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	~	No 🗌	Checked by:
naaial Haadliaa (Maaaliaabla)					
Contract and the set of all discremencies with	this order?	Vor		No	NA V
10, was client notified of all discrepancies with		res	ш.		
Person Notified:	Date				
By Whom:	Vid.			TIUTIE PAA	
Client Instructions:					125.5
17. Additional remarks:					A 1 A
18. Cooler Information Cooler No Temp °C Condition	Seal Intact Seal No S	Seal D	ate	Signed By	
1 3.6 Good Y	es				

Client:	Rule 1	ot-CL	ring, LLC	Project Name	Rush					FA		LL AL	EI YS	NV SIS	IR S L			RAT	TA	L LY
Mailing	Address	501 A.	most Dr Suite 205	Enterprise	Navajo C 1	#2M		49	01 H	awki	ins M	NE -	Alb	uque	erqui	e, NI	M 871	109		
Far Phone :	mingto #: (50:) 716	-2787	Project #:		18 ⁻¹¹		Te	el. 50	5-34	15-3	975 A	Finaly	ax i sis	505- Req	345- uest	4107			
email o QA/QC I	r Fax#: \ Package: dard	words @	Level 4 (Full Validation)	Project Mana Heathur	ger: Woods		(s (8021)	(Gas only)	RO / (100)			SIMS)		,PO4.SO4)	2 PCB's					
Accredi	tation AP	Othe	r	Sampler: He	where who	d S		HHT	0/0	8.1)	4.1)	3270		3.NO2	808		-			(N
	(Type)		ALL TO MA	Sample Tem	perature: 3,	6	÷.	BE +	(GR	d 41	d 50	or 8	tals	NON.	des	()	VOA			(X 01
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO. 1510720	BTEX + NET	BTEX + MT	TPH 8015B	TPH (Metho	EDB (Metho	PAH's (8310	RCRA 8 Me	Anions (F.C	8081 Pestic	8260B (VO/	8270 (Semi-			Air Bubbles
113/15	1600	Soil	50-1	(1) 402 Glass	Cold	-001	×		X						1					
13/15	1545	Soil	50.2	(1) 402 61455	Cold	-002	X		X											
2/13/15	1630	Seil	50.3	(1) 402 Glass	Cold	-003	X		X									1.25		
3/13/15	1500	Soil	50-4	(1) 4 oz Glass	Cold	-004	¢		X											
114/15	0930	Soil	50-5	(1) 4 02 Glass	Cold	-005	X		×											1
2/14/15	1013	50:1	50-6	(1) Hoz Glass	Cold	-006	X		x											
3/14/15	1018	Soil	56.7	1) 4 oz Glass	Cold	-007	X		×			1	4							
0/14/15	1015	Soil	50-8	(1) 402 Glass	Cold	-008	×		¥	_		1						-		2
		-	NES How															-		
100							-		-	-	-				-		-		$\left \right $	-
Date: 7/11/15 Date: 0/11/1	Time: 1635 Time:	Relinquish	t li)a it	Received by:	e Watte	Date Time 10/1/15 1635 Date Time	Ren	nark	s: B.	,11 +	to E	Ente	rpri	<u>د</u>						

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

October 23, 2015

Heather Woods Rule Engineering LLC 501 Airport Dr., Ste 205 Farmington, NM 87401 TEL: (505) 860-2712 FAX

RE: Enterprise Navajo C #2M

OrderNo.: 1510722

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1510722

Date Reported: 10/23/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT: Rule Engineering LLC
 Client Sample ID: SP-1

 Project:
 Enterprise Navajo C #2M
 Collection Date: 10/14/2015 12:40:00 PM

 Lab ID:
 1510722-001
 Matrix: SOIL
 Received Date: 10/15/2015 7:00:00 AM

 Analyses
 Result
 RL Qual Units
 DF Date Analyzed
 Batch

				Contraction of the second	E-MARKED -	
EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	s				Analyst: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/16/2015 10:15:26 PM 21874
Surr: DNOP	132	70-130	S	%REC	1	10/16/2015 10:15:26 PM 21874
EPA METHOD 8015D: GASOLINE RANG	E					Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/21/2015 10:37:23 PM 21873
Surr: BFB	89.3	75.4-113		%REC	1	10/21/2015 10:37:23 PM 21873
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/21/2015 10:37:23 PM 21873
Toluene	ND	0.050		mg/Kg	1	10/21/2015 10:37:23 PM 21873
Ethylbenzene	ND	0.050		mg/Kg	1	10/21/2015 10:37:23 PM 21873
Xylenes, Total	ND	0.10		mg/Kg	1	10/21/2015 10:37:23 PM 21873
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	10/21/2015 10:37:23 PM 21873

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

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

S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 1 of 4

P Sample pH Not In Range

RL Reporting Detection Limit

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

4.9

5.000

Client: Project:	Rule En Enterpri	gineering LLC se Navajo C #2	2M								1.1	
Sample ID MB	-21874	SampType	: MBL	к	Tes	tCode: E	PA Method	8015M/D: Die	esel Range	e Organics	1.00	
Client ID: PBS	S	Batch ID	2187	4	F	RunNo: 2	9559					
Prep Date: 10	/15/2015	Analysis Date	: 10/1	6/2015	S	eqNo: 9	00607	Units: mg/M	(g			
Analyte		Result P	QL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organ Surr: DNOP	iics (DRO)	ND 12	10	10.00		124	70	130			di si	
Sample ID LCS	S-21874	SampType	: LCS		Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: LCS	SS	Batch ID	2187	4	F	RunNo: 2	9559					
Prep Date: 10	/15/2015	Analysis Date	: 10/1	6/2015	S	SeqNo: 9	00608	Units: mg/k	٢g			
Analyte		Result P	QL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Diesel Range Organ Surr: DNOP	iics (DRO)	55 6.6	10	50.00 5.000	0	109 131	57.4 70	139 130			S	
Sample ID MB	-21912	SampType	: MBL	к	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: PBS	S	Batch ID	: 2191	2	F	RunNo: 2	9662					
Prep Date: 10	/19/2015	Analysis Date	: 10/2	0/2015	S	SeqNo: 9	03701	Units: %RE	с			
Analyte		Result P	QL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: DNOP	27 4	10		10.00	100	101	70	130			71	
Sample ID LCS	S-21912	SampType	: LCS	1	Tes	tCode: E	PA Method	8015M/D: Di	esel Rang	e Organics		
Client ID: LCS	SS	Batch ID	: 2191	2	F	RunNo: 2	9662					
Prep Date: 10	/19/2015	Analysis Date	: 10/2	0/2015	5	SeqNo: 9	03702	Units: %RE	С			
Analyte		Result P	QL S	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Surr: DNOP

Qualifiers:

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

97.7

70

130

- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 2 of 4

WO#: 1510722

23-Oct-15

Client:	Rule Eng	gineering LLC		
Project:	Enterpris	se Navajo C #2M		
Sample ID	5ML RB	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range	
Client ID:	PBS	Batch ID: R29711	RunNo: 29711	
Prep Date:		Analysis Date: 10/21/2015	SeqNo: 904700 Units: %REC	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Surr: BFB	States -	870 1000	86.9 75.4 113	
Sample ID	2.5UG GRO STD	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range	
Client ID:	LCSS	Batch ID: R29711	RunNo: 29711	
Prep Date:		Analysis Date: 10/21/2015	SeqNo: 904701 Units: %REC	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Surr: BFB	Standard The	940 1000	93.9 75.4 113	
Sample ID	MB-21873	SampType: MBLK	TestCode: EPA Method 8015D: Gasoline Range	
Client ID:	PBS	Batch ID: 21873	RunNo: 29711	
Prep Date:	10/15/2015	Analysis Date: 10/21/2015	SeqNo: 904723 Units: mg/Kg	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND 5.0		1.1
Surr: BFB		840 1000	84.4 75.4 113	
Sample ID	LCS-21873	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range	
Client ID:	LCSS	Batch ID: 21873	RunNo: 29711	
Prep Date:	10/15/2015	Analysis Date: 10/21/2015	SeqNo: 904724 Units: mg/Kg	
Analyte		Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit	Qual
Sasoline Rang	e Organics (GRO)	26 5.0 25.00	0 105 79.6 122	

Gasoline Range Organics (GRO) Surr: BFB

Qualifiers:

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

930

1000

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

92.9

75.4

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

Page 3 of 4

113

1510722

WO#:

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: H Project: H	Rule Engineerin Enterprise Nava	ng LLC ajo C #2M	[
Sample ID MB-2187	' 3 Sa	mpType: N	IBLK	Tes	stCode: El	PA Method	8021B: Volat	tiles	X	- 14
Client ID: PBS	E	Batch ID: 2	1873	- 1	RunNo: 2	9711				
Prep Date: 10/15/2	015 Analy	sis Date:	10/21/2015	3	SeqNo: 9	04747	Units: mg/K	g		
Analyte	Resi	ult PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	N	ID 0.05	0							
Toluene	N	ID 0.05	D							
Ethylbenzene	N	ID 0.05	0							
Xylenes, Total	N	ID 0.1	0							
Surr: 4-Bromofluoroben:	zene 1	.0	1.000	210	100	80	120	100	and a second	1
Sample ID LCS-218	73 Sa	mpType: L	.cs	Tes	stCode: El	PA Method	8021B: Volat	tiles	1.815	1.1
Client ID: LCSS		Batch ID: 2	1873	1	RunNo: 2	9711				
Prep Date: 10/15/2	015 Analy	sis Date:	10/21/2015		SeqNo: 9	04748	Units: mg/K	g		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Qualifiers:

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

Page 4 of 4

1510722 23-Oct-15

WO#:

lient Name: RULE ENGINEERING LL Work Order Nu	mber: 1510722		RcptNo: 1	The second															
ceived by/date: 10/15/15		1.1.1																	
ogged By: Lindsay Mangin 10/15/2015 7:00:00 AM		Julythe																	
ompleted By: Lindsay Mangin 10/15/2015 7:55:41 AM		Author																	
wiewed By. CS 10/15/14	5	000																	
ain of Custody																			
Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present																
Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present																
How was the sample delivered?	Courier																		
ag in																			
Was an attempt made to each the complex?	Vac M	No 🗍	NA																
was an attempt made to cool the samples?	res 💌																		
Were all samples received at a temperature of >0° C to 6.0°C	Yes 🖌	No 🗌	NA 🗌																
Sample(s) in proper container(s)?	Yes 🗹	No 🗌																	
Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌																	
Are samples (except VOA and ONG) properly preserved?	Yes 🗸	No 🗌																	
Was preservative added to bottles?	Yes	No 🔽	NA 🗌																
.VOA vials have zero headspace?	Yes	No 🗌	No VOA Vials																
. Were any sample containers received broken?	Yes	No 🔽	# of preserved																
			bottles checked																
. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes VI	No 🗋	(<2 or >12 ur	less noted															
Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗆	Adjusted?																
Is it clear what analyses were requested?	Yes 🗹	No 🗆																	
. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗸	No 🗌	Checked by:																
ecial Handling (if applicable)																			
Was client notified of all discrepancies with this order?	Yes 🗌	No 🗌	NA 🗹																
Person Notified: D	ate																		
By Whom: V	ia: 🗌 eMail 🗌	Phone 🗌 Fax	In Person																
Regarding:																			
Client Instructions:																			
Additional remarks:																			
C	hain-	-of-Cu	istody Record	Turn-Around	Time:	1 Starting	E			н	ALI	LE	NV	IR	10	NME	NTA	L	
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vient:	Rule	Engine	uring, LIC	Standard Rush Project Name:			ANALYSIS LABORATORY												
Mailing Address: 501 A:rport Dr. Suite 205 Farmington, NM 67401 Phone #: (505) 7110-2782			Entropise Navajo C # 2M Project #:			www.hallenvironmental.com 4901 Hawkins NE - Albuguergue, NM 87109													
						Tel. 505-345-3975 Fax 505-345-4107 Analysis Request													
mail o	r Fax#: V	woods	Prulsencineuring. Com	Project Mana	ger:	142 12 12	-	(ylu	2				(*0						25
QA/QC Package:			Heather	- Woods		E (802	(Gas o	SO / DA		(SMIS)		PO4,S	PCB's		2				
Accreditation			Sampler: Hi On Ice:	Z Yes	ods DNo		+ TPH	30 / DF	18.1)	8270 5		O3.NO2	5 / 8082		(V)			or N)	
	(Type)	1		Sample Temperature: 36			- H	TBE	3 (GF	od 4	00 5	etals	CI'NC	cide	(V	ii-VO			SQ
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	BTEX + M	BTEX + MT	TPH 8015E	TPH (Meth	EDB (Meth	RCRA 8 M	Anions (F,0	8081 Pesti	8260B (VO	8270 (Sem			Air Bubble:
118/15	1240	Soil	SP-1	(1) Hoz Glass	Cold	-001	X		χ		-	-							
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			NES																_
-			44																
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		- 10																	
	10	1.46								1									
ate: N/15	Time:	Relinquish	hen M. Woods	Must	Walt	10/14/15 1635	Rer	nark	s: B	511 H	o En	k-pr	مدا						
INK	1847	Relinquish	ally:	Received by:	A iol	EIS 0700												-	

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 875

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

Oil Conservation Division

Form C-141 Revised August 8, 2011

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

Release Notification and Corrective Action OPERATOR Initial ReptA Not Address: 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name: Navajo C#ZM Surface Owner: Navajo C#ZM Surface Owner: Navajo C#ZM Surface Owner: Navajo C#ZM Surface Owner: Navajo C#ZM LOCATION OF RELEASE Unit Letter Section Owner: Navajo Nation Nature OF RELEASE Unit Letter Section Owner Colspan="2">County San Juan Latitude 36.530553 Longitude -107.728279 NATURE OF RELEASE Option of Occurrence: Type of Release: Internal Corrosion Date and Hour of Oscoverne: Volume of Releases 3.3 MSF County Corrosine Value of Release: Internal Corrosion Date and Time 8/3/2015 8:52 a.m. Not	1220 S. St. Fr	ancis Dr., Sa	nta Fe, NM 87	505	1220 Sa	South St. nta Fe, NM	France A 875	cis Dr. 505			CI07 GG 274		
OPERATOR Interprise Field Services LLC Contact: Thomas Long Address: 614 Reliby Ave, Farmington, NM 87401 Fielphone No. 505-599-2286 Facility Name: Navajo C#2M Facility Type: Natural Gas Gathering Pipeline Surface Owner: Navajo C#2M Facility Type: Natural Gas Gathering Pipeline Surface Owner: Navajo C#2M Navajo C#2M Facility Type: Natural Gas Gathering Pipeline Surface Owner: Navajo C#2M Range Feet from April No. Latitude 36.6306553 Longitude _107.728279 County San Juan Latitude 36.6306553 Longitude _107.728279 Natural Gas and Natural Gas Liquids Volume of Release 3.0 MSF County Source of Release: Internal Corrosion Date and Hour of Occurrence: Date And Hour of Discovery: 71/015 0 m. 71/015 0 m. Was Immediate Notice Given? If YES, To Whom? Cory Smith – NMOCD; Steve Austin - NNEPA Date and Time 8/J2015 8:52 a.m. DEC 08.2 00 By Whom? Thomas Long Was a Watercourse was Impacted, Describe Fully.* Date and Time 8/J2015 8:52 a.m. DEC 08.2 00 If a Watercourse was Impacted, Describe Fully.* Describe Case of Problem and Remedial Action: On July 11, 2015, a third party reported a gas leak within the Navajo C#ZM right-of-we Enterprise dispatched a technician and confirmed the leak. The pipeline was isolated, depressurized,	1. 20	TRACT.	F	Releas	e Notific	ation an	d Co	orrective	Acti	on	9106 8 0 J 30		
Name of Company: Enterprise Field Services LLC Contact: Thomas Long Contact: Thomas Long Address: 614 Relity Ave, Farmington, NM 87401 Telephone No: 505-599-2286 Facility Name: Navajo C#2M Facility Name: Navajo C#2M Surface Owner: Navajo C#2M Mineral Owner: Navajo C#2M LocAtTION OF RELEASE County Unit Letter Section Township Surface Owner: Navajo C#2M Range Latitude 36.530553 Longitude _107.728279 NATURE OF RELEASE County Unit Letter Section Township Source of Release: Internal Corrosion Ontact: Thomas Long Volume Recovered: None Source of Release: Internal Corrosion 71/01/5 @ 11/30 a.m. 71/01/5 @ 11/30 a.m. Was Immediate Notice Given? If YES, To Whom? Cory Smith – NMCCD; Steve Austin - NNEPA Bey Whom? Thomas Long Date and Time 8/3/2015 8:52 a.m. OL CONS, DIV D Was a Watercourse was Impacted, Describe Fully.* Date and Time 8/3/2015 8:52 a.m. DEC 0 8 201 If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and transported to a New Mexico OI Conservation approved a gas leak within the Navajo C#2M right-of-we Describe Cause of Problem and drand transported to a New Mexico OI Conservation approved a gas le			file.			OPERA	TOR		Г		SIGAID SHORINAL Report		
Address: 614 Relify Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name: Navajo C#2M Facility Type: Natural Gas Gathering Pipeline Surface Owner: Navajo Nation Mineral Owner: Navajo Nation API No. LocATION OF RELEASE County San Juan Unit Letter Section Township Range Feet from Line County Line San Juan Line Line San Juan Latitude _36.530553_Longitude _107.728279 NATURE OF RELEASE County San Juan Type of Release: Natural Gas and Natural Gas Liquids Volume of Release 3 MSF San Juan San Juan Source of Release: Internal Corrosion Date and Hour of Discovery: 710/15 @ 11:50 a.m. 710/15 @ 11:50 a.m. Was Immediate Notice Given? If YES, To Whom? Cory Smith - NMOCD; Steve Austin - NNEPA Required Py Whom? Thomas Long Date and Time \$13/2015 8:52 a.m. 0LC Q0NS, DIV D Was a Watercourse Reached? Yes N No If YES, Volume Impacting the Watercourse DEC 0 & 201 If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action: On July 11, 2015, a third party reported a gas leak within the Navajo C#2M right-of-we entegated and Cleanup Action: * The contaminant mass was rem	Name of C	company:	Enterprise I	Field Ser	vices LLC	Conta	act: Th	omas Long					
Facility Name: Navajo C#2M Facility Type: Natural Gas Gathering Pipeline Surface Owner: Navajo Nation Mineral Owner: Navajo Nation API No. Location OF RELEASE East Cass County Unit Letter Social Township Range Reet from Feet from East Cass County Line Social Township Range Reet from Feet from East Cass County Line Social County Feet from East Cass County San Juan Latitude 36.530553 Longitude -107.728279 County San Juan Mass Immediate Notice Given? Date and Hour of Discovery: 71/01/15 @lift Site ant 71/01/15 @lift Site Site Austin - NNEPA Required Yes No Not Met Pite Site Austin - NNEPA Pite Site Au	Address: 6	14 Reilly A	Ave, Farmin	gton, NM	87401	Telep	Telephone No. 505-599-2286						
Surface Owner: Navajo Nation Mineral Owner: Navajo Nation API No. LOCATION OF RELEASE Locult County Unit Letter Section Township Range Feet from Line Line Line San Juan Latitude 36.530553 Longitude -107.728279 NatURE OF RELEASE County San Juan Type of Release: Natural Gas and Natural Gas Liquids Volume of Release 3.9 MSF Country Date and Hour of Courrence: Date and Hour of Discovery: T/10/15 @ 10:20 a.m. T/10/15 @ 10:20 a.m. T/10/16 @ 11:30 a.m. T/10/16 @ 11:30 a.m. Was Immediate Notice Given? If YES, To Whom? Cory Smith – NMOCC); Steve Austin – NNEPA Required Date and Time 8/3/2015 8:52 a.m. Oll CONS, DIV D Was a Watercourse Reached? Yes No If YES, Volume Impacting the Watercourse DEC 0.8 201 If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action: On July 11, 2015, a third party reported a gas leak within the Navejo C#2M right-of-We measured approximately 15 feet long by 15 feet wide ranging from 4 to 5 feet deep. Approximately 18 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective a report is included with this "Final" C-141. Describe Area Affected and Cleanup Action: * The conta	Facility Na	me: Navaj	jo C#2M	42		Facili	ty Typ	e: Natural G	Gas Gat	hering	Pipeline		
LOCATION OF RELEASE Unit Letter Section Township Range Feet from North Sourd Feet from Line County San Juan Latitude _36.5306553_Longitude _107.728279 NATURE OF RELEASE Type of Release: Natural Gas and Natural Gas Liquids Volume Recovered: None Source of Release: Internal Corrosion Date and Hour of Discovery: 710/015 @ 11:50 a.m. Water course in the mail Corrosion Paie and Hour of Discovery: 710/015 @ 11:50 a.m. Water course in the mail Corrosion Paie and Hour of Discovery: 710/015 @ 11:50 a.m. Water course in the mail Corrosion Date and Time 8/3/2015 8:52 a.m. Was a Watercourse Reached? Was a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action: On July 11, 2015, a third party reported a gas leak within the Navejo C#2M right-of-We Enternodiation were completed on July 24, 2015. Describe Cause of Problem and Remedial Action: The contaminant mass was removed by mechanical excavation. The final excavation measured aproximately 18 fee	Surface O	wner: Nav	ajo Nation	7.2	Mineral (Owner: Nava	ajo Na	tion	100	APIN	lo.		
Unit Letter Section Township Range BW Feet from the 2492 Notifiee Feet from the 874 East West Line County San Juan Latitude 36.530553 Longitude -107.728279 NATURE OF RELEASE Type of Release: Natural Gas and Natural Gas Liquids Volume of Release 3.9 MSF Gas: 57.78Ls Liquids Volume Recovered: None Gas: 57.78Ls Liquids Date and Hour of Discovery: 710/015 01:20 a.m. Was Immediate Notice Given? Date and Hour of Occurrence: 1 Yes Not If YES, To Whom? Cory Smith – NMOCD; Steve Austin - NNEPA Required Yes No Not If YES, To Whom? Cory Smith – NMOCD; Steve Austin - NNEPA Was a Watercourse Reached? Yes No If YES, Volume Impacting the Watercourse DEC 08 201 If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action: On July 11, 2015, a third party reported a gas leak within the Navejo C#2M right-of-we Enterprise dispatched a technician and confirmed the leak. The pipeline was isolated, depressurized, locked out and lagged out. Repai and remediation were completed on July 24, 2015. Describe Cause of Problem and Remedial Action: * The contaminant mass was removed by mechanical excavation measured approximately 15 feet long by 15 feet wide ranging from 4 to 6 feet deep. Approximately 188 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico OII Conservation approvei land farm facility. A third party corrective a report is included w					LOC	TION OF	REL	EASE					
Latitude 36.530553 Longitude _107.728279 NATURE OF RELEASE Type of Release: Natural Gas and Natural Gas Liquids Volume of Release 3.9 MSF Gas; 57.8BLs Liquids Volume Recovered: None Gas; 57.8 BLs Liquids Source of Release: Internal Corrosion Date and Hour of Courrence: 7/10/15 @ 10:20 a.m. Date and Hour of Discovery: 7/10/15 @ 11:50 a.m. Was Immediate Notice Given? If YES, To Whom? Cory Smith – NMOCD; Steve Austin - NNEPA Required 0LCONS, DIV D Was a Watercourse Reached? If YES, Volume Impacting the Watercourse Was a Watercourse Reached? If YES, Volume Impacting the Watercourse Describe Cause of Problem and Remedial Action: On July 11, 2015, a third party reported a gas leak within the Navajo C#2M right-of-w Enterprise dispatched a technician and confirmed the leak. The pipeline was isolated, depressurized, locked out and tagged out. Repai and remediation were completed on July 24, 2015. Describe Area Affected and Cleanup Action: * The contaminant mass was removed by mechanical excavation. The final excavation impacted soil were excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective ar report is included with this 'Final' C-141. Inereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMC relieve the operator of liability should their operations have failed to adequately investigate and remediate contaminant in that pose to relieve the operator of responsibility for compliance with any	Unit Letter L	Section 31	Township 27N	Range 8W	Feet from the 2492	North Sout	Ð	Feet from the 874	East/ Line	Vest	County San Juan		
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Navajo C #2M Well Tie Pipeline Release (07/10/15) Report

Unit Letter L, Section 31, Township 27 North, Range 8 West San Juan County, New Mexico

November 17, 2015

Prepared for: Enterprise Field Services, LLC 614 Reilly Avenue Farmington, New Mexico 87401

Prepared by: Rule Engineering, LLC 501 Airport Drive, Suite 205 Farmington, New Mexico 87401



Enterprise Field Services, LLC Navajo C #2M Well Tie Pipeline Release (07/10/15) Report

Prepared for:

Enterprise Field Services, LLC 614 Reilly Avenue Farmington, New Mexico 87401

Prepared by:

Rule Engineering, LLC 501 Airport Drive, Suite 205 Farmington, New Mexico 87401

eather M. W.

Heather M. Woods, P.G., Area Manager

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

November 17, 2015

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Table

 Table 1
 Excavation Closure Laboratory Analytical Results

Figures

Figure 1	Topographic Map
Figure 2	Aerial Site Map
Figure 3	Excavation Soil Analytical Map

Appendices

Appendix A Executed C-138 Soil Waste Acceptance Form

Appendix B Photograph Log

Appendix C Analytical Laboratory Reports

Rule

1.0 Introduction

The Enterprise Field Services, LLC (Enterprise) Navajo C #2M well tie pipeline release site is located in Unit Letter L, Section 31, Township 27 North, Range 8 West, in San Juan County, New Mexico. The release resulted from a corrosion hole in the pipeline discovered on July 10, 2015.

On July 24, 2015, Enterprise initiated repair activities at the location. The release consisted of an unknown quantity of natural gas and condensate. Site work included replacement of the segment of compromised pipeline with new pipe and excavation of hydrocarbon impacted soils.

A topographic map of the location reproduced from the United States Geological Society quadrangle map of the area is included as Figure 1 and an aerial site map is included as Figure 2.

Site Name	Navajo C #2M Well Tie Pipeline Release								
Site Location Description	Unit Letter L, Section 21, Township 27 North, Range 4 West (N36.53067, W107.72828)								
Land Jurisdiction	Navajo Nation Allotment								
Discovery Date	July 10, 2015								
Release Report Date	July 10, 2015	Reported by	Thomas Long						
Agency Notification	New Mexico Oil Conservation Division (NMOCD) and Navajo Nation Environmental Protection Agency (NNEF								
Pipeline Diameter	4-inches	Release Source	Corrosion Hole						
Substance(s) Released	Natural Gas and Condensate	Undetermined							
NMOCD Site Rank	30								
Distance to Surface Water	600 feet to east	Surface Water Name	Blanco Wash						
Estimated Depth to Groundwater	Less than 50 feet below grade surface (bgs)	Distance to Water Well or Spring	Greater than 1,000 feet						
Contractor	West State Energy Contractor, Inc. (West States)	Remedial Excavation Dimensions	15 feet by 15 feet by 4 to 6 feet in depth						
Volume of Soil Transported for Disposal/Remediation	Approximately 188 cubic yards (cumulative with 9/30/15 release)	Disposal Facility	Envirotech Landfarm (Permit #NM- 01-0011)						

2.0 Release Summary



3.0 NNEPA/NMOCD Site Ranking

The release site is located on the Navajo Nation under the jurisdiction of NNEPA. Based on NNEPA recommendations, remediation of soils associated with natural gas and condensate releases are assigned a site rank in accordance with the NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993).

Depth to groundwater at the site is estimated to be less than 50 feet below grade surface (bgs). Blanco Wash is located approximately 600 east of the release location. A review was completed of the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System and no water wells were identified within a 1,000 foot radius of the location.

Based on the ranking score of 30, action levels for remediated soils at the site are as follows: 10 milligrams per kilogram (mg/kg) benzene, 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 100 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

4.0 Field Activity

On July 24, 2015, Enterprise, West States, and Rule Engineering, LLC (Rule) personnel were onsite for the initiation of pipeline repair activities. West States provided heavy equipment operation and pipeline repair support. Rule personnel provided excavation guidance and collected confirmation samples from the resultant excavation with an impacted area measuring approximately 15 feet by 15 feet and 4 to 6 feet in depth. The repair included the replacement of approximately 31 feet of compromised pipeline with new pipe. A second release was discovered on this pipeline on September 30, 2015, about 30 feet south of the July 10, 2015 release location (details provided in separate report). Approximately 188 cubic yards of hydrocarbon impacted soils (368 cumulative cubic yards associated with both releases) were removed from the area during the repairs.

A depiction of the excavation with sample locations and summary of analytical results is included as Figure 3. A copy of the executed C-138 Solid Waste Acceptance Form is included in Appendix A and a photograph log is included in Appendix B.

5.0 Soil Sampling

Rule collected confirmation soil samples from the sidewalls and base of the excavation. Soil samples SC-1 through SC-5 were collected on July 24, 2015, and due to an elevated TPH concentration reported for SC-5, the excavation base was re-sampled as soil sample SC-6, collected on August 6, 2015. Each confirmation soil sample is a representative composite comprised of three to five equivalent aliquots of soil collected from the sampled area.



Soil samples collected for laboratory analysis were placed into laboratory supplied glassware, labeled, and maintained on ice until delivery to Hall Environmental Analysis Laboratory in Albuquerque, New Mexico. All samples were analyzed for BTEX per U.S. Environmental Protection Agency (USEPA) Method 8021B and/or TPH (GRO/DRO) per USEPA 8015D. Laboratory analytical results are summarized in Table 1, and the analytical laboratory report is included in Appendix C.

A portion of each sample was also field screened for volatile organic compounds (VOCs). Field screening for VOC vapors was conducted with a photoionization detector (PID). Before beginning field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field screening results are summarized in Table 1.

6.0 Laboratory Analytical Results

Laboratory analytical results for confirmation samples SC-1 through SC-5 reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the NNEPA/NMOCD action levels. Total TPH (GRO/DRO) concentrations for confirmation samples SC-1 through SC-4 ranged from below laboratory reporting limits to 10 mg/kg, which are below the NNEPA/NMOCD action level. However, laboratory analytical results for confirmation sample SC-5, collected from the base of the excavation, reported TPH (GRO/DRO) concentrations in excess of the NNEPA/NMOCD action level with 108 mg/kg. The base of the excavation was re-sampled as confirmation sample SC-6 on August 6, 2015, and laboratory analytical results reported TPH (GRO/DRO) as 4.9 mg/kg, which is below the NNEPA/NMOCD action level. Laboratory analytical results are summarized in Table 1.

7.0 Conclusions

The Enterprise Navajo C #2M well tie pipeline release site is located in Unit Letter L, Section 31, Township 27 North, Range 8 West, in San Juan County, New Mexico, on Navajo Nation Allotment land. The release resulted from a corrosion hole in the pipeline discovered on July 10, 2015. Subsequent to pipeline repair, approximately 188 cubic yards of hydrocarbon impacted soils excavated in conjunction with a secondary release discovered about 30 feet south of the original release were transported to the Envirotech Landfarm. Confirmation samples were collected from the sidewalls and base of the resultant excavation with an estimated impact area measuring approximately 15 feet by 15 feet and 4 to 6 feet in depth. Laboratory analytical results for the soil confirmation samples SC-1 through SC-5 reported benzene and total BTEX concentrations below NNEPA/NMOCD action levels. Total TPH (GRO/DRO) concentrations were reported below the NNEPA/NMOCD action levels for confirmation samples SC-1 through SC-4, but exceeded the action levels in sample SC-5. The base of the excavation was resampled as SC-6, and laboratory analytical results reported total TPH (GRO/DRO) concentrations below NNEPA/NMOCD action levels.

Based on laboratory analytical results of the final confirmation soil samples, no further work is recommended.



8.0 Closure and Limitations

This report has been prepared for the exclusive use of Enterprise and is subject to the terms, conditions, and limitations stated in Rule's report and Service Agreement with Enterprise. All work has been performed in accordance with generally accepted professional environmental consulting practices. No other warranty is expressed or implied.

Rule

Table

Rule

Table 1. Excavation Closure Laboratory Analytical ResultsNavajo C #2M (7/10/2015) ReleaseSan Juan County, New MexicoEnterprise Field Services, LLC

		1. 1. 1. 1	1999				Laborate	ory Analytic	al Results		
Sample ID	Date	Sample Type	Location	Sample Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
NNEPA/NMOCD Action Levels*				10				50	1(00	
SC-1	7/24/15	Composite	North Wall	1 to 6	< 0.049	<0.049	< 0.049	<0.097	ND	<4.9	10
SC-2	7/24/15	Composite	South Wall	1 to 6	<0.048	<0.048	< 0.048	<0.095	ND	<4.8	<9.9
SC-3	7/24/15	Composite	East Wall	1 to 6	< 0.049	< 0.049	< 0.049	<0.099	ND	<4.9	10
SC-4	7/24/15	Composite	West Wall	1 to 6	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<9.7
SC-5**	7/24/15	Composite	Base	6	<0.050	< 0.050	< 0.050	<0.099	ND	7.8	100
SC-6	8/6/15	Composite	Base	6	NA	NA	NA	NA	ND	4.9	<9.9

Notes: VOCs - volitile organic compounds

PID - photo-ionization detector

mg/kg - milligrams/kilograms

TPH - total petroleum hydrocarbons

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

DRO - diesel range organics

ND - not detected above the laboratory reporting limits

NA - not analyzed

*NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (1993) for site rank of 30

**Re-sampled as SC-6



Figures

Rule



Document Name: 151019 Enterprise Navajo C#2M JULY Release Topo Map

Sources: Esri, HERE, De Lorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Earl Japan, METT, Esri China (Hong Kong), awissiopo, Mapmylndia, @ OpenStreetMap contributore, and the GIS User Community



Document Name: 151019 Enterprise Navajo C#2M JULY Release Aerial Site Map

Aerial Image Credit: Google Earth; Accessed Oct. 21, 2015



Document Name: 151019 Enterprise Navajo C#2M JULY Excavation Soil Analytical Map

Aerial Image Credit: Google Earth; Accessed Oct. 21, 2015

Appendix A

Executed C-138 Solid Waste Acceptance Form



District 1 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources 97057-0748 Form C-138 Revised August 1, 2011

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

REQUEST FOF	R APPROVAL TO ACCEPT SOLID WASTE
1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly	Avenue, Farmington, NM 87401
2. Originating Site: Navajo C#2M Lateral Pipeline	Oct. 2015
3. Location of Material (Street Address, Cit Section 31 Township 27 North Range 8 V	ty, State or ULSTR): Vest; 36 .53083, -107.72794
 Source and Description of Waste: Hydro- Estimated Volume 50 yd bbls Kr 	-excavated soil impacted with hydrocarbons associated with a pipeline release (yd^3) bbls
5. GENERATOR (I, <u>Thomas Long</u> Joy PRINT & SIGN NAME certify that according to the Resource Conserval regulatory determination, the above described w	CERTIFICATION STATEMENT OF WASTE STATUS authorized agent for <u>Enterprise Field Services, LLC</u> do hereby <u>COMPANY NAME</u> tion and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 vaste is: (Check the appropriate classification)
RCRA Exempt: Oil field wastes generative exempt waste. Operator Use Only: W	ated from oil and gas exploration and production operations and are not mixed with non- Vaste Acceptance Frequency Monthly Weekly Per Load
RCRA Non-Exempt: Oil field waste w characteristics established in RCRA regulat subpart D, as amended. The following docu the appropriate items)	which is non-hazardous that does not exceed the minimum standards for waste hazardous by tions, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, umentation is attached to demonstrate the above-described waste is non-hazardous. (Check
□ MSDS Information □ RCRA Hazardous	Waste Analysis Drocess Knowledge Other (Provide description in Box 4)
GENERATOR 19.15.36.15 WAST	TE TESTING CERTIFICATION STATEMENT FOR LANDFARMS
I, <u>There Lag</u> 10-14-15, representative for <u>En</u> Generator Signature	terprise Field Services, LLC authorize Envirotech, Inc. to
complete the required testing/sign the Generator	Waste Testing Certification.
I,, representative samples of the oil field waste hav have been found to conform to the specific requ of the representative samples are attached to der 19 15 36 NMAC	tive for <u>Envirofech</u> Envirotech, Inc. do hereby certify that the been subjected to the paint filter test and tested for chloride content and that the samples irements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results monstrate the above-described waste conform to the requirements of Section 15 of
6. Transporter: Halo Cotant, Enviro	tech, OtE Trucking, BET, 3E Emergy
OCD Permitted Surface Waste Management F Name and Facility Permit #: Envirotech, Inc. S Address of Facility: Hilltop, NM	facility oil Remediation Facility * Permit #: NM 01-0011
Method of Treatment and/or Disposal:	Treating Plant Z Landfarm Landfill Other
Waste Acceptance Status:	PROVED DENIED (Must Be Maintained As Permanent Record)
PRINT NAME: Eric Liese	TITLE: Land form Administrator DATE: 10/15/15
SIGNATURE:	TELEPHONE NO.: 505-632-0615

Appendix B

Photograph Log



Photograph Log Navajo C #2M Well Tie Pipeline (7/10/15) Release Enterprise Field Services, LLC

Photograph #1	
Client: Enterprise	
Site Name:	
Navajo C #2M Well Tie Pipeline (7/10/15) Release	
Date Photo Taken: July 24, 2015	
Release Location: N36.53067, W107.72828	
L-21-27N-4W	
San Juan County, NM	
Photo Taken by: Debbie Watson	Description: Facing north, general view of initial excavation activities.



Rule

Photograph Log Navajo C #2M Well Tie Pipeline (7/10/15) Release Enterprise Field Services, LLC

Photograph #3	
Client: Enterprise	
Site Name:	
Navajo C #2M Well	
Tie Pipeline (7/10/15)	
Treicase	
Date Photo Taken:	CONTRACTOR OF BURNING AND A STORE
October 1, 2015	
Release Location:	
W107.72828	
L-21-27N-4W	
San Juan County, NM	
Photo Taken by: Heather Woods	Description: Facing south, general view of the final excavation.

Rule

Appendix C

Analytical Laboratory Reports



HALL ENVIRONMENTAL ANALYSIS LABORATORY

July 31, 2015

Deborah Watson

Rule Engineering LLC 501 Airport Dr., Ste 205 Farmington, NM 87401 TEL: (505) 860-2712 FAX

RE: Navajo C #2M Lateral

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

OrderNo.: 1507B85

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/25/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1507B85

Date Reported: 7/31/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC Client Sample ID: SC-1 Project: Navajo C #2M Lateral Collection Date: 7/24/2015 12:00:00 PM Lab ID: 1507B85-001 Matrix: SOIL Received Date: 7/25/2015 9:10:00 AM Result **RL** Oual Units Analyses **DF** Date Analyzed Batch

			enne	~ .	2 nov ranni j 200	Dutten
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	s			Analyst	TOM
Diesel Range Organics (DRO)	10	9.8	mg/Kg	1	7/28/2015 3:41:06 PM	20457
Surr: DNOP	131	57.9-140	%REC	1	7/28/2015 3:41:06 PM	20457
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/28/2015 12:25:56 PM	20460
Surr: BFB	86.2	75.4-113	%REC	1	7/28/2015 12:25:56 PM	20460
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.049	mg/Kg	1	7/28/2015 12:25:56 PM	20460
Toluene	ND	0.049	mg/Kg	1	7/28/2015 12:25:56 PM	20460
Ethylbenzene	ND	0.049	mg/Kg	1	7/28/2015 12:25:56 PM	20460
Xylenes, Total	ND	0.097	mg/Kg	1	7/28/2015 12:25:56 PM	20460
Surr: 4-Bromofluorobenzene	87.7	80-120	%REC	1	7/28/2015 12:25:56 PM	20460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte deter
	D	Sample Diluted Due to Matrix	E	Value above
	н	Holding times for preparation or analysis exceeded	J	Analyte deter
	ND	Not Detected at the Reporting Limit	Р	Sample pH N
	R	RPD outside accepted recovery limits	RL	Reporting De
	S	% Recovery outside of range due to dilution or matrix		

cted in the associated Method Blank

quantitation range

- ected below quantitation limits Page 1 of 8
- Not In Range
- etection Limit

Analytical Report

Lab Order 1507B85

Date Reported: 7/31/2015

Hall Environmental Analysis Laboratory, Inc.

1.0%	The second second second second second						
Analyses		Result	RL	Qual	Units	DF Date Analyzed	Batch
Lab ID:	1507B85-002	Matrix:	SOIL		Received	Date: 7/25/2015 9:10:00 AM	1.00
Project:	Navajo C #2M Lateral				Collection	Date: 7/24/2015 11:55:00 AM	
CLIENT:	Rule Engineering LLC			C	lient Samp	ble ID: SC-2	

EPA METHOD 8015M/D: DIESEL RANGE C	RGANIC	S			Analyst	том
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	7/28/2015 4:08:24 PM	20457
Surr: DNOP	115	57.9-140	%REC	1	7/28/2015 4:08:24 PM	20457
EPA METHOD 8015D: GASOLINE RANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	7/28/2015 1:52:12 PM	20460
Surr: BFB	86.5	75.4-113	%REC	1	7/28/2015 1:52:12 PM	20460
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.048	mg/Kg	1	7/28/2015 1:52:12 PM	20460
Toluene	ND	0.048	mg/Kg	1	7/28/2015 1:52:12 PM	20460
Ethylbenzene	ND	0.048	mg/Kg	1	7/28/2015 1:52:12 PM	20460
Xylenes, Total	ND	0.095	mg/Kg	1	7/28/2015 1:52:12 PM	20460
Surr: 4-Bromofluorobenzene	89.1	80-120	%REC	1	7/28/2015 1:52:12 PM	20460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.
	D	Sample Diluted Due to Matrix
	Н	Holding times for preparation or analysis exceeded
	ND	Not Detected at the Reporting Limit
	n	DDD + 11 + 1

- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 8
- P Sample pH Not In Range
- RL Reporting Detection Limit

Analytical Report

Lab Order 1507B85

Date Reported: 7/31/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT: Rule Engineering LLC
 Client Sample ID: SC-3

 Project: Navajo C #2M Lateral
 Collection Date: 7/22/2015 11:52:00 AM

 Lab ID: 1507B85-003
 Matrix: SOIL
 Received Date: 7/25/2015 9:10:00 AM

 Analyses
 Result
 RL Qual
 Units
 DF Date Analyzed
 Batch

EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	s			Analyst:	том
Diesel Range Organics (DRO)	10	9.7	mg/Kg	1	7/28/2015 4:35:41 PM	20457
Surr: DNOP	126	57.9-140	%REC	1	7/28/2015 4:35:41 PM	20457
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	7/28/2015 3:18:23 PM	20460
Surr: BFB	86.5	75.4-113	%REC	1	7/28/2015 3:18:23 PM	20460
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.049	mg/Kg	1	7/28/2015 3:18:23 PM	20460
Toluene	ND	0.049	mg/Kg	1	7/28/2015 3:18:23 PM	20460
Ethylbenzene	ND	0.049	mg/Kg	1	7/28/2015 3:18:23 PM	20460
Xylenes, Total	ND	0.099	mg/Kg	1	7/28/2015 3:18:23 PM	20460
Surr: 4-Bromofluorobenzene	89.6	80-120	%REC	1	7/28/2015 3:18:23 PM	20460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Ana
	D	Sample Diluted Due to Matrix	E	Valu
	Н	Holding times for preparation or analysis exceeded	J	Ana
	ND	Not Detected at the Reporting Limit	Р	Sam
	R	RPD outside accepted recovery limits	RL	Rep
	S	% Recovery outside of range due to dilution or matrix		

Analyte detected in the associated Method Blank

E Value above quantitation range

- J Analyte detected below quantitation limits Page 3 of 8
- P Sample pH Not In Range
- L Reporting Detection Limit

Analytical Report

Lab Order 1507B85

Date Reported: 7/31/2015

Hall Environmental Analysis Laboratory, Inc.

						Analyst	TOM
Analyses	in a second	Result	RL	Qual	Units	DF Date Analyzed	Batch
Lab ID:	1507B85-004	Matrix:	SOIL		Received	Date: 7/25/2015 9:10:00 AM	is de
Project:	Navajo C #2M Lateral				Collection	Date: 7/24/2015 11:50:00 AM	
CLIENT:	Rule Engineering LLC			C	lient Samp	le ID: SC-4	

EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	S				Analyst	TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/28/2015 5:02:57 PM	20457
Surr: DNOP	143	57.9-140	S	%REC	1	7/28/2015 5:02:57 PM	20457
EPA METHOD 8015D: GASOLINE RANGE						Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/28/2015 3:47:14 PM	20460
Surr: BFB	86.5	75.4-113		%REC	1	7/28/2015 3:47:14 PM	20460
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.048		mg/Kg	1	7/28/2015 3:47:14 PM	20460
Toluene	ND	0.048		mg/Kg	1	7/28/2015 3:47:14 PM	20460
Ethylbenzene	ND	0.048		mg/Kg	1	7/28/2015 3:47:14 PM	20460
Xylenes, Total	ND	0.097		mg/Kg	1	7/28/2015 3:47:14 PM	20460
Surr: 4-Bromofluorobenzene	86.6	80-120		%REC	1	7/28/2015 3:47:14 PM	20460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank	
	D	Sample Diluted Due to Matrix	E	Value above quantitation range		
	Н	Holding times for preparation or analysis exceeded	J	J Analyte detected below quantitation limits Page		
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	Fage 4 01 o	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit		
	S	% Recovery outside of range due to dilution or matrix				

Analytical Report Lab Order 1507B85

Date Reported: 7/31/2015

Hall Environmental Analysis Laboratory, Inc.

 CLIENT: Rule Engineering LLC
 Client Sample ID: SC-5

 Project: Navajo C #2M Lateral
 Collection Date: 7/24/2015 11:45:00 AM

 Lab ID: 1507B85-005
 Matrix: SOIL
 Received Date: 7/25/2015 9:10:00 AM

 Analyses
 Result
 RL Qual Units
 DF Date Analyzed
 Batch

			_				
EPA METHOD 8015M/D: DIESEL RANGE O	RGANIC	S				Analyst	TOM
Diesel Range Organics (DRO)	100	9.6		mg/Kg	1	7/28/2015 5:30:21 PM	20457
Surr: DNOP	143	57.9-140	S	%REC	1	7/28/2015 5:30:21 PM	20457
EPA METHOD 8015D: GASOLINE RANGE						Analyst	NSB
Gasoline Range Organics (GRO)	7.8	5.0		mg/Kg	1	7/28/2015 4:16:04 PM	20460
Surr: BFB	130	75.4-113	S	%REC	1	7/28/2015 4:16:04 PM	20460
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.050		mg/Kg	1	7/28/2015 4:16:04 PM	20460
Toluene	ND	0.050		mg/Kg	1	7/28/2015 4:16:04 PM	20460
Ethylbenzene	ND	0.050		mg/Kg	1	7/28/2015 4:16:04 PM	20460
Xylenes, Total	ND	0.099		mg/Kg	1	7/28/2015 4:16:04 PM	20460
Surr: 4-Bromofluorobenzene	95.6	80-120		%REC	1	7/28/2015 4:16:04 PM	20460

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 5 of 8
	ND Not Detected at the Reporting Limit		Р	Sample pH Not In Range	1 age 5 01 0
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

QC SUMMARY REPORT

WO#: 1507B85 31-Jul-15

Hall Environmental Analysis Laboratory, Inc.

Client: Rule F Project: Navaj	Engineering LLC o C #2M Lateral						-		12
Sample ID MB-20457 Client ID: PBS	SampType: M Batch ID: 20	BLK 1457	Tes F	tCode: El RunNo: 2	PA Method 7807	8015M/D: Di	esel Rang	e Organics	- 4-
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
iesel Range Organics (DRO) Surr: DNOP	ND 10 13	10.00		127	57.9	140	in the	and the	
Sample ID LCS-20457 Client ID: LCSS	SampType: LC Batch ID: 20	CS 457	Tes F	tCode: El RunNo: 2	PA Method 7807	8015M/D: Di	esel Rang	e Organics	
Prep Date: 7/27/2015	Analysis Date: 7	/28/2015	5	SeqNo: 8	36145	Units: mg/h	(g		
Analyte	Result PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO) Surr: DNOP	59 10 6.6	50.00 5.000	0	118 132	57.4 57.9	139 140		1	

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 6 of 8

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Rule Eng Navajo C	ineering L #2M Late	LC eral			ė						
Sample ID	MB-20460	SampT	ype: MI	BLK	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e		
Client ID:	PBS	Batch	n ID: 20	460	F	RunNo: 2	7801					
Prep Date:	7/27/2015	Analysis D	Date: 7	/28/2015	\$	SeqNo: 8	36259	Units: mg/k	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	ND	5.0				2.1	and a second				
Surr: BFB	1. A. M. A.	860	100	1000		86.5	75.4	113	1.1			
Sample ID	LCS-20460	SampT	ype: LC	s	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	e	1.2	
Client ID:	LCSS	Batc	h ID: 20	460	F	RunNo: 2	7801					
Prep Date:	7/27/2015	Analysis D	Date: 7	/28/2015		SeqNo: 8	36260	Units: mg/k	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	25	5.0	25.00	0	99.2	79.6	122	1000			
Surr: BFB		940		1000		94.4	75.4	113	a de ser			
Sample ID	1507B85-001AMS	Samp	ype: M	S	Tes	tCode: E	PA Method	8015D: Gaso	line Rang	е		
Client ID:	SC-1	Batch	h ID: 20	460	F	RunNo: 2	7801					
Prep Date:	7/27/2015	Analysis D	Date: 7	/28/2015	\$	SeqNo: 8	36262	Units: mg/k	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	27	4.8	23.99	0	112	62.5	151				
Surr: BFB		910		959.7		95.2	75.4	113				
Sample ID	1507B85-001AMS	D Samp1	ype: M	SD	Tes	tCode: E	PA Method	8015D: Gase	line Rang	е		
Client ID:	SC-1	Batc	h ID: 20	460	F	RunNo: 2	7801					
Prep Date:	7/27/2015	Analysis D	Date: 7	/28/2015	5	SeqNo: 8	36263	Units: mg/k	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Rang	e Organics (GRO)	26	4.8	23.81	0	110	62.5	151	2.67	22.1		
Surr: BFB		900		952.4		94.2	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
- 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 7 of 8

1507B85 31-Jul-15

WO#:

QC SUMMARY REPORT

WO#: 1507B85

31-Jul-15

Hall	Environmental	Analysis	Laboratory,	Inc.

Sample ID	MB-20460	Samp	Туре: МЕ	BLK	Tes	TestCode: EPA Method 8021B: Volatiles					
Client ID:	PBS	Batc	h ID: 20	460	F	RunNo: 2	7801				
Prep Date:	7/27/2015	Analysis [Date: 7/	28/2015	5	SeqNo: 8	36278	Units: mg/K	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ALC PROVIDENCE	ND	0.050							2.15	1. 24 1.
Toluene		ND	0.050								
Ethylbenzene		ND	0.050								
Xylenes, Total		ND	0.10								
Surr: 4-Bron	ofluorobenzene	0.90		1.000		90.2	80	120			14 percent
Sample ID	LCS-20460	Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles		
Client ID:	LCSS	Batc	h ID: 20	460	F	RunNo: 2	7801				
Prep Date:	7/27/2015	Analysis I	Date: 7/	28/2015	5	SeqNo: 8	36279	Units: mg/k	(g		
Analyte	616-2-5.	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1. 1. 1. 1. 1.	1.0	0.050	1.000	0	104	76.6	128		at the	10 L
Toluene		1.0	0.050	1.000	0	101	75	124			
Ethylbenzene		1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total		3.0	0.10	3.000	0	101	78.8	124			
Surr: 4-Bron	ofluorobenzene	0.94		1.000		94.1	80	120		of the	97.3
Sample ID	1507B85-002AMS	Samp	Туре: М	6	Tes	tCode: El	PA Method	8021B: Vola	tiles	13.57	
Client ID:	SC-2	Batc	h ID: 20	460	RunNo: 27801						
Prep Date:	7/27/2015	Analysis [Date: 7/	28/2015	S	eqNo: 8	36282	Units: mg/k	(g		
Analyte	1.1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	and the second	1.1	0.048	0.9681	0	116	69.6	136		1 35	1.2.1
Toluene		1.1	0.048	0.9681	0.01051	111	76.2	134			
Ethylbenzene		1.1	0.048	0.9681	0	116	75.8	137			
Xylenes, Total		3.3	0.097	2.904	0.02618	114	78.9	133			
Surr: 4-Bron	ofluorobenzene	0.93		0.9681	8	96.2	80	120	. f.		A.A
Sample ID	1507B85-002AMS	Samp	Type: MS	SD	Tes	tCode: El	PA Method	8021B: Volat	tiles	A she	3
Client ID:	SC-2	Batc	h ID: 20	460	F	unNo: 2	7801				
Prep Date:	7/27/2015	Analysis [Date: 7/	28/2015	S	eqNo: 8	36283	Units: mg/K	(g		
Analyte	152 - 1-	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
and the second se		1.1	0.048	0.9662	0	119	69.6	136	2.06	20	-
Benzene		1 1	0.048	0.9662	0.01051	116	76.2	134	3.73	20	
Benzene Foluene		1.1	0.010								
Benzene Toluene Ethylbenzene		1.1	0.048	0.9662	0	117	75.8	137	0.565	20	
Benzene Toluene Ethylbenzene Xylenes, Total		1.1 3.4	0.048	0.9662 2.899	0 0.02618	117 115	75.8 78.9	137 133	0.565 0.820	20 20	

Qualifiers:

D

H

ND

R

* Value exceeds Maximum Contaminant Level.

Not Detected at the Reporting Limit

Sample Diluted Due to Matrix

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

Holding times for preparation or analysis exceeded

RL Reporting Detection Limit Page 8 of 8

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hail Environmental Albu FEL: 505-345-3975 Website: www.hai	Anatysi 4901 querqu FAX: 5 llenviro	s Laborotory Hawkins NE e. NM 87109 05-345-4107 mmental.com	Sa	Im	ple Log-In Check List
Client Name: RULE ENGINEERING LL	Work Order Number:	1507	B85		-	RcptNo: 1
Received by/date:	7/25/15					
Logged By: Lindsay Mangin	7/25/2015 9:10:00 AM		0	+ ythe	po	
Completed By: Lindsay Mangin	7/27/2015 7:34:36 AM		0	+ syttle	P	
Reviewed By:	07/27/15		V			
Chain of Custody	11 10					
1. Custody seals intact on sample bottles?		Yes		No		Not Present
2. Is Chain of Custody complete?		Yes	V	No 🗌]	Not Present
3. How was the sample delivered?		Cour	ier			
.og In						
4. Was an attempt made to cool the samples?		Yes	•	No		NA 🗌
5. Were all samples received at a temperature of	of >0° C to 6.0°C	Yes	V	No]	NA
3. Sample(s) in proper container(s)?		Yes	¥	No [
7. Sufficient sample volume for indicated test(s)	?	Yes		No 🗌		
3. Are samples (except VOA and ONG) properly	preserved?	Yes	V	No 🗌]	
. Was preservative added to bottles?		Yes		No 🗹	8	NA 🗌
0.VOA vials have zero headspace?		Yes		No 🗌]	No VOA Vials
1. Were any sample containers received broker	17	Yes		No V		# of preserved bottles checked
2. Does paperwork match bottle labels?		Yes	\checkmark	No	1	for pH: (<2 or >12 unless noted
3 Are matrices correctly identified on Chain of C	Custody?	Yes	V	No]	Adjusted?
4. Is it clear what analyses were requested?		Yes	~	No 🗌]	
5. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes	V	No 🗌		Checked by:
and at the allies (18 and the shift)						
pecial Handling (IT applicable)					1	NA 57
6, was client notified of all discrepancies with th	iis order7	Yes		NOL	-	NA MI
Person Notified:	Date	_		-		
By Whom	Via:	eMa	II _ Phon	e _ Fa	ax	In Person
Client Instructions:			-	_		
7. Additional remarks: 8. <u>Cooler Information</u>		. Al				
Cooler No Temp °C Condition Sea	al Intact Seal No S	Seal De	te Sig	ned By	_	
1 2.7 Good Yes					1	
Page 1 of 1			-			

C	hain	-of-Cu	stody Record	Turn-Around	Time:	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	1						E		TE	0	BI BA		TAI	
Client: Rule Engineering		Standard Rush Project Name:			HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com								Y							
Mailing	Address	501	fir port Drive	Navajo	C=2M	Lateral	1	490)1 Ha	awki	ns N	IE -	Alb	ouque	erqu	e, NI	M 871	109		
Fav	ming #: 50 5	bon 5 860	NM 87401 2712	Project #:			Tel. 505-345-3975 Fax 505-345-4107 Analysis Request													
email o	r Fax#:			Project Mana	iger:	11 11 11	1)	nly)	The second				1	04)						
QA/QC	Package: dard		Level 4 (Full Validation)	D Wat	SON	97 N	8 (802	(Gas o	5 / Q			(SIMS)		, PO4, S	2 PCB's					
	itation AP	□ Othe	r	Sampler: D On Ice:	Watsov P Yes	No No		+ TPH	ROD	418.1)	504.1)	r 8270	s	IO3,NO2	s / 808		(VC			or N)
Date	Time	Matrix	Sample Request ID	Sample Tem Container Type and #	Preservative Type	7 HEAL NO. 15071585	BTEX + New	BTEX + MTBE	TPH 8015B	TPH (Method 4	EDB (Method :	PAH's (8310 o	RCRA 8 Metal	Anions (F,CI,N	8081 Pesticide	8260B (VOA)	8270 (Semi-VC	-		Air Bubbles (Y
-24-15	1200	Soil	SC-1	1-407	Cold	-001	X		X											18
1	1155	1	86-2	I B B	1	-02	X		X											
	i152		SC-3	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		-003	V		X	-										
	1150		SC-4		11 1000	-004	X		X											
1	1145	1	SC-5		1	-005	X		X	-	_									
	E L	2 53 64										2								
Date:	Time:	Relinquishe	ed by:	Received by:		Date Time	Ren	narks	:											
124/15 Date: 7/24/15	1547 Time: 1737		halten	Received by:	likele A	7/24/15 1547 Date Time 45/15 1910	Al	ill to this ark c	Tou	nter nL	n Nz	g 219	14-	f A	2BZ vea	12	3000	2		

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



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

August 13, 2015

Heather Woods Rule Engineering LLC 501 Airport Dr., Ste 205 Farmington, NM 87401 TEL: (505) 325-1055 FAX

RE: Enterprise Navajo #2M

OrderNo.: 1508324

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/7/2015 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 <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytic	al Re	port
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Lab Order 1508324

Date Reported: 8/13/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Project: Lab ID:	Rule Engineering LLC Enterprise Navajo #2M 1508324-001	Matrix:	SOIL	Client Sample Collection I Received I	e ID: SC Date: 8/6 Date: 8/7	2-6 5/2015 7:00:00 PM 7/2015 8:00:00 AM	
Analyses		Result	RL (Qual Units	DF	Date Analyzed	Batch
EPA MET	HOD 8015M/D: DIESEL RAI	NGE ORGANIC	s			Analyst	: KJH
Diesel R	ange Organics (DRO)	ND	9.9	mg/Kg	1	8/10/2015 4:52:51 PM	20683
Surr: [DNOP	77.5	57.9-140	%REC	1	8/10/2015 4:52:51 PM	20683
EPA MET	HOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline	Range Organics (GRO)	4.9	4.7	mg/Kg	1	8/11/2015 9:45:31 AM	20686
Surr F	BER	102	75 4-113	%REC	1	8/11/2015 9:45:31 AM	20686

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

0					State of the second
Qualifiers:		Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 1 of 3
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	rage 1015
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix			

QC SUMMARY REPORT

WO#: 1508324

13-Aug-15

Hall Environmental Analysis Laboratory, Inc.

Client: Ru	le Engineering LLC
Project: En	terprise Navajo #2M
Sample ID MB-20683 Client ID: PBS Prep Date: 8/10/2015	SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Batch ID: 20683 RunNo: 28064 Analysis Date: 8/10/2015 SeqNo: 845328 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	9.2 10.00 91.8 57.9 140
Sample ID LCS-20683 Client ID: LCSS	SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Batch ID: 20683 RunNo: 28064
Prep Date: 8/10/2015	Analysis Date: 8/10/2015 SeqNo: 845329 Units: mg/Kg
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Diesel Range Organics (DRO) 62 10 50.00 0 124 57.4 139
Surr: DNOP	5.7 5.000 115 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
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 2 of 3

QC SUMMARY REPORT

WO#: 1508324

13-Aug-15

Hall	Environmental	Analysis	Laboratory,	Inc.

Client: Rule Er Project: Enterpr	ngineering LLC ise Navajo #2M						
Sample ID MB-20686 Client ID: PBS	SampType: MBLK Batch ID: 20686	TestCode: EPA Method RunNo: 28106	8015D: Gasoline Range				
Prep Date: 8/10/2015	Analysis Date: 8/11/2015	SeqNo: 846886	Units: mg/Kg				
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimi	t Qual			
Gasoline Range Organics (GRO) Surr: BFB	ND 5.0 900 1000	89.6 75.4	113				
Sample ID LCS-20686	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range					
Client ID: LCSS	Batch ID: 20686	RunNo: 28106					
Prep Date: 8/10/2015	Analysis Date: 8/11/2015	SeqNo: 846887	Units: mg/Kg				
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimi	t Qual			
Gasoline Range Organics (GRO)	24 5.0 25.00	0 97.8 79.6	122				
Surr: BFB	1000 1000	99.7 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
- P Sample pH Not In Range
- RL Reporting Detection Limit

Page 3 of 3
ENVIRONMENTAL ANALYSIS LABORATORY	Ai TEL: 505-345-39 Website: www.	4901 Hawkins huquerque, NM 87. 75 FAX: 505-345-4 hallenvironmental.c	NE 109 Samp 107 com	Sample Log-In Check List								
Client Name: RULE ENGINEERING LL	Work Order Number	er: 1508324		ReptNo: 1								
Received by/date: * AC	08/07/15											
Logged By: Ashley Gallegos	8/7/2015 8:00:00 AM		A									
Completed By: Ashley Gallegos	8/7/2015 4:54:15 PM		AF									
Reviewed By:	DR: Olin		0									
Chain of Custody	Ust Ji											
1. Custody seals intact on sample bottles?		Yes	No 🗌	Not Present								
2. Is Chain of Custody complete?		Yes 🗹	No 🗌	Not Present								
3. How was the sample delivered?		Courier										
Log In												
4. Was an attempt made to cool the samples	?	Yes 🗹	No 🗌	NA								
5. Were all samples received at a temperatur	e of >0° C to 6.0°C	Yes M	No 🗌	NA 🗌								
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗌									
7. Sufficient sample volume for indicated test	(s)?	Yes 🗹	No 🗌									
8. Are samples (except VOA and ONG) propr	arly preserved?	Yes 🗹	No 🗔									
9. Was preservative added to bottles?		Yes 🗌	No 🖌	NA 🗌								
10. VOA vials have zero headspace?		Yes	No	No VOA Vials								
11. Were any sample containers received brok	xen?	Yes	No 🗹	# of preserved bottles checked								
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	for pH: {<2 or >	12 unless noted							
3. Are matrices correctly identified on Chain of	of Custody?	Yes 🗹	No 🗌	Adjusted?								
4. Is it clear what analyses were requested?		Yes M	No 🗌	Checked but								
 Were all holding times able to be met? (If no, notify customer for authorization.) 		Yes 🗹	No	Checked by:								
pecial Handling (if applicable)												
16. Was client notified of all discrepancies with	this order?	Yes	No 🗌	NA 🗹								
Person Notified	Date											
By Whom:	Via:	eMail F	hone 🗌 Fax	In Person								
Regarding:												
Client Instructions:												
17. Additional remarks:												
18. Cooler Information	Seal Intact Seal No	Seal Date	Signed By									
overen no i temp o contration i	obui no	Jour Party										

ent:	Address	Engi Farm	ington, NM B740	Standard Project Name Enter project #:	ya Rush a: 14 Navaj	24 hr Per H.W oC #2M.AM		49 15 _{Te}	01 H	H A v awkir 5-34	AL NA www. ns NI 5-391	halle E - A 75	EN SI nviror Albuqu Fax alysis	VII S L Jerqu 505 Rec	tal.co a, N -345	NM BOF 0m M 8710 -4107	EN 2 A T	OR	Y
Standard Level 4 (Full Validation) creditation NELAP CDD (Type)			Project Manager: Heather Woods Sampler: Heather Woods On Ice: & Yes INO			(8021)	E + TPH (Gas only)	(GRO / DRO / (BD)			(SW	O4,SO4)	PCB's				0		
						3E + TMB's			418.1)	d 504.1)	or 8270 SI	NO3,NO2,F	des / 8082		VOA)			(Y or N)	
ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL NO.	STEX + MTE	3TEX + MTE	FPH 8015B	TPH (Metho	EDB (Metho	AH's (8310	Anions (F,CI	3081 Pestici	3260B (VOA	3270 (Semi-			Air Bubbles
0/14	1900	Soil	Base SC-LO	Non c	+4 02	-001		40	×							~			
e: /15 te:	Time: 2100 Time:	Relinquish	ed by. the M. Wood	Received by: Mis Received by:	t Waele	Date Time 8/6/15 2/00 Date Time	Ren	nark	s:										

If nocessary, samples submitted to Hall Environmental may be subcontracted to other accredited shoratories. This serves as notice of this possibility. Any sub-contracted data will be cearly notated on the analytical report.