

AE Order Number Banner

Report Description

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App Number: pJK1424833743

3RP - 1012
ENTERPRISE PRODUCTS OPERATING, LLC

3R-1012

Release Report/ General Correspondence

Enterprise RA

Date: Jul-Sep 2016

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

Date:

Attach Additional Sheets If Necessary

State of New Mexico Energy Minerals and Natural Resources

Form C-141 Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19:15.29 NMAC.

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

Release Notification and Corrective Action OPERATOR Initial Report Name of Company: Enterprise Field Services LLC Contact: Thomas Long Address: 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name: Reams LS#4 Facility Type: Natural Gas Gathering Pipeline Mineral Owner: BLM Surface Owner: BLM Serial Number: NM 0020367 LOCATION OF RELEASE Unit Letter Section Township Range Feet from North/Couth Feet from East West County Rio Arriba 23 26N 6W the 1887 Line the 1200 Line OIL CONS. DIV DIST. 3 Latitude 36.4702 Longitude -107.4422 111 25 2016 NATURE OF RELEASE Type of Release: Natural Gas and Condensate Volume of Release: 1.56 MCF Volume Recovered: None Gas:10-15 Barrels of Condensate Source of Release: Internal Corrosion Date and Hour of Occurrence: Date and Hour of Discovery: 3/25/2016 @ 10:19 a.m. 3/25/2016 @ 10:46 a.m. Was Immediate Notice Given? If YES, To Whom? Cory Smith - NMOCD: Katherina Diemer - BLM ☐ Yes ☐ No ☒ Not Required By Whom? Thomas Long Date and Time: April 19, 2016 @ 6:52 a.m. Was a Watercourse Reached? If YES, Volume ☐ Yes ⊠ No If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action: On March 25, 2016, Enterprise technicians discovered a gas leak on the Reams LS#4 pipeline. The pipeline was isolated, blown down, locked out and tagged out. Repairs and remediation were completed on May 11, 2016. Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 43 feet long by 26 feet wide ranging from 10 to 13 feet deep. Approximately 522 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico Oil Conservation approved land farm facility. A third party corrective action report is included with this "Final" C-141. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. OIL CONSERVATION DI Signature: Printed Name: Jon E. Fields Approved by Environmental Specialist: Title: Director, Environmental Approval Date: **Expiration Date:** E-mail Address:jefields@eprod.com Conditions of Approval: Attached

NC31611654834

Phone: (713)381-6684

35

Reams LS #4 Well Tie Pipeline Release Report

UL L, S23, Township 26N, Range 6W Rio Arriba County, New Mexico

July 7, 2016

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 Reams LS #4 Well Tie Pipeline Release 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. Woods
Heather M. Woods, P.G., Area Manager

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

July 7, 2016

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1.0 Introduction

The Enterprise Field Services, LLC (Enterprise) Reams LS #4 well tie pipeline release site is located in Unit Letter L, Section 23, Township 26 North, Range 6 West, in Rio Arriba County, New Mexico. The release resulted from corrosion holes in the pipeline and was discovered on March 25, 2016.

On March 31, 2016, Enterprise initiated repair activities at the location. The release consisted of an unknown quantity of natural gas and pipeline liquids. Site work included the installation of a new riser immediately to the south of the existing dogleg, removal of the remaining pipeline south to the end of the line at the P&A well site, 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.

2.0 Release Summary

Site Name	Reams LS #4 Well Tie Pipeline Release							
Site Location Description		Unit Letter L, Section 23, Township 26 North, Range 6 West (N36.47020, W107.44220)						
Land Jurisdiction	Bureau of Land Man	agement (BLM)						
Discovery Date	March 25, 2016							
Release Report Date	April 1, 2016	Reported by	Thomas Long					
Agency Notification	New Mexico Oil Con	servation Division (N	MOCD) and BLM					
Release Source	Corrosion holes in th	e pipeline						
Substance(s) Released	Natural Gas and Pipe	eline Liquids	N s					
NMOCD Site Rank	10	82	200					
Distance to Nearest Surface Water	Unnamed ephemera southwest which dra	l wash approximately ins to Albert Canyon	5330 feet					
Estimated Depth to Groundwater	Greater than 100 feet below grade surface (bgs)	Distance to Nearest Water Well or Spring	Greater than 1,000 feet					
Contractor	West State Energy Contractors (West States)	Repair Excavation Dimensions	43 feet by 26 feet by 10 to 13 feet in depth					
Volume of Soil Transported to for Disposal/Remediation	522 cubic yards of soil and 45 barrels of hydro-excavation cuttings	Disposal Facility	Envirotech Landfarm (Permit #: NM 01-0011					



3.0 NMOCD Site Ranking

In accordance with the New Mexico Oil Conservation Division (NMOCD) Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 10 (Table 1).

Depth to groundwater at the site is estimated to be greater than 100 feet bgs based on the elevation differential between the release location and the wash in Albert Canyon as well as a cathodic report for the Federal #12N and #12E located within 400 feet of the release location reports depth no groundwater encountered to 300 feet bgs.

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. No water wells were observed within a 1,000 foot radius of the location during a visual inspection.

An ephemeral washes traverses the area approximately 530 feet southwest of the release location and drains to the wash in Albert Canyon.

Based on the ranking score of 10, 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 1,000 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

4.0 Field Activities

On March 30, 2016, Enterprise initiated repair activities at the location. West States provided heavy equipment operation and repair support. Rule Engineering, LLC (Rule) personnel provided excavation guidance and collected confirmation samples from the resultant excavation. The repair the installation of a new riser immediately to the south of the existing dogleg and removal of the remaining pipeline south to the end of the line at the P&A well site. The final repair excavation measured approximately 43 feet by 26 feet by 10 to 13 feet in depth. Approximately 522 cubic yards of soil and 45 barrels of hydro-excavation cuttings were transported to the Envirotech Landfarm near Bloomfield, New Mexico for disposal/remediation. The repair excavation was backfilled with clean, imported material.

A depiction of the excavation with sample locations and summary of analytical results is included as Figure 2. A copy of the executed C-138 Solid Waste Acceptance Forms are included in Appendix A. A photograph log is included in Appendix B.

5.0 Soil Sampling

Rule collected confirmation excavation soil samples (SC-1 through SC-8) from the sidewalls and base of the excavation. Each confirmation soil sample is a representative composite comprised of five equivalent aliquots of soil collected from the sampled area.

A portion of each sample was 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. 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 TPH (GRO/DRO) per USEPA 8015D. Laboratory analytical results are summarized in Table 2, and the analytical laboratory reports are included in Appendix C.

6.0 Laboratory Analytical Results

Laboratory analytical results for excavation confirmation samples SC-1 through SC-8 reported benzene concentrations below the laboratory reporting limits, which are below the applicable NMOCD action levels. Laboratory analytical results for confirmation samples SC-1 through SC-8 reported total BTEX concentrations ranging from below the laboratory reporting limits to 0.37 mg/kg for sample SC-8, which are below the applicable NMOCD action levels. Laboratory analytical results for confirmations samples SC-1 through SC-11 reported TPH (GRO/DRO) concentrations ranging from below laboratory reporting limits to 60 mg/kg for SC-1, which are below the NMOCD action level of 1,000 mg/kg for a site rank of 10. Laboratory analytical results are summarized in Table 2, and the analytical laboratory reports are included in Appendix C.

7.0 Conclusions

The Enterprise Reams LS #4 well tie pipeline release site is located in Unit Letter L, Section 23, Township 26 North, Range 6 West, in Rio Arriba County, New Mexico. The release resulted from corrosion holes in the pipeline and was discovered on March 25, 2016. The repair included the installation of a new riser immediately to the south of the existing dogleg and removal of the remaining pipeline south to the end of the line at the P&A well site. Confirmation samples were collected from the sidewalls and base of the resultant repair excavation which measured approximately 43 feet by 26 feet by 10 to 13 feet in depth. Laboratory analytical results for the soil confirmation samples (SC-1 through SC-8) reported benzene, total BTEX, and total TPH (GRO/DRO) concentrations below the applicable NMOGA action levels. Approximately 522 cubic yards of soil and 45 barrels of hydro-excavation cuttings were transported to Envirotech Landfarm for disposal/remediation. The repair excavation was backfilled with clean, imported material.



Based on laboratory analytical results of the 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.



Tables



Table 1. NMOCD Site Ranking Determination Enterprise Field Services, LLC Reams LS #4 Well Tie Pipeline Release Rio Arriba County, New Mexico

Ranking Criteria	Ranking	Site-Based	Basis for Determination	Data	
	Score	Ranking Score		Sources	
		71			
Depth to Groundwater					
<50 feet	20		Elevation differential information derived from the topographic map of the area; a cathodic protection	NMOCD Online	
50-99 feet	10	0	report for the Federal #12N and #12E located within 400 feet of the release location reports no groundwater	database,Gonzales Mesa Quadrangle, Google Earth,	
>100 feet	0		encountered to 300 feet below ground surface.	and Visual Inspection	
Nellhead Protection Area					
<1,000 feet from a water source, or <200 feet	20 (Yes)	0	No water source or recorded water wells within 1,000	NMOSE NMWRRS, Gonazales Mesa	
from private domestic water source	0 (No)		foot radius of location.	Quadrangle, Google Earth and Visual Inspection	
Distance to Surface Water Body					
<200 horizontal feet	20		An unnamed, ephemeral wash is located approximately	Gonzales Mesa Quadrangle,	
200 to 1,000 horizontal feet	10	10	530 feet southwest of release location which drains to	Google Earth, and Visual	
>1,000 horizontal feet	0		the wash in Albert Canyon.	Inspection	
Site Based Total Rank	ing Score	10			
			•		

Table 2. Laboratory Analytical Results Enterprise Field Services, LLC Reams LS #4 Pipeline Release Rio Arriba County, New Mexico

Sample Name	Date	Sample Location	Approximate Sample Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylben- zene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
Carlo		NMOC	D Action Level*	10	NE	NE	NE	50	1,000**	
	10 41 S. S.	and the second	E MALINE	xcavation C	onfirmation	Samples		17.7		
SC-1	5/11/2016	North Base	10 to 12	<0.019	<0.038	<0.038	0.092	0.092	8.4	52
SC-2	5/11/2016	West Wall (North)	1 to 12	< 0.017	< 0.034	<0.034	<0.067	<0.152	<3.4	<9.4
SC-3	5/11/2016	East Wall (North)	1 to 12	<0.019	<0.038	<0.038	<0.077	<0.172	<3.8	<9.5
SC-4	5/11/2016	North Wall	1 to 12	<0.016	< 0.033	<0.033	<0.066	<0.148	<3.3	<9.7
SC-5	5/11/2016	East Wall (South)	1 to 13	<0.015	<0.030	<0.030	0.062	0.062	<3.0	<9.6
SC-6	5/11/2016	West Wall (South)	1 to 13	<0.017	<0.034	<0.034	<0.067	<0.152	<3.4	<9.5
SC-7	5/11/2016	South Wall	1 to 13	<0.018	<0.037	<0.037	< 0.073	<0.165	<3.7	<10
SC-8	5/11/2016	South Base	10 to 13	<0.020	<0.041	<0.041	0.37	0.37	9.2	18

Notes:

ft bgs - feet below grade surface

mg/kg - milligrams per kilogram

NMOCD - New Mexico Oil Conservation Division

BTEX - benzene, toluene, ethylbenzene, and xylenes

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

DRO - diesel range organics

NE - not-established

ND - not detected above laboratory reporting limits

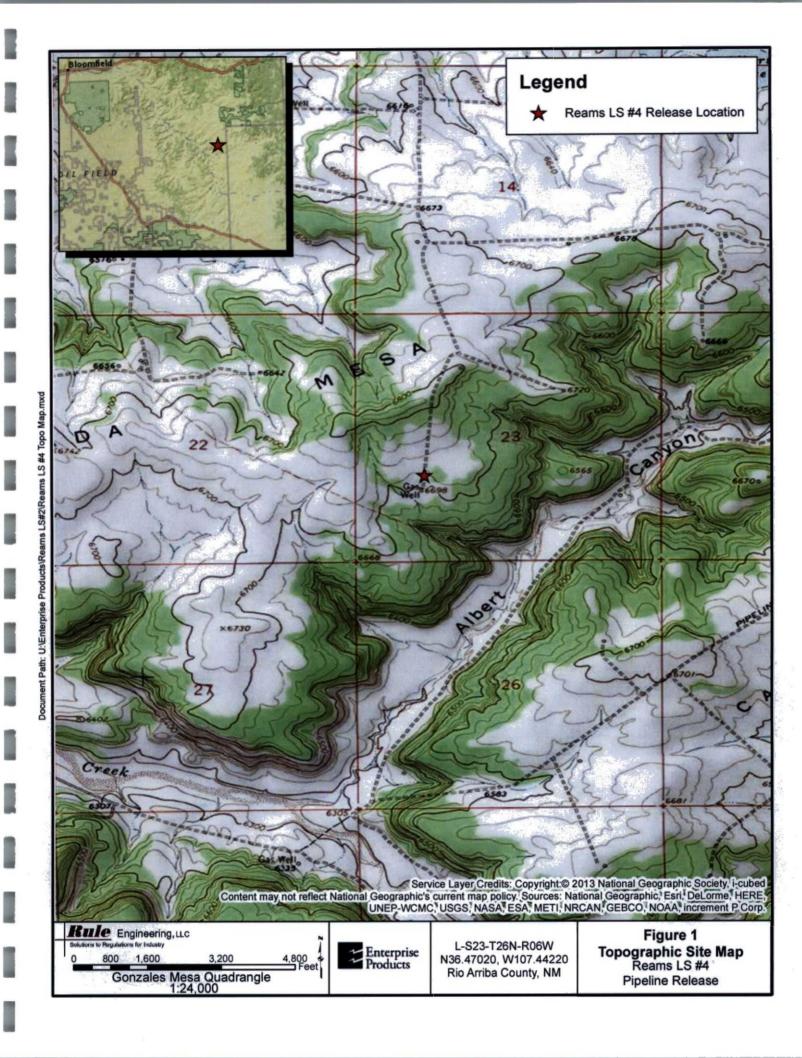
*Based on the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 1993)

**Based on a site ranking of 10



Figures





Document Path: U:\Enterprise Products\Reams LS#2\Reams LS #4 Aerial Map (A).mxd

Appendix A

Executed C-138 Solid Waste Acceptance Forms



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

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

Revised August 1, 2011

Form C-138

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

_	Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2.	Originating Site: Reams LS#4 Pipeline April 2016
3.	Location of Material (Street Address, City, State or ULSTR): Unit Letter L Section 23 Township 26 North Range 6 West; 36.4702, -107.4422
4. 5.	Source and Description of Waste: Hydrocarbon impacted soil/sludge from hydro-excavation activities associated with a pipeline release. Estimated Volume10yd³ (bbls Known Volume (to be entered by the operator at the end of the haul) (_34/45yd³/bbls
5.	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
cer	Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby COMPANY NAME tify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988
reg	ulatory determination, the above described waste is: (Check the appropriate classification) ☐ RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. ☐ 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
	3-31-16 , representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to
con	replete the required testing/sign the Generator Waste Testing Certification.
hav of t	, representative for <u>Envirotech. Inc.</u> do hereby certify that resentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results he representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 15.36 NMAC.
_	Transporter: Bocky Mountain Excavation, Doug Foutz, 148L, West States, Rockies
lam	Permitted Surface Waste Management Facility e and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011 ress of Facility: Hilltop, NM
1eth	od of Treatment and/or Disposal: ☐ Evaporation ☐ Injection ☐ Treating Plant ☐ Landfarm ☐ Landfill ☐ Other
Vas	te Acceptance Status: APPROVED DENIED (Must Be Maintained As Permanent Record)
RIN	IT NAME: Greg Crabtree TITLE: Environmental Manager DATE: 3/31/16
	NATURE: TELEPHONE NO.: 505-632-0615

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 97057-0769
Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Revised August 1, 2011 Surface Waste Management Facility Operator

Form C-138

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

	REQUEST FOR AFFROVAL TO ACCEPT	SOLID WASIE	State Transport
1.	Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401	Man	16
2.	Originating Site: Reams LS#4 Pipeline		
3.	Location of Material (Street Address, City, State or ULSTR): Unit Letter K Section 23 Township 26 North Range 6 West; 36.4702, -107.4422		
4. 5.	Source and Description of Waste: Hydrocarbon impacted soil associated with a pipel Estimated Volume50yd / bbls Known Volume (to be entered by the operator	ine release. at the end of the haul)	386 For bbis
5.	GENERATOR CERTIFICATION STATEMENT OF W.	ASTE STATUS	
	Thomas Long representative or authorized agent for Enterprise Field Se		у
cer	tify that according to the Resource Conservation and Recovery Act (RCRA) and the US ulatory determination, the above described waste is: (Check the appropriate classification	Environmental Protectio	n Agency's July 1988
	RCRA Exempt: Oil field wastes generated from oil and gas exploration and produce exempt waste. **Operator Use Only: Waste Acceptance Frequency Monthly		
	RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazar subpart D, as amended. The following documentation is attached to demonstrate the above the appropriate items)	dous waste as defined in	40 CFR, part 261,
	MSDS Information RCRA Hazardous Waste Analysis Process Knowledge	☐ Other (Provide desc	ription in Box 4)
	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATE	MENT FOR LANDFA	RMS
I, é	representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to	10	
	relator Signature replete the required testing/sign the Generator Waste Testing Certification.		
hav	resentative samples of the oil field waste have been subjected to the paint filter test and to be been found to conform to the specific requirements applicable to landfarms pursuant to the representative samples are attached to demonstrate the above-described waste conformation to the samples are attached to demonstrate the above-described waste conformation.	Section 15 of 19.15.36 in to the requirements of	nt and that the samples NMAC. The results
6.	Transporter: West States Energy Contractors, Dong Foutz, Flaing	M, HBL	
Nam	D Permitted Surface Waste Management Facility ne and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM ress of Facility: Hilltop, NM	01-0011	-
Metl	nod of Treatment and/or Disposal: Evaporation Injection Treating Plant Landfarm	Landfill Other	
Was	te Acceptance Status: APPROVED DENIED	(Must Be Maintained A	s Permanent Record)
PRII	NT NAME: Greg Craptice TITLE: Environment	A Manager DAT	E 5/11/14
SIG	NATURE: TELEPHONE NO.: 5	05-632-0615	

Appendix B
Photograph Log



Photograph Log Reams LS #4 Well Tie Pipeline Release Enterprise Field Services, LLC



Photograph #1

Client: Enterprise

Site Name:

Reams LS #4 Well Tie Pipeline Release

Date Photo Taken: May 12, 2016

Release Location: N36.47020, W107.44220 L-23-26N-6W Rio Arriba County, NM

Photo Taken by: Justin Valdez

Description: Facing north, view of the final excavation.

Photograph #2

Client: Enterprise

Site Name:

Reams LS #4 Well Tie Pipeline Release

Date Photo Taken: May 12, 2016

Release Location: N36.47020, W107.44220 L-23-26N-6W Rio Arriba County, NM

Photo Taken by: Justin Valdez

Description: Facing northwest, view of the final excavation.





Photograph #3 Client: **Enterprise** Site Name: Reams LS #4 Well Tie Pipeline Release Date Photo Taken: May 12, 2016 Release Location: N36.47020, W107.44220 L-23-26N-6W Rio Arriba County, NM Description: Facing southeast, view of the final excavation. Photo Taken by: Justin Valdez

Appendix C Analytical Laboratory Report





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

May 16, 2016

Heather Woods

Rule Engineering LLC 501 Airport Dr., Ste 205 Farmington, NM 87401

TEL: (505) 325-1055

FAX

RE: Reams LS #4

OrderNo.: 1605619

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 8 sample(s) on 5/13/2016 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Reams LS #4

Lab ID: 1605619-001

Client Sample ID: SC-1

Collection Date: 5/11/2016 12:30:00 PM

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3				Analyst:	том
Diesel Range Organics (DRO)	52	9.4		mg/Kg	1	5/13/2016 11:23:07 AM	25301
Surr: DNOP	89.5	70-130		%Rec	1	5/13/2016 11:23:07 AM	25301
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	8.4	3.8		mg/Kg	1	5/13/2016 1:50:44 PM	25287
Surr: BFB	177	80-120	S	%Rec	1	5/13/2016 1:50:44 PM	25287
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	0.019		mg/Kg	1	5/13/2016 1:50:44 PM	25287
Toluene	ND	0.038		mg/Kg	1	5/13/2016 1:50:44 PM	25287
Ethylbenzene	ND	0.038		mg/Kg	1	5/13/2016 1:50:44 PM	25287
Xylenes, Total	0.092	0.076		mg/Kg	1	5/13/2016 1:50:44 PM	25287
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	5/13/2016 1:50:44 PM	25287

Matrix: SOIL

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

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

Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-2

Project: Reams LS #4

Collection Date: 5/11/2016 1:40:00 PM

Lab ID: 1605619-002

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL	Qual Units	DI	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	том
Diesel Range Organics (DRO)	ND	9.4	mg/K	g 1	5/13/2016 11:44:39 AM	25301
Surr: DNOP	90.5	70-130	%Red	1	5/13/2016 11:44:39 AM	25301
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/K	g 1	5/13/2016 11:06:15 AM	25287
Surr: BFB	105	80-120	%Red	1	5/13/2016 11:06:15 AM	25287
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.017	mg/K	g 1	5/13/2016 11:06:15 AM	25287
Toluene	ND	0.034	mg/K	g 1	5/13/2016 11:06:15 AM	25287
Ethylbenzene	ND	0.034	mg/K	g 1	5/13/2016 11:06:15 AM	25287
Xylenes, Total	ND	0.067	mg/K	g 1	5/13/2016 11:06:15 AM	25287
Surr: 4-Bromofluorobenzene	105	80-120	%Red	1	5/13/2016 11:06:15 AM	25287

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Reams LS #4

Lab ID: 1605619-003

Client Sample ID: SC-3

Collection Date: 5/11/2016 3:00:00 PM

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	том
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/13/2016 12:06:28 PM	25301
Surr: DNOP	91.6	70-130	%Rec	1	5/13/2016 12:06:28 PM	25301
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.8	mg/Kg	1	5/13/2016 11:29:52 AM	25287
Surr: BFB	105	80-120	%Rec	1	5/13/2016 11:29:52 AM	25287
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.019	mg/Kg	1	5/13/2016 11:29:52 AM	25287
Toluene	ND	0.038	mg/Kg	1	5/13/2016 11:29:52 AM	25287
Ethylbenzene	ND	0.038	mg/Kg	1	5/13/2016 11:29:52 AM	25287
Xylenes, Total	ND	0.077	mg/Kg	1	5/13/2016 11:29:52 AM	25287
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	5/13/2016 11:29:52 AM	25287

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Reams LS #4

Lab ID:

1605619-004

Carris Lo #4

Client Sample ID: SC-4

Collection Date: 5/11/2016 3:15:00 PM

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	том
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	5/13/2016 12:28:19 PM	25301
Surr: DNOP	89.9	70-130	%Rec	1	5/13/2016 12:28:19 PM	25301
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.3	mg/Kg	1	5/13/2016 11:53:30 AM	25287
Surr: BFB	105	80-120	%Rec	1	5/13/2016 11:53:30 AM	25287
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.016	mg/Kg	1	5/13/2016 11:53:30 AM	25287
Toluene	ND	0.033	mg/Kg	1	5/13/2016 11:53:30 AM	25287
Ethylbenzene	ND	0.033	mg/Kg	1	5/13/2016 11:53:30 AM	25287
Xylenes, Total	ND	0.066	mg/Kg	1	5/13/2016 11:53:30 AM	25287
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	5/13/2016 11:53:30 AM	25287

Matrix: SOIL

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Reams LS #4

Lab ID: 1605619-005

Client Sample ID: SC-5

Collection Date: 5/11/2016 4:00:00 PM

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS		. 100 0		Analys	t: JME
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	5/13/2016 12:06:32 PM	1 25301
Surr: DNOP	74.7	70-130	%Rec	1	5/13/2016 12:06:32 PM	1 25301
EPA METHOD 8015D: GASOLINE RA	NGE				Analys	t: NSB
Gasoline Range Organics (GRO)	ND	3.0	mg/Kg	1	5/13/2016 12:17:00 PM	25287
Surr: BFB	115	80-120	%Rec	1	5/13/2016 12:17:00 PM	1 25287
EPA METHOD 8021B: VOLATILES					Analys	t: NSB
Benzene	ND	0.015	mg/Kg	1	5/13/2016 12:17:00 PM	1 25287
Toluene	ND	0.030	mg/Kg	1	5/13/2016 12:17:00 PM	1 25287
Ethylbenzene	ND	0.030	mg/Kg	1	5/13/2016 12:17:00 PM	1 25287
Xylenes, Total	0.062	0.060	mg/Kg	1	5/13/2016 12:17:00 PM	1 25287
Surr: 4-Bromofluorobenzene	106	80-120	%Rec	1	5/13/2016 12:17:00 PM	1 25287

Matrix: SOIL

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

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

Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Reams LS #4

Lab ID: 1605619-006

Client Sample ID: SC-6

Collection Date: 5/11/2016 4:30:00 PM

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL Qua	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	1			Analyst	JME
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	5/13/2016 12:28:24 PM	25301
Surr: DNOP	84.4	70-130	%Rec	1	5/13/2016 12:28:24 PM	25301
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	3.4	mg/Kg	1	5/13/2016 12:40:23 PM	25287
Surr: BFB	109	80-120	%Rec	1	5/13/2016 12:40:23 PM	25287
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.017	mg/Kg	1	5/13/2016 12:40:23 PM	25287
Toluene	ND	0.034	mg/Kg	1	5/13/2016 12:40:23 PM	25287
Ethylbenzene	ND	0.034	mg/Kg	1	5/13/2016 12:40:23 PM	25287
Xylenes, Total	ND	0.067	mg/Kg	1	5/13/2016 12:40:23 PM	25287
Surr: 4-Bromofluorobenzene	107	80-120	%Rec	1	5/13/2016 12:40:23 PM	25287

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Reams LS #4 Project:

Lab ID:

1605619-007

Client Sample ID: SC-7

Collection Date: 5/11/2016 4:15:00 PM

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN		Analyst	JME			
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	5/13/2016 12:52:43 PM	25301
Surr: DNOP	82.7	70-130	%Rec	1	5/13/2016 12:52:43 PM	25301
EPA METHOD 8015D: GASOLINE RA		Analyst	: NSB			
Gasoline Range Organics (GRO)	ND	3.7	mg/Kg	1	5/13/2016 1:03:44 PM	25287
Surr: BFB	102	80-120	%Rec	1	5/13/2016 1:03:44 PM	25287
EPA METHOD 8021B: VOLATILES		Analyst	: NSB			
Benzene	ND	0.018	mg/Kg	1	5/13/2016 1:03:44 PM	25287
Toluene	ND	0.037	mg/Kg	1	5/13/2016 1:03:44 PM	25287
Ethylbenzene	ND	0.037	mg/Kg	1	5/13/2016 1:03:44 PM	25287
Xylenes, Total	ND	0.073	mg/Kg	1	5/13/2016 1:03:44 PM	25287
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	5/13/2016 1:03:44 PM	25287

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 11 J
- Sample pH Not In Range P
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1605619

Date Reported: 5/16/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Reams LS #4

Lab ID: 1605619-008

Matrix: SOIL

Client Sample ID: SC-8

Collection Date: 5/12/2016 9:30:00 AM

Received Date: 5/13/2016 7:30:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	Analyst:	том					
Diesel Range Organics (DRO)	18	9.5		mg/Kg	1	5/13/2016 1:55:40 PM	25301
Surr: DNOP	75.1	70-130		%Rec	1	5/13/2016 1:55:40 PM	25301
EPA METHOD 8015D: GASOLINE RAI		Analyst:	NSB				
Gasoline Range Organics (GRO)	9.2	4.1		mg/Kg	1	5/13/2016 1:27:10 PM	25287
Surr: BFB	175	80-120	s	%Rec	1	5/13/2016 1:27:10 PM	25287
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	0.020		mg/Kg	1	5/13/2016 1:27:10 PM	25287
Toluene	ND	0.041		mg/Kg	1	5/13/2016 1:27:10 PM	25287
Ethylbenzene	ND	0.041		mg/Kg	1	5/13/2016 1:27:10 PM	25287
Xylenes, Total	0.37	0.082		mg/Kg	1	5/13/2016 1:27:10 PM	25287
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	5/13/2016 1:27:10 PM	25287

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 8 of 11
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

RPDLimit

1605619

16-May-16

Qual

Client:

Rule Engineering LLC

Project:

Reams LS #4

Sample ID	MB-25301

SampType: MBLK

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

Client ID: PBS

Batch ID: 25301

RunNo: 34205

Prep Date: 5/13/2016

Units: mg/Kg

Analysis Date: 5/13/2016 PQL

10

SegNo: 1054757

Analyte Diesel Range Organics (DRO)

Surr: DNOP

ND 8.7

10.00

87.3

HighLimit 130

Sample ID LCS-25301

Client ID: LCSS

SampType: LCS Batch ID: 25301

PQL

PQL

PQL

PQL

9.9

10

RunNo: 34205

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

Prep Date: 5/13/2016

Analysis Date: 5/13/2016 Result

41

SPK value SPK Ref Val %REC

SeqNo: 1054758

LowLimit

70

Units: mg/Kg

LowLimit **HighLimit** 136

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

RPDLimit Qual

Diesel Range Organics (DRO) Surr: DNOP

Analyte

4.1

50.00 5.000

SPK value SPK Ref Val %REC 82.8 82.2

70 130

%RPD

%RPD

Sample ID 1605619-001AMS

Client ID: SC-1

SampType: MS

Batch ID: 25301

49.85

4.985

49.31

4.931

RunNo: 34205

87.1

87.1

Units: mg/Kg

Qual

Analyte

Analysis Date: 5/13/2016

SeqNo: 1054828

52.06

SPK value SPK Ref Val %REC

52.06

SPK value SPK Ref Val %REC LowLimit

33.9

70

%RPD HighLimit

141

130

RPDLimit

Qual

Diesel Range Organics (DRO) Surr: DNOP

Prep Date: 5/13/2016

4.3 Sample ID 1605619-001AMSD SampType: MSD

Result

95

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

Client ID: SC-1

85

4.2

Batch ID: 25301

RunNo: 34205

66.0

84.5

Prep Date: 5/13/2016

Surr: DNOP

Analyte

Analysis Date: 5/13/2016

SeqNo: 1054897

LowLimit

LowLimit

70

Units: mg/Kg

130

HighLimit %RPD **RPDLimit** 12.1 141 20

0

%RPD

Sample ID MB-25300

Diesel Range Organics (DRO)

SampType: MBLK

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

Client ID: **PBS**

Prep Date: 5/13/2016

Batch ID: 25300

Analysis Date: 5/13/2016

RunNo: 34205 SeqNo: 1055615

Units: %Rec HighLimit

RPDLimit Qual

0

Analyte Surr: DNOP Result 7.4

10.00

SPK value SPK Ref Val %REC 74.3

70 130

Qualifiers:

R

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

RPD outside accepted recovery limits

- % Recovery outside of range due to dilution or matrix S
- Analyte detected in the associated Method Blank B
- E Value above quantitation range
- Analyte detected below quantitation limits
- Page 9 of 11

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605619

16-May-16

Client:

Rule Engineering LLC

Project:

Reams LS #4

Sample ID MB-25287

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 25287

PQL

5.0

RunNo: 34211

Prep Date: 5/12/2016

Analysis Date: 5/13/2016

SeqNo: 1055224

Units: mg/Kg

%RPD

HighLimit

120

RPDLimit

RPDLimit

Qual

Qual

Gasoline Range Organics (GRO) Surr: BFB

ND 1000

Result

1000

SPK value SPK Ref Val %REC

0

102

80

LowLimit

LowLimit

Sample ID LCS-25287

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Batch ID: 25287

RunNo: 34211

HighLimit

Prep Date: 5/12/2016

Analysis Date: 5/13/2016

SegNo: 1055225 %REC

Units: mg/Kg

%RPD

Gasoline Range Organics (GRO) Surr: BFB

Client ID: LCSS

Result PQL SPK value SPK Ref Val 23 5.0 25.00 1100 1000

91.8 111

80

120 120

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

% Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits J

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Page 10 of 11

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605619

16-May-16

Client:

Rule Engineering LLC

Project:

Reams LS #4

					_		A CONTRACTOR OF			
Sample ID MB-25287	SampType: MBLK Batch ID: 25287			TestCode: EPA Method 8021B: Volatiles						
Client ID: PBS				F	RunNo: 3	4211	Units: mg/Kg			
Prep Date: 5/12/2016	Analysis D	Date: 5/	13/2016	SeqNo: 1055265						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025					100			
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID LCS-25287	Samp*	Type: LC	s	TestCode: EPA Method 8021B: Volatiles						
Client ID: LCSS Batch ID: 25287				RunNo: 34211						
Prep Date: 5/12/2016	Analysis [Date: 5/	5/13/2016 SeqNo: 1055266			055266	Units: mg/F			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	101	75.3	123			
Toluene	1.0	0.050	1.000	0	99.9	80	124			
Ethylbenzene	0.99	0.050	1.000	0	98.8	82.8	121			
Xylenes, Total	3.0	0.10	3.000	0	98.9	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		112	80	120			

Qualifiers:

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

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Page 11 of 11



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

Sample Log-In Check List

RULE ENGINEERING LL RcptNo: 1 Client Name: Work Order Number: 1605619 Received by/date: 05113/16 ame Ilm 5/13/2016 7:30:00 AM Logged By: **Anne Thorne** Completed By: Anne Thorne 5/13/2016 Reviewed By. Chain of Custody 1. Custody seals intact on sample bottles? Yes No 🔲 Not Present Yes 🗸 No 🗆 Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In NA 🗌 No 🗌 4. Was an attempt made to cool the samples? Yes V NA 🗌 No 🗌 5. Were all samples received at a temperature of >0° C to 6.0°C Yes V No 🗌 Sample(s) in proper container(s)? Yes V No 🗆 Yes 🔽 7. Sufficient sample volume for indicated test(s)? Yes V No 🗌 8. Are samples (except VOA and ONG) properly preserved? Yes 🔲 NA 9. Was preservative added to bottles? No V No VOA Vials Yes No 🗌 10. VOA vials have zero headspace? Yes No V 11. Were any sample containers received broken? # of preserved bottles checked Yes 🗸 for pH: 12. Does paperwork match bottle labels? No . (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? Yes V No 🗌 13. Are matrices correctly identified on Chain of Custody? Yes V No 🗌 14. Is it clear what analyses were requested? Checked by: 15. Were all holding times able to be met? Yes V No 🗌 (If no, notify customer for authorization.) Special Handling (if applicable) 16. Was client notified of all discrepancies with this order? Yes 🗌 NA 🗹 No 🗌 Person Notified: Date By Whom: eMail Phone Fax In Person Regarding: **Client Instructions:** 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date Signed By Good

	-																	
Chain-of-Custody Record	□ Standard	× Rush	Sameday				₹:	É	۶m	33	<u>" </u>	200	ŠŽ	NALVETS I ABODATODY	įŻ	2 ₹	Ž F	•
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1/16 4:00 Soil SC-6			2060	Х	,	メ		-								*******		
1/16 4:15M SOIL SC-7			727	X	_	メ												
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Time: Relinquished by:	Received by:	1 000000	Date Time	200	NON-AFE;	IH	7	32	20	راد					4	5 "		
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If peopseary samples submitted to Hall Environmental may be subco	stracted trother de	poditod laboratorios	This source or police of this	- anothi	An An	v dilb	orthon	1	III.	clos	3					-		1

Air Bubbles (Y or N)

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

JUL 28 2016

OIL CONS. DIV DIST. 3

Form C-141 Revised August 8, 2011

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

Santa Fe, NM 87505

Oil Conservation Division 1220 South St. Francis Dr.

		R	Release	Notifical	atic	on and C	orrective	Actio	on			
					0	PERATO	2		Initial	Report		al Report
Name of C	ompany:	Enterprise F	ield Serv	rices LLC			homas Long					
		ve, Farmin	gton, NM	87401			No. 505-599-			lu allu a		
Facility Na	me: Jicari	lla J#4				Facility Typ	e: Natural Ga	is Gati	nering P	ipeline		
Surface Ov	vner: Jica	rilla Apach	e Nation	Mineral O	wne	r: Jicarilla A	pache Nation	1	Serial	Number: I	N/A	141
				LOCA		N OF REL	EASE					011 fice
Unit Letter D	Section 20	Township 26N	Range 5W	Feet from the 600	Lin	rth/South e	Feet from the 768	East Line	Vest	County Rio Arriba	1	4C.
			La	(e <u>-107.38942</u>	3		195		> 10 tombulosom
				ATT A CONT. OF A STATE	JRE	OF RELI						
		al Gas and C		•	_		Release 0.84 MC			Recovered:		100
Source of R	elease; inte	rnal Corrosio	n			6/1/2016 @	our of Occurrent 12:30 p.m.	ce:		d Hour of Dis @ 12:30 p		
Was Immed	iate Notice	Given?	=			If YES, To V	Vhom? Hobson					
		Yes	□ No	■ Not		JAO&G Va	nessa Fields - N	IMOCD				
Required												.41
By Whom?	Thomas Lo	ng				Date and Ti 6/2/2016 @	me Phone call o	n 6/1/20	016 @ 3:	15 p.m.; Foll	ow up em	ail on '
Was a Wate	rcourse Re		_			If YES, Volu						AC.
1			⊠ Yes	_ No								
If a Waterco				.* The gas lea	k alc	ong the Jicarill	a J#4 pipeline w	as disc	overed in	a small eph	emeral wa	ash. No
	fluids were	observed on					technicians diseated, blown dow					2011
indicated that	at concentra		X and TPI	(DRO/GRO)			subsurface imp IOCD remediat					
rules and re- which may e relieve the o ground water	gulations all endanger pu perator of li er, surface w	operators and operators and operators of the operators of	re required the environ their oper health or	I to report and/ conment. The a rations have fa the environme	or fil accep iled nt. I	e certain relea ptance of a C- to adequately n addition, NN	at of my knowled ase notifications 141 report by the investigate and MOCD acceptantess and/or regul	and pe le NMO remedi ce of a lations.	rform con CD marke ate conta C-141 rep	rective actioned as "Final mination that port does not be actioned as the control of the control	ns for rele Report" de t pose a t t relieve th	MOCD ases oes not hreat to
Signature:	4m	1. tu					OIL CON	SERV	ATION	DIVISIO	M	1.0000
Printed Nam	e: Jon E. F	ields				Approved by	Environmental	Specia	list	mosse	T) 44
Title: Directo	or, Environm	nental				Approval Da	te:7/29/2	ع ماد	xpiration	Date:		
E-mail Addre	ess:jefields(@eprod.com				Conditions of	of Approval:			Attached		5
Duto.	7/25/2	•		e: (713)381-66	84	MVF	1618921	7		ŀ		5 ret
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CORRECTIVE ACTION REPORT

Property:

Jicarilla J #4 Well Tie Release NW 1/4, S20 T26N R5W Jicarilla Apache Nation, Rio Arriba County, New Mexico

> July 13, 2016 Apex Project No. 725040112167

> > Prepared for:

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

Prepared by:

Ranee Deechilly Project Scientist

Kyle Summers, CPG Branch Manager/Senior Project Manager

umms

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CORRECTIVE ACTION REPORT

Jicarilla J #4 Well Tie Release NW 1/4, S20 T26N R5W Rio Arriba County, New Mexico

Apex Project No. 725040112167

1.0 INTRODUCTION

1.1 Site Description & Background

The Jicarilla J #4 well tie release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 20, Township 26 North, Range 5 West, in the Jicarilla Apache Nation, Rio Arriba County, New Mexico (36.47791N, 107.38944W), referred to hereinafter as the "Site" or "subject Site". The Site is surrounded by native-vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas well tie which traverses the area from approximately east to west.

On June 1, 2016, a release was discovered on the Jicarilla J #4 well tie, and the line was immediately isolated, blown down, and locked out of service. The surface expression of the release was identified by distressed vegetation in the vicinity of the release. On June 15, 2016 Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential hydrocarbon impact. Four corrosion-related leaks were identified, resulting in the replacement of approximately 120 feet of the pipeline.

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

1.2 Project Objective

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

2.0 SITE RANKING

The Site is under the jurisdiction of the Jicarilla Apache Nation Environmental Protection Office (JANEPO). In the absence of published JANEPO regulatory guidance, Apex TITAN Inc. (Apex) references the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*. Apex utilized the general site characteristics obtained during the completion of corrective action activities and information available from the Office of the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:



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

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

- No nearby water wells were identified on the OSE water rights website, however based on the proximity to an ephemeral wash, 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 immediately adjacent to an ephemeral wash, which is identified as a "blue line" on the United States Geological Society topographic map. This information supports a distance to surface water ranking of "20".

3.0 RESPONSE ACTIONS

3.1 Soil Excavation Activities

On June 1, 2016, a release was discovered on the Jicarilla J #4 well tie, and the line was immediately isolated, blown down, and locked out of service. The surface expression of the release was identified by distressed vegetation in the vicinity of the release. On June 15, 2016 Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential hydrocarbon impact. Four leaks, which resulted from corrosion, were identified, and approximately 120 feet of the pipeline was replaced. During the corrective action activities, West States Energy Contractors, Inc., provided heavy equipment and labor support, and Ranee Deechilly, an Apex environmental professional, provided environmental support.

Subsequent to the initial excavation activities to expose a section of the pipeline, confirmation soil sample (CS-1) was collected from the base of the excavation for laboratory analysis. On June 16, 2016 confirmation soil samples (CS-2 through CS-17) were collected from the final excavation to complete the analytical profile of the excavated site. In addition, soil samples (SP-1 through SP-10) were collected from stockpiled spoils to determine the potential to reuse the material as backfill. Subsequent laboratory analytical results indicate that soils associated with the confirmation soil samples and the stockpile samples do not exhibit hydrocarbon impact above OCD quidelines.

The excavation was backfilled with laboratory confirmed acceptable spoils and contoured to surrounding grade.



The final excavation measured approximately 125 feet long by 17 feet wide at the maximum extents. The total depth of the excavation was approximately 12 feet bgs.

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

Figure 3 and Figure 4 are site maps that indicate the approximate location of the excavated area and stockpiles in relation to the Enterprise pipeline (Appendix A). Photographic documentation of the field activities is included in Appendix B.

3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of 17 confirmation samples (CS-1 through CS-17) from the sidewalls and base of the excavation for laboratory analysis. In addition, ten (10) stockpile soil samples (SP-1 through SP-10) were collected for laboratory analysis.

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

3.3 Laboratory Analytical Methods

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

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

4.0 DATA EVALUATION

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

4.1 Confirmation Soil Samples

Apex compared the BTEX and TPH concentrations or practical quantitation limits (PQLs) associated with the final confirmation samples (CS-1 through CS-17) collected from the excavation and the stockpile samples (SP-1 through SP-10) to the OCD *RALs* for sites having a total ranking score of "40".

 The laboratory analyses of the confirmation and stockpile samples did not indicate benzene concentrations above the PQLs, which are below the OCD RAL of 10 milligrams per kilogram (mg/kg).



- The laboratory analyses of the confirmation and stockpile samples exhibited total BTEX concentrations ranging from below the PQLs to 5.3 mg/kg (SP-10), which are below the OCD RAL of 50 mg/kg.
- The laboratory analyses of the confirmation samples and stockpile samples exhibited combined TPH GRO/DRO concentrations ranging from below the PQLs to 82 mg/kg (CS-15), which are below the OCD RAL of 100 mg/kg for a Site ranking of "40".

Confirmation sample laboratory analytical results are provided in Table 1 in Appendix C.

5.0 FINDINGS AND RECOMMENDATIONS

The Jicarilla J #4 well tie release site is located within the Enterprise ROW in the NW ¼ of Section 20, Township 26 North, Range 5 West, in rural Rio Arriba County, New Mexico. The Site is surrounded by native-vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas well tie which traverses the area from approximately east to west.

On June 1, 2016, a release was discovered on the Jicarilla J #4, and the line was immediately isolated, blown down, and locked out of service. The surface expression of the release was identified by distressed vegetation in the vicinity of the release. On June 15, 2016 Enterprise initiated excavation activities to facilitate the repair of the pipeline and to remediate potential hydrocarbon impact. Four corrosion-related leaks were identified, resulting in the replacement of approximately 120 feet of the pipeline.

- The primary objective of the environmental corrective actions was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD RALs using the New Mexico EMNRD OCD's Guidelines for Remediation of Leaks, Spills and Releases as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated silty sand and weathered shally sandstone.
- The final excavation measured approximately 125 feet long by 17 feet wide at the maximum extents. The total depth of the excavation was approximately 12 feet bgs.
- Prior to backfilling, 17 confirmation soil samples were collected from the resulting excavation and ten (10) stockpile samples were collected for laboratory analyses. Based on analytical results, soils remaining in place and the reused spoils do not exhibit BTEX or TPH GRO/DRO concentrations above the OCD RALs for a site ranking of "40".
- The excavation was backfilled with laboratory confirmed acceptable spoils and contoured to the approximate surrounding grade.

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



6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

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

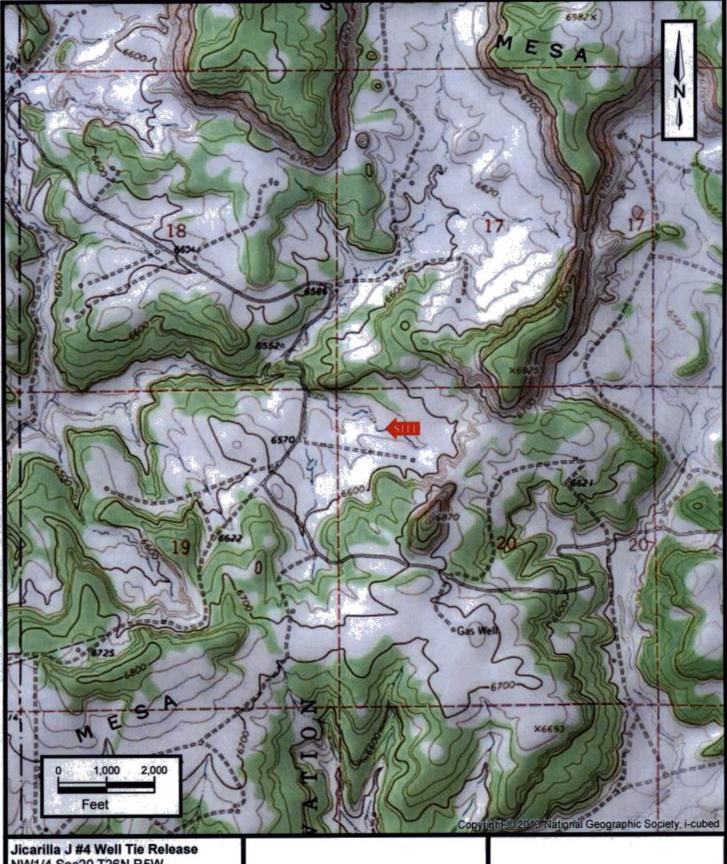
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

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



APPENDIX A

Figures



NW1/4 Sec20 T26N R5W Rio Arriba County, New Mexico 36.47791N, 107.38944W

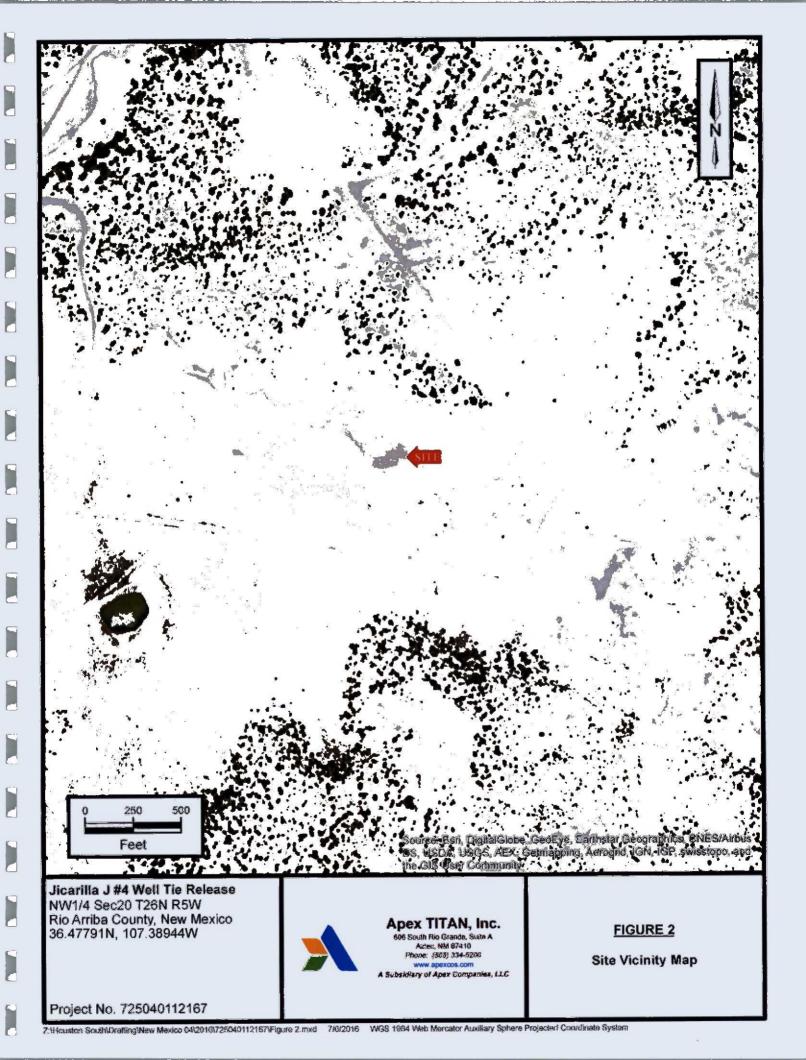


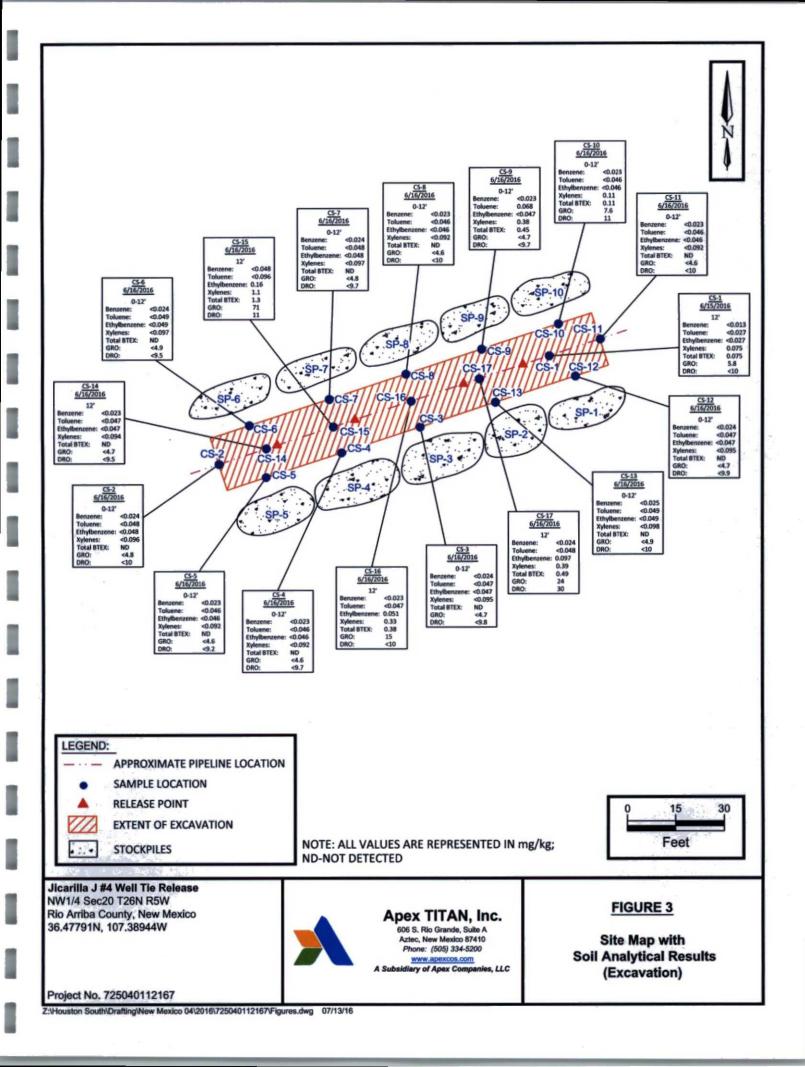
Apex TITAN, Inc. 606 South Rio Grande, Suite A Aztec, NM 67410 Phone: (505) 334-5200

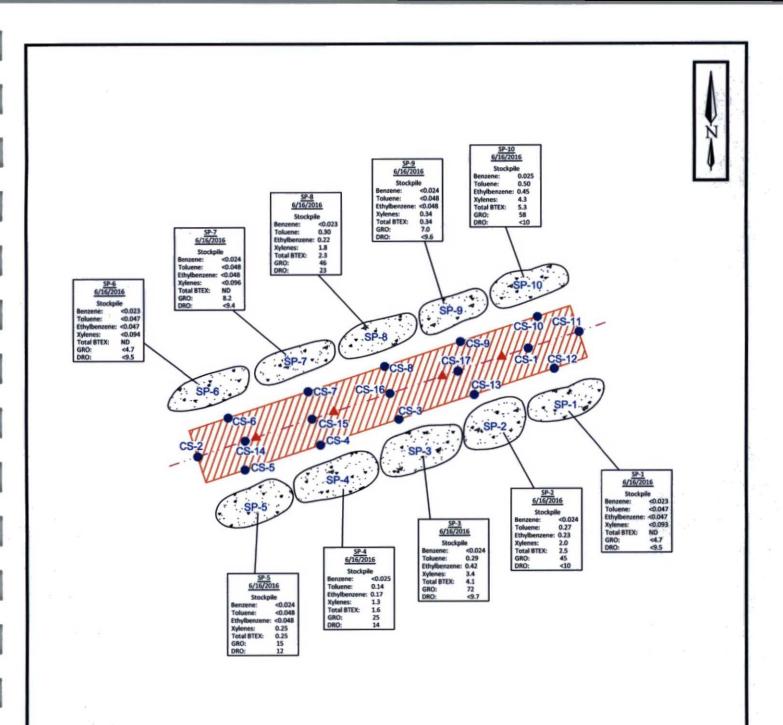
FIGURE 1

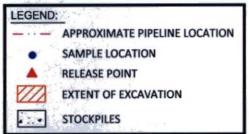
Topographic Map Gonzales Mesa, NM Quadrangle 1963

Project No. 725040112167

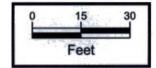








NOTE: ALL VALUES ARE REPRESENTED IN mg/kg; ND-NOT DETECTED



Jicarilla J #4 Well Tie Release NW1/4 Sec20 T26N R5W Rio Arriba County, New Mexico 36.47791N, 107.38944W



Apex TITAN, Inc.

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

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

FIGURE 4

Site Map with Soil Analytical Results (Stockpile)

Project No. 725040112167



APPENDIX B

Photographic Documentation



Photograph 1

View of the release area, facing southwest.



Photograph 2

View of in-process corrective action activities, facing north.



Photograph 3

View of in-process corrective action activities, facing southwest.



Page 1 of 2



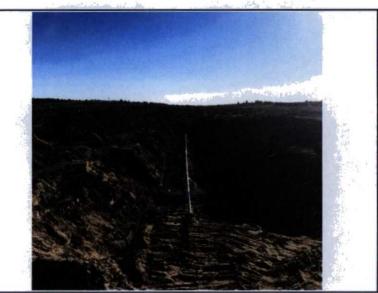
Photograph 4

View of the final excavation, facing west.



Photograph 5

View of the final excavation, facing southwest.





APPENDIX C Tables



TABLE 1 Jicarilla J #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)
		latural Resources ision, Remediation	10	NE	NE	NE	50	1	00
				Stockpile	Soil Samples		alles de la companya	STATE OF THE PARTY	
SP-1	6.16.16	Stockpile	<0.023	<0.047	<0.047	<0.093	ND	<4.7	<9.5
SP-2	6.16.16	Stockpile	<0.024	0.27	0.23	2.0	2.5	45	<10
SP-3	6.16.16	Stockpile	<0.024	0.29	0.42	3.4	4.1	72	<9.7
SP-4	6.16.16	Stockpile	<0.025	0.14	0.17	1.3	1.6	25	14
SP-5	6.16.16	Stockpile	<0.024	<0.048	<0.048	0.25	0.25	15	12
SP-6	6.16.16	Stockpile	<0.023	<0.047	<0.047	<0.094	ND	<4.7	<9.5
SP-7	6.16.16	Stockpile	<0.024	<0.048	<0.048	<0.096	ND	8.2	<9.4
SP-8	6.16.16	Stockpile	<0.023	0.30	0.22	1.8	2.3	46	23
SP-9	6.16.16	Stockpile	<0.024	<0.048	<0.048	0.34	0.34	7.0	<9.6
SP-10	6.16.16	Stockpile	0.025	0.50	0.45	4.3	5.3	58	<10
	STEEL STOR			Excavation Co	nfirmation Samples		100 400 025	Sales Dr. Sales	
CS-1	6.15.16	12	<0.013	<0.027	<0.027	0.075	0.075	5.8	<10
CS-2	6.16.16	0 to 12	<0.024	<0.048	<0.048	<0.096	ND	<4.8	<10
CS-3	6.16.16	0 to 12	<0.024	< 0.047	<0.047	< 0.095	ND	<4.7	<9.8
CS-4	6.16.16	0 to 12	<0.023	<0.046	<0.046	< 0.092	ND	<4.6	<9.7
CS-5	6.16.16	0 to 12	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<9.2
CS-6	6.16.16	0 to 12	<0.024	<0.049	<0.049	<0.097	ND	<4.9	<9.5
CS-7	6.16.16	0 to 12	<0.024	<0.048	<0.048	<0.097	ND	<4.8	<9.7
CS-8	6.16.16	0 to 12	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<10
CS-9	6.16.16	0 to 12	<0.023	0.068	<0.047	0.38	0.45	<4.7	<9.7
CS-10	6.16.16	0 to 12	<0.023	<0.046	<0.046	0.11	0.11	7.6	11
CS-11	6.16.16	0 to 12	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<10
CS-12	6.16.16	0 to 12	<0.024	<0.047	<0.047	<0.095	ND	<4.7	<9.9
CS-13	6.16.16	0 to 12	< 0.025	< 0.049	< 0.049	<0.098	ND	<4.9	<10



TABLE 1 Jicarilla J #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)
		Natural Resources vision, Remediation	10	NE	NE	NE	50	1	00
CS-14	6.16.16	12	<0.023	<0.047	<0.047	<0.094	ND	<4.7	<9.5
CS-15	6.16.16	12	<0.048	<0.096	0.16	1.1	1.3	71	11
CS-16	6.16.16	12	<0.023	<0.047	0.051	0.33	0.38	15	<10
CS-17	6.16.16	12	<0.024	<0.048	0.097	0.39	0.49	24	30

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 D

Laboratory Analytical Reports & Chain of Custody Documentation



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

June 17, 2016

Kyle Summers

APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Jicarilla J #4

OrderNo.: 1606876

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 6/16/2016 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1606876

Date Reported: 6/17/2016

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: CS-1

CLIENT: APEX TITAN
Project: Jicarilla J #4

Collection Date: 6/15/2016 3:50:00 PM

Lab ID: 1606876-001

Matrix: MEOH (SOIL)

Received Date: 6/16/2016 7:55:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANICS	i				Analyst	: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/16/2016 10:12:32 AM	25891
Surr: DNOP	99.3	70-130		%Rec	1	6/16/2016 10:12:32 AM	25891
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	: NSB
Gasoline Range Organics (GRO)	5.8	2.7		mg/Kg	1	6/16/2016 9:45:58 AM	A34963
Surr: BFB	154	80-120	s	%Rec	1	6/16/2016 9:45:58 AM	A34963
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.013		mg/Kg	1	6/16/2016 9:45:58 AM	C34963
Toluene	ND	0.027		mg/Kg	1	6/16/2016 9:45:58 AM	C34963
Ethylbenzene	ND	0.027		mg/Kg	1	6/16/2016 9:45:58 AM	C34963
Xylenes, Total	0.075	0.054		mg/Kg	1	6/16/2016 9:45:58 AM	C34963
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	6/16/2016 9:45:58 AM	C34963

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

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

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1606876

17-Jun-16

Client:

APEX TITAN

Project:

Jicarilla J #4

Sample ID MB-25891

SampType: MBLK

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

Client ID: PBS

Batch ID: 25891

RunNo: 34959

Prep Date: 6/16/2016

Analysis Date: 6/16/2016

PQL

10

SeqNo: 1080367

Analyte

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

130

Diesel Range Organics (DRO)

10.00

96.6

HighLimit

Qual

RPDLimit

Surr: DNOP

Sample ID LCS-25891

SampType: LCS

RunNo: 34959

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

%RPD

%RPD

%RPD

Prep Date: 6/16/2016

Client ID: LCSS

Batch ID: 25891

SeqNo: 1080368

Units: mg/Kg

Analyte

Analysis Date: 6/16/2016

ND

9.7

Diesel Range Organics (DRO)

SPK value SPK Ref Val %REC Result PQL

LowLimit

HighLimit

RPDLimit

Surr: DNOP

42 10 50.00 47 5.000

83.7 94.6 62.6 70

70

%RPD

Qual

Sample ID MB-25834

SampType: MBLK

10.00

PQL SPK value SPK Ref Val %REC

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

LowLimit

70

130

124

130

Client ID: PBS Prep Date: 6/14/2016

Batch ID: 25834 Analysis Date: 6/16/2016

SeqNo: 1080383

Units: %Rec HighLimit

RPDLimit

Qual

Surr: DNOP Sample ID LCS-25834

SampType: LCS

Result

10

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

Client ID: LCSS

Batch ID: 25834

RunNo: 34958

101

Prep Date: 6/14/2016

Analysis Date: 6/16/2016

SeqNo: 1080385

Units: %Rec

Analyte

Analyte

Result

SPK value SPK Ref Val %REC

LowLimit HighLimit

RPDLimit

Surr: DNOP

4.2

5.000

70

130

Qual

Qualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Н Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Not Detected at the Reporting Limit R

Analyte detected in the associated Method Blank

Value above quantitation range

J Analyte detected below quantitation limits Page 2 of 4

Sample pH Not In Range

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

ND

RPD outside accepted recovery limits

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1606876

17-Jun-16

Client:

APEX TITAN

Project:

Prep Date:

Jicarilla J #4

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: A34963

RunNo: 34963

Analysis Date: 6/16/2016

SeqNo: 1080607

Units: mg/Kg

120

Analyte

Surr: BFB

ND 5.0

PQL SPK value SPK Ref Val %REC LowLimit

HighLimit

RPDLimit %RPD

Qual

Gasoline Range Organics (GRO)

1100

Result

109

80

Sample ID 2.5UG GRO LCS

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: A34963

RunNo: 34963

Prep Date:

Analysis Date: 6/16/2016

SeqNo: 1080608

Units: mg/Kg **HighLimit**

Analyte Gasoline Range Organics (GRO) Result PQL SPK value SPK Ref Val %REC LowLimit 21 5.0

25.00

83.7

80

%RPD **RPDLimit** Qual

Surr: BFB

1200

1000

1000

119

80

120 120

Qualifiers:

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

Page 3 of 4

Sample pH Not In Range

RL

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

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1606876

17-Jun-16

Client:

APEX TITAN

Project:

Jicarilla J #4

Sample ID 5ML RB

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID: PBS

Batch ID: C34963

RunNo: 34963

Prep Date:

Analysis Date: 6/16/2016

SeqNo: 1080650

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg

HighLimit

%RPD

%RPD

RPDLimit

RPDLimit Qual

Qual

Analyte

Result PQL Benzene 0.025 ND 0.050 Toluene

ND 0.050 Ethylbenzene ND 0.10 Xylenes, Total

1.000

104

RunNo: 34963

120

Sample ID 100NG BTEX LCS

Surr: 4-Bromofluorobenzene

Client ID: LCSS

SampType: LCS

TestCode: EPA Method 8021B: Volatiles

Batch ID: C34963

1.0

SeqNo: 1080651

Units: mg/Kg

Prep Date:

Analysis Date: 6/16/2016

80

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Benzene	1.0	0.025	1.000	0	101	75.3	123
Toluene	0.96	0.050	1.000	0	96.5	80	124
Ethylbenzene	0.94	0.050	1.000	0	93.6	82.8	121
Xylenes, Total	2.8	0.10	3.000	0	93.7	83.9	122
Surr: 4-Bromofluorobenzene	1.1		1.000		113	80	120

Sample ID 1606876-001AMS

SampType: MS

TestCode: EPA Method 8021B: Volatiles

Client ID: CS-1

Batch ID: C34963

RunNo: 34963

Prep Date:	Analysis [Date: 6/	16/2016	8	SeqNo: 1	080652	Units: mg/F	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.52	0.013	0.5385	0.003511	95.6	71.5	122			
Toluene	0.51	0.027	0.5385	0	95.6	71.2	123			
Ethylbenzene	0.51	0.027	0.5385	0.01616	92.5	75.2	130			
Xylenes, Total	1.6	0.054	1.616	0.07451	93.9	72.4	131			
Surr: 4-Bromofluorobenzene	0.62		0.5385		116	80	120			

Sample ID 1606876-001AMSD

SampType: MSD

TestCode: EPA Method 8021B: Volatiles

Client ID: CS-1

Batch ID: C34963 Annhair Date: 0400040 RunNo: 34963

C--N- 40000F0

	Prep Date:	Analysis I	Date: 6/	16/2016		eqino: 1	080653	Units: mg/r	\g			
ı	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
	Benzene	0.52	0.013	0.5385	0.003511	95.9	71.5	122	0.273	20		
ı	Toluene	0.51	0.027	0.5385	0	95.5	71.2	123	0.166	20		
	Ethylbenzene	0.51	0.027	0.5385	0.01616	92.6	75.2	130	0.0565	20		
_	Xylenes, Total	1.6	0.054	1.616	0.07451	93.3	72.4	131	0.642	20		
	Surr: 4-Bromofluorobenzene	0.63		0.5385		116	80	120	0	0		

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

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



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuayeraye, NM 87109

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

Sample Log-In Check List

RcptNo: 1 **APEX AZTEC** Work Order Number: 1606876 Client Name: Received by/date: 6/16/2016 7:55:00 AM Lindsay Mangin Logged By: 6/16/2016 8:02:59 AM Lindsay Mangin Completed By: 6116116 Reviewed By: Chain of Custody No 🗌 Not Present Yes | 1 Custody seals intact on sample bottles? No Not Present Yes 2. Is Chain of Custody complete? Courier 3. How was the sample delivered? Log In No 🗌 NA 🔲 4. Was an attempt made to cool the samples? NA 🗆 No 🗆 5. Were all samples received at a temperature of >0° C to 6.0°C No 🗍 6. Sample(s) in proper container(s)? No 🗌 7. Sufficient sample volume for indicated test(s)? No 🗌 8. Are samples (except VOA and ONG) properly preserved? NA 🗆 Yes 🗌 No 🐼 9. Was preservative added to bottles? No 🗌 No VOA Vials Yes 10.VOA vials have zero headspace? Yes 🗆 No 🖈 11. Were any sample containers received broken? # of preserved bottles checked No 🗌 for pH: 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗌 13 Are matrices correctly identified on Chain of Custody? No 🔲 Yes 14. Is it clear what analyses were requested? Checked by: Yes No 🗌 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (If applicable) Yes No 🔲 NA 🐼 16. Was client notified of all discrepancies with this order? Person Notified: Date: By Whom: Via: eMail Phone Fax In Person Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C Condition Seal Intact Seal No Seal Date 2.8 Good Yes

																					CHAIN	OF I	COSTODT RECORL
Offic	PEX se Location sect Manager's Name three D	ger	K.S	_	JM mar	-	_aboratory: Address: _ Contact: _ Phone: _ PO/SO #: _ ampler's Sign	Ature	BQ,	NA		ul e le	fa		Re		STED (S)						Lab use only Due Date: Temp. of coolers when received (C°): 248 1 2 3 4 5 Page 1 ot 1
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Proj.			Proje	Ti C		la Ji			>	No/T	Type of (Contair	ners		0	80 g	5/100	//					
Matrix	Date	Time	CoEa	Grab			of Sample(s)	Start	End	VOA	AG 1 H	250 E	Glass	90	,	//	/ / /		/ /	//	//	Lab S	Sample ID (Lab Use Only)
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Relin	quished by	(Signature)			bate:	Tin	ne: Receiv	yed by	Signi	iture)			Date	:	Ti	me:	1	Di	11 7	יט	on Lo	ing	ELKOD
Relin	quished by	(Signature)			Date:	Tin	ne: Recei	red by	(Signa	iture)			Date	E	П	me:	1	N	in i	#E	Na	56	EPROD h
Relin	quished by	(Signature)			Date:	Tin	ne: Receiv	ved by:	(Signa	ature)			Date		Ti	me:							Kush
Matrix	ner VO	W - Wastews A - 40 ml vis	iter al		W - Wate		Soil SD - So	lid I	L - Liqui 250 ml -	d /	A - Air B	ag outh			rcoal tu		SL - sludg	0	0 - Oi				



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

Website: www.hallenvironmental.com

June 29, 2016

Kyle Summers APEX TITAN 606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Jicarilla J 4

OrderNo.: 1606973

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 16 sample(s) on 6/17/2016 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

suly

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-2

Project:

Jicarilla J 4

Collection Date: 6/16/2016 10:00:00 AM

Lab ID:

1606973-001

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS				Analyst:	том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/21/2016 10:01:24 AM	25919
Surr: DNOP	98.9	70-130	%Rec	1	6/21/2016 10:01:24 AM	25919
EPA METHOD 8015D: GASOLINE RAN	NGE				Analyst:	RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	6/26/2016 12:54:49 AM	25922
Surr: BFB	85.8	80-120	%Rec	1	6/26/2016 12:54:49 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Benzene	ND	0.024	mg/Kg	1	6/26/2016 12:54:49 AM	25922
Toluene	ND	0.048	mg/Kg	1	6/26/2016 12:54:49 AM	25922
Ethylbenzene	ND	0.048	mg/Kg	1	6/26/2016 12:54:49 AM	25922
Xylenes, Total	ND	0.096	mg/Kg	1	6/26/2016 12:54:49 AM	25922
Surr: 4-Bromofluorobenzene	94.0	80-120	%Rec	1	6/26/2016 12:54:49 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-3

Project: Jicarilla J 4 Collection Date: 6/16/2016 10:05:00 AM

Lab ID: 1606973-002 Matrix: SOIL Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst	том
Diesel Range Organics (DRO)	ND	9.8	mg/Kg	1	6/21/2016 11:06:56 AM	25919
Surr: DNOP	98.3	70-130	%Rec	1	6/21/2016 11:06:56 AM	25919
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	6/26/2016 1:19:02 AM	25922
Surr: BFB	88.1	80-120	%Rec	1	6/26/2016 1:19:02 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Benzene	ND	0.024	mg/Kg	1	6/26/2016 1:19:02 AM	25922
Toluene	ND	0.047	mg/Kg	1	6/26/2016 1:19:02 AM	25922
Ethylbenzene	ND	0.047	mg/Kg	1	6/26/2016 1:19:02 AM	25922
Xylenes, Total	ND	0.095	mg/Kg	1	6/26/2016 1:19:02 AM	25922
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/26/2016 1:19:02 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 19 J
- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-4

Project:

Jicarilla J 4

Collection Date: 6/16/2016 10:10:00 AM

Lab ID: 160

1606973-003

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/21/2016 11:28:58 AM	25919
Surr: DNOP	97.5	70-130	%Rec	1	6/21/2016 11:28:58 AM	25919
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	6/26/2016 2:31:42 AM	25922
Surr: BFB	86.8	80-120	%Rec	1	6/26/2016 2:31:42 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.023	mg/Kg	1	6/26/2016 2:31:42 AM	25922
Toluene	ND	0.046	mg/Kg	1	6/26/2016 2:31:42 AM	25922
Ethylbenzene	ND	0.046	mg/Kg	1	6/26/2016 2:31:42 AM	25922
Xylenes, Total	ND	0.092	mg/Kg	1	6/26/2016 2:31:42 AM	25922
Surr: 4-Bromofluorobenzene	97.7	80-120	%Rec	1	6/26/2016 2:31:42 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
 - E Value above quantitation range
 - J Analyte detected below quantitation limits Page 3 of 19
 - P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: CS-5

Project: Jicarilla J 4

Collection Date: 6/16/2016 10:15:00 AM

Lab ID: 1606973-004

CLIENT: APEX TITAN

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst:	том
Diesel Range Organics (DRO)	ND	9.2	mg/Kg	1	6/21/2016 11:50:44 AM	25919
Surr: DNOP	101	70-130	%Rec	1	6/21/2016 11:50:44 AM	25919
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst:	RAA
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	6/26/2016 3:44:33 AM	25922
Surr: BFB	88.4	80-120	%Rec	1	6/26/2016 3:44:33 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Benzene	ND	0.023	mg/Kg	1	6/26/2016 3:44:33 AM	25922
Toluene	ND	0.046	mg/Kg	1	6/26/2016 3:44:33 AM	25922
Ethylbenzene	ND	0.046	mg/Kg	1	6/26/2016 3:44:33 AM	25922
Xylenes, Total	ND	0.092	mg/Kg	1	6/26/2016 3:44:33 AM	25922
Surr: 4-Bromofluorobenzene	96.6	80-120	%Rec	1	6/26/2016 3:44:33 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 4 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-6

Project:

Jicarilla J 4

Collection Date: 6/16/2016 10:20:00 AM

Lab ID:

1606973-005

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Q	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst	: том
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/21/2016 12:12:47 PM	25919
Surr: DNOP	101	70-130	%Rec	1	6/21/2016 12:12:47 PM	25919
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/26/2016 4:08:45 AM	25922
Surr: BFB	87.4	80-120	%Rec	1	6/26/2016 4:08:45 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst	: RAA
Benzene	ND	0.024	mg/Kg	1	6/26/2016 4:08:45 AM	25922
Toluene	ND	0.049	mg/Kg	1	6/26/2016 4:08:45 AM	25922
Ethylbenzene	ND	0.049	mg/Kg	1	6/26/2016 4:08:45 AM	25922
Xylenes, Total	ND	0.097	mg/Kg	1	6/26/2016 4:08:45 AM	25922
Surr: 4-Bromofluorobenzene	100	80-120	%Rec	1	6/26/2016 4:08:45 AM	25922

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/29/2016

CLIENT: APEX TITAN

Client Sample ID: CS-7

Project:

Jicarilla J 4

Collection Date: 6/16/2016 10:25:00 AM

Lab ID: 1606973-006

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst	том
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/21/2016 12:34:45 PM	25919
Surr: DNOP	104	70-130	%Rec	1	6/21/2016 12:34:45 PM	25919
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	6/26/2016 4:33:01 AM	25922
Surr: BFB	87.3	80-120	%Rec	1	6/26/2016 4:33:01 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.024	mg/Kg	1	6/26/2016 4:33:01 AM	25922
Toluene	ND	0.048	mg/Kg	1	6/26/2016 4:33:01 AM	25922
Ethylbenzene	ND	0.048	mg/Kg	1	6/26/2016 4:33:01 AM	25922
Xylenes, Total	ND	0.097	mg/Kg	1	6/26/2016 4:33:01 AM	25922
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/26/2016 4:33:01 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

CTITAN Client Sample ID: CS-8

Project: Jicarilla J 4

Collection Date: 6/16/2016 10:30:00 AM Received Date: 6/17/2016 7:45:00 AM

Lab ID: 1606973-007 Ma

Matrix: SOIL

Analyses	Result	PQL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS					Analyst	: ТОМ
Diesel Range Organics (DRO)	, ND	10	mg/Kg	1	6/21/2016 12:56:52 PM	25919
Surr: DNOP	102	70-130	%Rec	1	6/21/2016 12:56:52 PM	25919
EPA METHOD 8015D: GASOLINE RANGE					Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	6/27/2016 2:50:13 PM	25922
Surr: BFB	87.9	80-120	%Rec	1	6/27/2016 2:50:13 PM	25922
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.023	mg/Kg	1	6/27/2016 2:50:13 PM	25922
Toluene	ND	0.046	mg/Kg	1	6/27/2016 2:50:13 PM	25922
Ethylbenzene	ND	0.046	mg/Kg	1	6/27/2016 2:50:13 PM	25922
Xylenes, Total	ND	0.092	mg/Kg	1	6/27/2016 2:50:13 PM	25922
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	6/27/2016 2:50:13 PM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 7 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-9

Project:

Jicarilla J 4

Collection Date: 6/16/2016 10:35:00 AM

Lab ID: 1606973-008

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	3			Analyst	: ТОМ
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	6/21/2016 1:18:48 PM	25919
Surr: DNOP	105	70-130	%Rec	1	6/21/2016 1:18:48 PM	25919
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	6/27/2016 3:14:45 PM	25922
Surr: BFB	94.1	80-120	%Rec	1	6/27/2016 3:14:45 PM	25922
EPA METHOD 8021B: VOLATILES					Analyst	: NSB
Benzene	ND	0.023	mg/Kg	1	6/27/2016 3:14:45 PM	25922
Toluene	0.068	0.047	mg/Kg	1	6/27/2016 3:14:45 PM	25922
Ethylbenzene	ND	0.047	mg/Kg	1	6/27/2016 3:14:45 PM	25922
Xylenes, Total	0.38	0.093	mg/Kg	1	6/27/2016 3:14:45 PM	25922
Surr: 4-Bromofluorobenzene	96.5	80-120	%Rec	1	6/27/2016 3:14:45 PM	25922

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

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 8 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: CS-10

Project: Jicarilla J 4 Collection Date: 6/16/2016 10:40:00 AM

Lab ID: 1606973-009 Matrix: SOIL Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual Units		DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	3				Analyst	: том
Diesel Range Organics (DRO)	11	9.8		mg/Kg	1	6/21/2016 1:41:03 PM	25919
Surr: DNOP	95.9	70-130		%Rec	1	6/21/2016 1:41:03 PM	25919
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	: NSB
Gasoline Range Organics (GRO)	7.6	4.6		mg/Kg	1	6/27/2016 5:41:22 PM	25922
Surr: BFB	143	80-120	S	%Rec	1	6/27/2016 5:41:22 PM	25922
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.023		mg/Kg	- 1	6/27/2016 5:41:22 PM	25922
Toluene	ND	0.046		mg/Kg	1	6/27/2016 5:41:22 PM	25922
Ethylbenzene	ND	0.046		mg/Kg	1	6/27/2016 5:41:22 PM	25922
Xylenes, Total	0.11	0.093		mg/Kg	1	6/27/2016 5:41:22 PM	25922
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	6/27/2016 5:41:22 PM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Lab ID:

Project:

Jicarilla J 4

1606973-010

Matrix: SOIL

Client Sample ID: CS-11

Collection Date: 6/16/2016 10:45:00 AM

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF Date Analyzed		Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	3			Analyst	: том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/21/2016 2:03:10 PM	25919
Surr: DNOP	92.5	70-130	%Rec	1	6/21/2016 2:03:10 PM	25919
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: RAA
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	6/26/2016 6:10:01 AM	25922
Surr: BFB	94.7	80-120	%Rec	1	6/26/2016 6:10:01 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst	: RAA
Benzene	ND	0.023	mg/Kg	1	6/26/2016 6:10:01 AM	25922
Toluene	ND	0.046	mg/Kg	1	6/26/2016 6:10:01 AM	25922
Ethylbenzene	ND	0.046	mg/Kg	1	6/26/2016 6:10:01 AM	25922
Xylenes, Total	ND	0.092	mg/Kg	1	6/26/2016 6:10:01 AM	25922
Surr: 4-Bromofluorobenzene	102	80-120	%Rec	1	6/26/2016 6:10:01 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limits Page 10 of 19
- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Analytical Report Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Project:

Lab ID:

Jicarilla J 4

1606973-011

Client Sample ID: CS-12

Collection Date: 6/16/2016 10:50:00 AM

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Q	ual Units	DF Date Analyzed		Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	том
Diesel Range Organics (DRO)	ND	9.9	mg/Kg	1	6/21/2016 2:25:24 PM	25919
Surr: DNOP	87.3	70-130	%Rec	1	6/21/2016 2:25:24 PM	25919
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	6/26/2016 8:11:32 AM	25922
Surr: BFB	114	80-120	%Rec	1	6/26/2016 8:11:32 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.024	mg/Kg	1	6/26/2016 8:11:32 AM	25922
Toluene	ND	0.047	mg/Kg	1	6/26/2016 8:11:32 AM	25922
Ethylbenzene	ND	0.047	mg/Kg	1	6/26/2016 8:11:32 AM	25922
Xylenes, Total	ND	0.095	mg/Kg	1	6/26/2016 8:11:32 AM	25922
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/26/2016 8:11:32 AM	25922

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limitspage 11 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Analytical Report Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Lab ID:

Project: Jicarilla J 4

1606973-012

Matrix: SOIL

Client Sample ID: CS-13

Collection Date: 6/16/2016 10:55:00 AM

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	3			Analyst	: том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	6/21/2016 2:47:33 PM	25919
Surr: DNOP	93.4	70-130	%Rec	1	6/21/2016 2:47:33 PM	25919
EPA METHOD 8015D: GASOLINE RA	ANGE				Analyst	: RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	6/26/2016 8:35:43 AM	25922
Surr: BFB	87.5	80-120	%Rec	1	6/26/2016 8:35:43 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst	: RAA
Benzene	ND	0.025	mg/Kg	1	6/26/2016 8:35:43 AM	25922
Toluene	ND	0.049	mg/Kg	1	6/26/2016 8:35:43 AM	25922
Ethylbenzene	ND	0.049	mg/Kg	1	6/26/2016 8:35:43 AM	25922
Xylenes, Total	ND	0.098	mg/Kg	1	6/26/2016 8:35:43 AM	25922
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	6/26/2016 8:35:43 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 12 of 19 J
- P Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-14

Jicarilla J 4 Collection Date: 6/16/2016 11:00:00 AM Project: Lab ID: 1606973-013 Matrix: SOIL Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst	: TOM
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/21/2016 3:39:08 PM	25919
Surr: DNOP	94.7	70-130	%Rec	1	6/21/2016 3:39:08 PM	25919
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	6/26/2016 8:59:53 AM	25922
Surr: BFB	110	80-120	%Rec	1	6/26/2016 8:59:53 AM	25922
EPA METHOD 8021B: VOLATILES					Analyst	: RAA
Benzene	ND	0.023	mg/Kg	1	6/26/2016 8:59:53 AM	25922
Toluene	ND	0.047	mg/Kg	1	6/26/2016 8:59:53 AM	25922
Ethylbenzene	ND	0.047	mg/Kg	1	6/26/2016 8:59:53 AM	25922
Xylenes, Total	ND	0.094	mg/Kg	1	6/26/2016 8:59:53 AM	25922
Surr: 4-Bromofluorobenzene	99.4	80-120	%Rec	1	6/26/2016 8:59:53 AM	25922

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range E
- Analyte detected below quantitation limitspage 13 of 19 J
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-15

Project:

Jicarilla J 4

Collection Date: 6/16/2016 11:05:00 AM

Lab ID: 1606973-014

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	3				Analyst	: том
Diesel Range Organics (DRO)	- 11	10		mg/Kg	1	6/21/2016 4:01:24 PM	25919
Surr: DNOP	95.2	70-130		%Rec	1	6/21/2016 4:01:24 PM	25919
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	: NSB
Gasoline Range Organics (GRO)	71	9.6		mg/Kg	2	6/27/2016 6:05:50 PM	25922
Surr: BFB	195	80-120	s	%Rec	2	6/27/2016 6:05:50 PM	25922
EPA METHOD 8021B: VOLATILES						Analyst	: NSB
Benzene	ND	0.048		mg/Kg	2	6/27/2016 6:05:50 PM	25922
Toluene	ND	0.096		mg/Kg	2	6/27/2016 6:05:50 PM	25922
Ethylbenzene	0.16	0.096		mg/Kg	2	6/27/2016 6:05:50 PM	25922
Xylenes, Total	1.1	0.19		mg/Kg	2	6/27/2016 6:05:50 PM	25922
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	2	6/27/2016 6:05:50 PM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 14 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-16

Project:

Jicarilla J 4

Collection Date: 6/16/2016 11:10:00 AM

Lab ID:

1606973-015

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS					Analyst	том
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/21/2016 4:23:23 PM	25919
Surr: DNOP	95.8	70-130		%Rec	1	6/21/2016 4:23:23 PM	25919
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	15	4.7		mg/Kg	1	6/27/2016 6:30:15 PM	25922
Surr: BFB	148	80-120	s	%Rec	1	6/27/2016 6:30:15 PM	25922
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	0.023		mg/Kg	1	6/27/2016 6:30:15 PM	25922
Toluene	ND	0.047		mg/Kg	1	6/27/2016 6:30:15 PM	25922
Ethylbenzene	0.051	0.047		mg/Kg	1	6/27/2016 6:30:15 PM	25922
Xylenes, Total	0.33	0.094		mg/Kg	1	6/27/2016 6:30:15 PM	25922
Surr: 4-Bromofluorobenzene	98.2	80-120		%Rec	1	6/27/2016 6:30:15 PM	25922

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 15 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606973

Received Date: 6/17/2016 7:45:00 AM

Date Reported: 6/29/2016

6/27/2016 6:54:32 PM

25922

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN Client Sample ID: CS-17

Project: Jicarilla J 4 Collection Date: 6/16/2016 11:15:00 AM

Matrix: SOIL

107

PQL Qual Units Result **DF** Date Analyzed Batch Analyses **EPA METHOD 8015M/D: DIESEL RANGE ORGANICS** Analyst: TOM 6/21/2016 4:45:44 PM Diesel Range Organics (DRO) mg/Kg 25919 9.5 6/21/2016 4:45:44 PM Surr: DNOP 95.4 70-130 %Rec **EPA METHOD 8015D: GASOLINE RANGE** Analyst: NSB 6/27/2016 6:54:32 PM Gasoline Range Organics (GRO) 24 4.8 mg/Kg 25922 Surr: BFB 228 %Rec 6/27/2016 6:54:32 PM 80-120 **EPA METHOD 8021B: VOLATILES** Analyst: NSB ND 0.024 mg/Kg 6/27/2016 6:54:32 PM Renzene Toluene ND 0.048 mg/Kg 6/27/2016 6:54:32 PM 25922 Ethylbenzene 0.097 0.048 mg/Kg 6/27/2016 6:54:32 PM 25922 Xylenes, Total 0.39 0.095 mg/Kg 6/27/2016 6:54:32 PM 25922

80-120

%Rec

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

Qualifiers:

Lab ID:

1606973-016

Surr: 4-Bromofluorobenzene

- Value exceeds 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 16 of 19
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#:

1606973

29-Jun-16

Client:

APEX TITAN

Project:

Jicarilla J 4

Sample ID LCS-25919

SampType: LCS

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

Client ID: LCSS Batch ID: 25919

RunNo: 35040

Prep Date: 6/17/2016

Analysis Date: 6/21/2016

PQL

10

SeqNo: 1083462

Units: mg/Kg

Analyte Diesel Range Organics (DRO)

40 4.4

Result

50.00 5.000

79.8 88.1

HighLimit 124

130

Qual

Sample ID MB-25919

SampType: MBLK

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

Client ID: PBS

Surr: DNOP

Batch ID: 25919

RunNo: 35040

130

Prep Date: 6/17/2016

Analysis Date: 6/21/2016

SeqNo: 1083463

Units: mg/Kg

Diesel Range Organics (DRO)

PQL Result ND 10

SPK value SPK Ref Val %REC

0

SPK value SPK Ref Val %REC LowLimit

HighLimit

RPDLimit

RPDLimit

Surr: DNOP

9.4

10.00

50.56

5.056

93.9

70

%RPD

Qual

Client ID: CS-2

SampType: MS

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

33.9

70

70

LowLimit

62.6

%RPD

%RPD

Sample ID 1606973-001AMS

Batch ID: 25919

RunNo: 35040

77.2

88.5

Units: mg/Kg

Prep Date: 6/17/2016 Result

Analysis Date: 6/21/2016

SPK value SPK Ref Val %REC

SegNo: 1083468 LowLimit

HighLimit

141

RPDLimit

Qual

Qual

Diesel Range Organics (DRO) Surr: DNOP

45 4.5

PQL

5.987

130

Sample ID 1606973-001AMSD

SampType: MSD

RunNo: 35040

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

Prep Date: 6/17/2016

Client ID: CS-2

Batch ID: 25919 Analysis Date: 6/21/2016

5.987

SeqNo: 1083659

99.8

Units: mg/Kg

Result

47

4.9

LowLimit **HighLimit**

%RPD

RPDLimit

20 0

Page 17 of 19

Diesel Range Organics (DRO) Surr: DNOP

9.9

PQL

49.46 4.946

SPK value SPK Ref Val %REC 83.3

33.9

141 130

4.68 0

Oualifiers:

S

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

% Recovery outside of range due to dilution or matrix

R RPD outside accepted recovery limits

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

Hall Environmental Analysis Laboratory, Inc.

WO#:

1606973

29-Jun-16

Client:

APEX TITAN

Project:

Jicarilla J 4

Sample ID 1606973-002AMS

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

LowLimit

LowLimit

LowLimit

80

80

59.3

80

59 3

80

Client ID:

CS-3

Batch ID: 25922

RunNo: 35177

Prep Date: 6/17/2016

Analysis Date: 6/26/2016

SeqNo: 1088279

Units: mg/Kg

143

120

Analyte Gasoline Range Organics (GRO)

PQL 4.8

24.02

960.6

24.44

977.5

25.00

1000

SPK value SPK Ref Val

SPK value SPK Ref Val

SPK value SPK Ref Val %REC 112

HighLimit %RPD

RPDLimit

Qual

Sample ID 1606973-002AMSD

Gasoline Range Organics (GRO)

SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

90.0

Client ID:

Surr: BFB

CS-3

Batch ID: 25922

RunNo: 35177

143

Prep Date: 6/17/2016

27

860

Result

27

860

%REC

Units: mg/Kg

Analyte

Analysis Date: 6/26/2016 PQL

4.9

SeqNo: 1088280

110

87.5

HighLimit

%RPD **RPDLimit** Qual

Surr: BFB

120

%RPD

%RPD

0.0925 20 0

Sample ID LCS-25922

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

120

120

Client ID: LCSS Prep Date: 6/17/2016 Batch ID: 25922

Result

31

890

RunNo: 35177

126

88.8

Analysis Date: 6/25/2016 PQL

5.0

SeqNo: 1088298

%REC

Units: mg/Kg **HighLimit**

RPDLimit

Qual S

Gasoline Range Organics (GRO) Surr. BFB

SPK value SPK Ref Val %REC LowLimit

TestCode: EPA Method 8015D: Gasoline Range

Surr: BFB

Sample ID MB-25922 Client ID: PBS

SampType: MBLK

RunNo: 35177

Prep Date: 6/17/2016

Batch ID: 25922 Analysis Date: 6/25/2016

SeqNo: 1088299

Units: mg/Kg

HighLimit

RPDLimit Qual

Gasoline Range Organics (GRO)

Result ND 910 PQL 5.0

1000

90.5

80

120

Qualifiers:

S

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

% Recovery outside of range due to dilution or matrix

- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Page 18 of 19

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

Hall Environmental Analysis Laboratory, Inc.

0.91

WO#:

120

80

1606973

29-Jun-16

Client:

APEX TITAN

Project:

Surr: 4-Bromofluorobenzene

Jicarilla J 4

_	Sample ID	1606973-003AMS	SampT	ype: MS		Tee	Code: El	DA Mothod	8021B: Volat	ilee		
1	Sample ID	1000913-003AM3	Sampi	ype. wa	•	165	icode. El	PA IMELIIOU	OUZID: VOIAI	lies		
ı	Client ID:	CS-4	Batch	ID: 259	922	F	RunNo: 3	5177				
۱	Prep Date:	6/17/2016	Analysis Date: 6/26/2016			8	SeqNo: 1088387 Units: mg/Kg					
	Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
	Benzene		0.88	0.024	0.9634	0	91.4	71.5	122			
	Toluene		0.78	0.048	0.9634	0	80.8	71.2	123			
	Ethylbenzene		0.79	0.048	0.9634	0.01183	81.0	75.2	130			
	Xylenes, Total		2.4	0.096	2.890	0.04064	80.9	72.4	131			

94.7

0.9634

Sample ID 1606973-003AM	Sample ID 1606973-003AMSD SampType: MSD			Tes	tCode: E	PA Method	8021B: Volat	tiles		
Client ID: CS-4	Batch	ID: 25	922	F	RunNo: 3	5177				
Prep Date: 6/17/2016	Analysis D	ate: 6/	26/2016	8	SeqNo: 1	088388	Units: mg/K	(g	20 20 20	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.81	0.024	0.9416	0	86.1	71.5	122	8.20	20	
Toluene	0.72	0.047	0.9416	0	76.7	71.2	123	7.48	20	
Ethylbenzene	0.74	0.047	0.9416	0.01183	77.7	75.2	130	6.38	20	
Xylenes, Total	2.2	0.094	2.825	0.04064	78.0	72.4	131	5.89	20	
Surr: 4-Bromofluorobenzene	0.89		0.9416		94.6	80	120	0	0	

Sample ID LCS-25922	SampT	Гуре: LC	s	Tes	Code: El	PA Method	8021B: Volat	tiles		
Client ID: LCSS	Batch	h ID: 25	922	F	RunNo: 3					
Prep Date: 6/17/2016	Analysis Date: 6/25/2016			S	SeqNo: 1	088405	Units: mg/K	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	112	75.3	123			
Toluene	1.0	0.050	1.000	0	103	80	124			
Ethylbenzene	1.0	0.050	1.000	0	99.9	82.8	121			
Xylenes, Total	2.9	0.10	3.000	0	97.1	83.9	122			
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			
Sample ID MB-25922	Tes	Code: El	PA Method	8021B: Volat	tiles					

Client ID: PBS	Batch	n ID: 25	922	F	RunNo: 3	5177					
Prep Date: 6/17/2016	Analysis D	Date: 6/	25/2016		SeqNo: 1088406			(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.025									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120				

- Value exceeds 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
 - Cample all Not in Banco
- Page 19 of 19

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



4901 Hawkins NE Albuquerque, NM 87109

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

Sample Log-In Check List

Website: www.hallenvironmental.com RoptNo: 1 Work Order Number: 1606973 APEX.AZTEC Received by/date: **Ashley Gallegos** 6/17/2016 7:45:00 AM Logged By: 6/17/2016 9:55:18 AM Completed By: **Ashley Gallegos** 6117116 23 Reviewed By: Chain of Custody No 🗆 Not Present Yes 1. Custody seals intact on sample bottles? No 🗌 Yes V Not Present 2. Is Chain of Custody complete? 3. How was the sample delivered? Courier Log In No 🗌 NA 🗌 Yes V 4. Was an attempt made to cool the samples? No \square NA 🗌 Yes V 5. Were all samples received at a temperature of >0° C to 6.0°C Yes 🗸 No 🗆 6. Sample(s) in proper container(s)? No 🗌 Yes V 7. Sufficient sample volume for indicated test(s)? No 🗌 Yes V 8. Are samples (except VOA and ONG) properly preserved? No 🗸 NA 🗆 Yes 9. Was preservative added to bottles? No VOA Vials No 🗆 Yes | 10. VOA vials have zero headspace? Yes 🗆 No V 11. Were any sample containers received broken? # of preserved bottles checked for pH: No 🗌 Yes 🗸 12. Does paperwork match bottle labels? (<2 or >12 unless noted) (Note discrepancies on chain of custody) Adjusted? No 🗆 Yes 🗸 13. Are matrices correctly identified on Chain of Custody? No 🗌 Yes V 14. Is it clear what analyses were requested? No 🗌 Checked by: Yes 🗸 15. Were all holding times able to be met? (If no, notify customer for authorization.) Special Handling (if applicable) Yes No 🗆 NA V 16. Was client notified of all discrepancies with this order? **Person Notified:** Date Via: eMail Phone Fax In Person By Whom: Regarding: Client Instructions: 17. Additional remarks: 18. Cooler Information Cooler No Temp °C | Condition | Seal Intact | Seal No Seal Date Signed By

Good

Yes

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			CHAIN OF CUSTODY	RECORL
APEX Office Location Axtec Project Manager N. Symmers Sampler's Name Rakee Deeckilly	Laboratory: Hall Address: Contact: Phone: PO/SO #: Sampler's Signature		ANALYSIS REQUESTED Temp. of cooler when received 1 2 3 Page 2	
Proj. No. Project Name	Karilluk	No/Type of Containers		
	rks of Sample(s)	AAG	Lab Sample ID (Lab Us	se Only)
S 6/6/10 1050 X 65-1:				01
1055 65-1	3	13	\$111	013
1100 CS-1	4		1111	-03
1105 65-1	9	1	-	14
V V 1110 W 63-1	6	N #	-(35
V W 1115 V CS-1		1	44	000
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	50% Rush			
	ime: Received by: Signat	ture) OUP TILL	10 015 NOTES: 11 TOW Long	
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Matrix WW - Wastewater W - Water S	- Soll SD - Solid 1 - I forlid	1 45 Dec 0 Che	harmal tohar Cl. altidae O. Olf	



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

June 29, 2016

Kyle Summers

APEX TITAN

606 S. Rio Grande Unit A

Aztec, NM 87410

TEL: (903) 821-5603

FAX

RE: Jicarilla J 4

OrderNo.: 1606969

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 10 sample(s) on 6/17/2016 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE

Albuquerque, NM 87109

Analytical Report Lab Order 1606969

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 6/29/2016

CLIENT: APEX TITAN

Client Sample ID: SP-1

Project:

Jicarilla J 4

Collection Date: 6/16/2016 4:00:00 PM

Lab ID: 1606969-001 Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS	3			Analyst	том
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	6/21/2016 5:05:03 PM	25914
Surr: DNOP	92.0	70-130	%Rec	1	6/21/2016 5:05:03 PM	25914
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	: RAA
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	6/25/2016 12:37:04 AM	25923
Surr: BFB	86.3	80-120	%Rec	1	6/25/2016 12:37:04 AM	25923
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.023	mg/Kg	1	6/25/2016 12:37:04 AM	25923
Toluene	ND	0.047	mg/Kg	1	6/25/2016 12:37:04 AM	25923
Ethylbenzene	ND	0.047	mg/Kg	1	6/25/2016 12:37:04 AM	25923
Xylenes, Total	ND	0.093	mg/Kg	1	6/25/2016 12:37:04 AM	25923
Surr: 4-Bromofluorobenzene	98.5	80-120	%Rec	1	6/25/2016 12:37:04 AM	25923

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

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

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Project:

Lab ID:

Jicarilla J 4

1606969-002

.....

Client Sample ID: SP-2

Collection Date: 6/16/2016 4:05:00 PM

Matrix: SOIL Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANICS	3				Analyst	том
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/21/2016 6:29:44 PM	25914
Surr: DNOP	96.7	70-130		%Rec	1	6/21/2016 6:29:44 PM	25914
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	45	4.9		mg/Kg	1	6/25/2016 8:27:36 PM	25923
Surr: BFB	195	80-120	S	%Rec	1	6/25/2016 8:27:36 PM	25923
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	0.024		mg/Kg	1	6/25/2016 8:27:36 PM	25923
Toluene	0.27	0.049		mg/Kg	1	6/25/2016 8:27:36 PM	25923
Ethylbenzene	0.23	0.049		mg/Kg	1	6/25/2016 8:27:36 PM	25923
Xylenes, Total	2.0	0.098		mg/Kg	1	6/25/2016 8:27:36 PM	25923
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	6/25/2016 8:27:36 PM	25923

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

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

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: SP-3

Project:

Jicarilla J 4

Collection Date: 6/16/2016 4:10:00 PM

Lab ID: 1606969-003

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS			-1.181		Analyst:	том
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	6/21/2016 6:57:49 PM	25914
Surr: DNOP	98.3	70-130		%Rec	1	6/21/2016 6:57:49 PM	25914
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst:	RAA
Gasoline Range Organics (GRO)	72	4.7		mg/Kg	1	6/25/2016 8:51:53 PM	25923
Surr: BFB	508	80-120	S	%Rec	1	6/25/2016 8:51:53 PM	25923
EPA METHOD 8021B: VOLATILES						Analyst:	RAA
Benzene	ND	0.024		mg/Kg	1	6/25/2016 8:51:53 PM	25923
Toluene	0.29	0.047		mg/Kg	1	6/25/2016 8:51:53 PM	25923
Ethylbenzene	0.42	0.047		mg/Kg	1	6/25/2016 8:51:53 PM	25923
Xylenes, Total	3.4	0.095		mg/Kg	1	6/25/2016 8:51:53 PM	25923
Surr: 4-Bromofluorobenzene	134	80-120	S	%Rec	1	6/25/2016 8:51:53 PM	25923

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

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

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Project: Lab ID: THE EXTENS

1606969-004

Jicarilla J 4

Client Sample ID: SP-4

Collection Date: 6/16/2016 4:20:00 PM

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	i				Analyst	том
Diesel Range Organics (DRO)	14	9.7		mg/Kg	1	6/21/2016 7:26:09 PM	25914
Surr: DNOP	111	70-130		%Rec	1	6/21/2016 7:26:09 PM	25914
EPA METHOD 8015D: GASOLINE RAM	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	25	4.9		mg/Kg	1	6/25/2016 9:16:11 PM	25923
Surr: BFB	135	80-120	S	%Rec	1	6/25/2016 9:16:11 PM	25923
EPA METHOD 8021B: VOLATILES						Analyst	: RAA
Benzene	ND	0.025		mg/Kg	1	6/25/2016 9:16:11 PM	25923
Toluene	0.14	0.049		mg/Kg	1	6/25/2016 9:16:11 PM	25923
Ethylbenzene	0.17	0.049		mg/Kg	1	6/25/2016 9:16:11 PM	25923
Xylenes, Total	1.3	0.098		mg/Kg	1	6/25/2016 9:16:11 PM	25923
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	6/25/2016 9:16:11 PM	25923

Matrix: SOIL

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

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

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Project:

Lab ID:

Jicarilla J 4

1606969-005

Client Sample ID: SP-5

Collection Date: 6/16/2016 4:30:00 PM

Matrix: SOIL Receive

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS					Analyst	: TOM
Diesel Range Organics (DRO)	12	9.7		mg/Kg	1	6/21/2016 5:30:07 PM	25914
Surr: DNOP	119	70-130		%Rec	1	6/21/2016 5:30:07 PM	25914
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	15	4.8		mg/Kg	1	6/25/2016 9:40:24 PM	25923
Surr: BFB	132	80-120	S	%Rec	1	6/25/2016 9:40:24 PM	25923
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	0.024		mg/Kg	1	6/25/2016 9:40:24 PM	25923
Toluene	ND	0.048		mg/Kg	1	6/25/2016 9:40:24 PM	25923
Ethylbenzene	ND	0.048		mg/Kg	1	6/25/2016 9:40:24 PM	25923
Xylenes, Total	0.25	0.097		mg/Kg	1	6/25/2016 9:40:24 PM	25923
Surr: 4-Bromofluorobenzene	99.2	80-120		%Rec	1	6/25/2016 9:40:24 PM	25923

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

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

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

X TITAN Client Sample ID: SP-6

Project: Jicarilla J 4

Collection Date: 6/16/2016 4:40:00 PM

Lab ID: 1606969-006

Matrix: SOIL Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual U	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3				Analyst:	том
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	6/21/2016 6:14:37 PM	25914
Surr: DNOP	122	70-130		%Rec	1	6/21/2016 6:14:37 PM	25914
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst:	RAA
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	6/25/2016 2:38:10 AM	25923
Surr: BFB	92.9	80-120		%Rec	1	6/25/2016 2:38:10 AM	25923
EPA METHOD 8021B: VOLATILES						Analyst:	RAA
Benzene	ND	0.023		mg/Kg	1	6/25/2016 2:38:10 AM	25923
Toluene	ND	0.047	1	mg/Kg	1	6/25/2016 2:38:10 AM	25923
Ethylbenzene	ND	0.047		mg/Kg	1	6/25/2016 2:38:10 AM	25923
Xylenes, Total	ND	0.094		mg/Kg	1	6/25/2016 2:38:10 AM	25923
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	6/25/2016 2:38:10 AM	25923

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

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

Analytical Report Lab Order 1606969 Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: SP-7

CLIENT: APEX TITAN
Project: Jicarilla J 4

Collection Date: 6/16/2016 5:00:00 PM

Lab ID: 1606969-007

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3				Analyst	том
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	6/21/2016 6:59:00 PM	25914
Surr: DNOP	103	70-130		%Rec	1	6/21/2016 6:59:00 PM	25914
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	8.2	4.8		mg/Kg	1	6/25/2016 3:02:21 AM	25923
Surr: BFB	125	80-120	S	%Rec	1	6/25/2016 3:02:21 AM	25923
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	0.024		mg/Kg	1	6/25/2016 3:02:21 AM	25923
Toluene	ND	0.048		mg/Kg	1	6/25/2016 3:02:21 AM	25923
Ethylbenzene	ND	0.048		mg/Kg	1	6/25/2016 3:02:21 AM	25923
Xylenes, Total	ND	0.096		mg/Kg	1	6/25/2016 3:02:21 AM	25923
Surr: 4-Bromofluorobenzene	96.5	80-120		%Rec	1	6/25/2016 3:02:21 AM	25923

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

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

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: SP-8

Project:

Jicarilla J 4

Collection Date: 6/16/2016 5:20:00 PM

Lab ID:

1606969-008

Matrix: SOIL

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3				Analyst:	том
Diesel Range Organics (DRO)	23	9.7		mg/Kg	1	6/21/2016 7:21:01 PM	25914
Surr: DNOP	108	70-130		%Rec	1	6/21/2016 7:21:01 PM	25914
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst:	RAA
Gasoline Range Organics (GRO)	46	4.6		mg/Kg	1	6/25/2016 10:04:39 PM	25923
Surr: BFB	187	80-120	S	%Rec	1	6/25/2016 10:04:39 PM	25923
EPA METHOD 8021B: VOLATILES						Analyst:	RAA
Benzene	ND	0.023		mg/Kg	1	6/25/2016 10:04:39 PM	25923
Toluene	0.30	0.046		mg/Kg	1	6/25/2016 10:04:39 PM	25923
Ethylbenzene	0.22	0.046		mg/Kg	1	6/25/2016 10:04:39 PM	25923
Xylenes, Total	1.8	0.092		mg/Kg	1	6/25/2016 10:04:39 PM	25923
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	6/25/2016 10:04:39 PM	25923

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

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

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Project:

Lab ID:

Jicarilla J 4

1606969-009

Client Sample ID: SP-9

Collection Date: 6/16/2016 5:30:00 PM

Matrix: SOIL Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	3			Analyst:	том
Diesel Range Organics (DRO)	ND	9.6	mg/Kg	1	6/21/2016 7:43:18 PM	25914
Surr: DNOP	106	70-130	%Rec	1	6/21/2016 7:43:18 PM	25914
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst:	RAA
Gasoline Range Organics (GRO)	7.0	4.8	mg/Kg	1	6/25/2016 10:28:54 PM	25923
Surr: BFB	113	80-120	%Rec	1	6/25/2016 10:28:54 PM	25923
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Benzene	ND	0.024	mg/Kg	1	6/25/2016 10:28:54 PM	25923
Toluene	ND	0.048	mg/Kg	1	6/25/2016 10:28:54 PM	25923
Ethylbenzene	ND	0.048	mg/Kg	1	6/25/2016 10:28:54 PM	25923
Xylenes, Total	0.34	0.097	mg/Kg	1	6/25/2016 10:28:54 PM	25923
Surr: 4-Bromofluorobenzene	98.5	80-120	%Rec	1	6/25/2016 10:28:54 PM	25923

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1606969

Date Reported: 6/29/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Project:

Lab ID:

Jicarilla J 4

1606969-010

Matrix: SOIL

Client Sample ID: SP-10

Collection Date: 6/16/2016 5:40:00 PM

Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANICS	3				Analyst	том
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	6/21/2016 8:05:32 PM	25914
Surr: DNOP	95.9	70-130		%Rec	1	6/21/2016 8:05:32 PM	25914
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	58	4.7		mg/Kg	1	6/25/2016 10:53:09 PM	25923
Surr: BFB	280	80-120	S	%Rec	1	6/25/2016 10:53:09 PM	25923
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	0.025	0.024		mg/Kg	1	6/25/2016 10:53:09 PM	25923
Toluene	0.50	0.047		mg/Kg	1	6/25/2016 10:53:09 PM	25923
Ethylbenzene	0.45	0.047		mg/Kg	1	6/25/2016 10:53:09 PM	25923
Xylenes, Total	4.3	0.095		mg/Kg	1	6/25/2016 10:53:09 PM	25923
Surr: 4-Bromofluorobenzene	127	80-120	S	%Rec	1	6/25/2016 10:53:09 PM	25923

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 10 of 13
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#:

1606969

29-Jun-16

Client:

APEX TITAN

Project:

Jicarilla J 4

Sample ID LCS-25919

SampType: LCS

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

Client ID:

LCSS

Batch ID: 25919

RunNo: 35040

Prep Date: 6/17/2016

Analysis Date: 6/21/2016

SeqNo: 1083462

Units: %Rec

Analyte Surr: DNOP

Client ID:

Surr: DNOP

Client ID:

Result 4.4 SPK value SPK Ref Val 5.000

%REC LowLimit 88 1

HighLimit 130 **RPDLimit**

Qual

Sample ID MB-25919

PBS

SampType: MBLK Batch ID: 25919

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

RunNo: 35040

Units: %Rec

130

RPDLimit

Prep Date: 6/17/2016 Analyte

Result

Analysis Date: 6/21/2016

10.00

SegNo: 1083463 SPK value SPK Ref Val %REC

LowLimit

HighLimit

%RPD

%RPD

Qual

Sample ID MB-25914

Result

SampType: MBLK Batch ID: 25914

PQL

TestCode: EPA Method 8015M/D: Diesel Range Organics RunNo: 35041

93.9

Prep Date: 6/17/2016

Analysis Date: 6/21/2016

SegNo: 1085626

Units: mg/Kg **HighLimit**

Analyte Diesel Range Organics (DRO)

ND 11

10 10.00

4.122

SPK value SPK Ref Val %REC LowLimit

70

%RPD

RPDLimit Qual

Surr: DNOP

Sample ID 1606969-001AMS

SampType: MS

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

Client ID:

SP-1

Batch ID: 25914

RunNo: 35041

106

130

Prep Date: 6/17/2016

Analysis Date: 6/21/2016

PQL

9.6

SeqNo: 1086503

Units: mg/Kg

Analyte Diesel Range Organics (DRO) Result 60

47.98

48.26

4.826

50.00

5.000

SPK value SPK Ref Val

%REC 115

LowLimit HighLimit 33.9

%RPD **RPDLimit**

Surr: DNOP

4.7

4.798

98.0

70

Qual

Sample ID 1606969-001AMSD

Prep Date: 6/17/2016

SampType: MSD

Analysis Date: 6/21/2016

PQL

%REC

103

99.1

106

98.8

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

141

130

Client ID:

SP-1

Batch ID: 25914

RunNo: 35041

33.9

70

Analyte Diesel Range Organics (DRO)

Result

SPK value SPK Ref Val

SegNo: 1086504

LowLimit

Units: mg/Kg HighLimit

%RPD

9.74

RPDLimit Qual

Surr: DNOP

SampType: LCS

4.8

Result

53

4.9

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

130 0 0

%RPD

Sample ID LCS-25914

Client ID: LCSS

Batch ID: 25914

PQL

10

RunNo: 35041

LowLimit

62.6

70

Sample container temperature is out of limit as specified

124

130

Analyte

Prep Date: 6/17/2016

Analysis Date: 6/21/2016

SeqNo: 1086512

Units: mg/Kg

HighLimit

RPDLimit

Qual

Diesel Range Organics (DRO) Surr: DNOP

Oualifiers:

R

Value exceeds Maximum Contaminant Level. D

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

J

SPK value SPK Ref Val %REC

0

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

Analyte detected below quantitation limits

Page 11 of 13

H ND Not Detected at the Reporting Limit

RPD outside accepted recovery limits

P Sample pH Not In Range

RI. Reporting Detection Limit

S % Recovery outside of range due to dilution or matrix

Hall Environmental Analysis Laboratory, Inc.

WO#:

1606969

29-Jun-16

Client:

APEX TITAN

Project:

Jicarilla J 4

Sample ID LCS-25923

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Client ID: LCSS

Batch ID: 25923

RunNo: 35159

Prep Date: 6/17/2016

Analysis Date: 6/24/2016 PQL

SegNo: 1088059

Units: mg/Kg

Analyte Gasoline Range Organics (GRO)

27 5.0 910

Result

SPK value SPK Ref Val %REC 0

LowLimit 108 90.9

HighLimit %RPD

120

120

Qual

Surr: BFB Sample ID MB-25923

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

80

80

Client ID: Prep Date:

PBS

6/17/2016

Batch ID: 25923

1000

1000

25.00

1000

RunNo: 35159

120

Analyte Gasoline Range Organics (GRO) Result PQL

Analysis Date: 6/24/2016

SPK value SPK Ref Val %REC

SeqNo: 1088060 LowLimit Units: mg/Kg HighLimit

%RPD **RPDLimit** Qual

RPDLimit

Surr: BFB

930

933

80

Sample ID LCS-25922

SampType: LCS

TestCode: EPA Method 8015D: Gasoline Range

Prep Date: 6/17/2016

Sample ID MB-25922

Client ID: LCSS

Batch ID: 25922

Analysis Date: 6/25/2016

RunNo: 35177 SeqNo: 1088298

Units: %Rec

HighLimit

120

RPDLimit

Qual

Analyte Sur: BFB

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

88.8

Client ID:

Batch ID: 25922

PQL

SPK value SPK Ref Val %REC

RunNo: 35177

Units: %Rec

Prep Date: 6/17/2016

Analysis Date: 6/25/2016

SPK value SPK Ref Val %REC

SeqNo: 1088299 LowLimit

LowLimit

RPDLimit

Qual

Analyte Surr: BFB

910

Result

Result

890

1000

90.5

HighLimit

%RPD

%RPD

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Holding times for preparation or analysis exceeded H

% Recovery outside of range due to dilution or matrix

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits B Analyte detected in the associated Method Blank

Value above quantitation range

Analyte detected below quantitation limits

Page 12 of 13

Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

WO#:

RPDLimit

RPDLimit

1606969

29-Jun-16

Client:

APEX TITAN

Project:

Jicarilla J 4

Sample ID MB-25923

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

Client ID:

PBS

Batch ID: 25923

Result

ND

ND

ND

RunNo: 35096

Prep Date: 6/17/2016

Analysis Date: 6/23/2016

PQL

0.025

0.050

SeqNo: 1085704

%REC LowLimit

Units: mg/Kg

HighLimit

%RPD

%RPD

%RPD

Qual

Qual

Analyte Benzene

Toluene Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

0.050 ND 0.10 1.1

1.000

SPK value SPK Ref Val

109

80

120

Sample ID LCS-25923

Client ID: LCSS

SampType: LCS

Batch ID: 25923

TestCode: EPA Method 8021B: Volatiles RunNo: 35159

Prep Date: 6/17/2016

Analysis Date: 6/24/2016

SeqNo: 1088079

Units: mg/Kg

PQL SPK value SPK Ref Val %REC Analyte Result LowLimit HighLimit Benzene 0.96 0.025 1.000 95.5 75.3 123 Toluene 0.87 0.050 1.000 0 87.3 80 124 Ethylbenzene 0.87 0.050 1.000 0 86.6 82.8 121 2.6 3.000 0 85.4 83.9 122 Xylenes, Total 0.10 Surr: 4-Bromofluorobenzene 0.99 1.000 98.8 120

Sample ID LCS-25922

Client ID: LCSS

SampType: LCS

TestCode: EPA Method 8021B: Volatiles

Prep Date: 6/17/2016

Batch ID: 25922 Analysis Date: 6/25/2016 RunNo: 35177

Analyte

SeqNo: 1088405

105

Units: %Rec **HighLimit**

120

RPDLimit Qual

Surr: 4-Bromofluorobenzene

1.1

SampType: MBLK

PQL

PQL

TestCode: EPA Method 8021B: Volatiles

Client ID:

Sample ID MB-25922 PBS

Batch ID: 25922

Result

RunNo: 35177

Units: %Rec

Prep Date: 6/17/2016

Analysis Date: 6/25/2016

SeqNo: 1088406

1.000

1.000

%REC

LowLimit

80

HighLimit

RPDLimit Qual

Surr: 4-Bromofluorobenzene

1.1

SPK value SPK Ref Val

SPK value SPK Ref Val %REC LowLimit

106

80

120

%RPD

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

% Recovery outside of range due to dilution or matrix

Not Detected at the Reporting Limit

R RPD outside accepted recovery limits В Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

Page 13 of 13

Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

ND

S



4901 Hawkins NE Albuquerque, NM 87109

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

Sample Log-In Check List

Website: www.hallenvironmental.com

Client Name: APEX AZTEC Work Order Numbr	RoptNo: 1				
Received by/date:	CP		AA AMARIN A TOTAL A TO		
Logged By: Ashley Gallegos 6/17/2016 7:45:00 Al	М	A			
Completed By: Ashley Gallegos 6/17/2016 9:51:47 Al	М	A			
Reviewed By: 23 6/17/16		- , 0			
Chain of Custody					
1. Custody seals intact on sample bottles?	Yes 🗌	No 🗆	Not Present		
2. Is Chain of Custody complete?	Yes 🗹	No 🗆	Not Present		
3. How was the sample delivered?	Courier				
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 🗹	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) properly 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 broken?	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	
13. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗆	Adjusted?		
14, Is it clear what analyses were requested?	Yes 🗹	No 🗆			
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗹	No 🗆	Checked by:		
Special Handling (if applicable) 16, Was client notified of all discrepancies with this order?	Yes 🗆	No 🗆	NA 🗹		
Person Notified: Date By Whom: Via:	eMail 🗆	Phone T Fax	☐ In Person		
Regarding:		Thoma Tex			
Client Instructions:	*** * ****				
17. Additional remarks:					
18. Cooler Information Cooler No Temp C Condition Seal Intact Seal No	Seal Date	Signed By			
1 1.0 Good Yes	Jour Date	Organia Dy	•		

					CHAIN OF CUSTODY RECORD
APEX Office Location Aztec Project Manager K. Swmmers Sampler's Name Rance Ocech: Ily	Laboratory: Ha Address: A HA Contact: A HA Phone: PO/SO#: Sempler's Signature	Freemon	· _	ANALYSIS REQUESTED	Lab use only Due Date: Temp. of coclers when received (C*): 1 2 3 4 5 Page of
Proj. No. Project Name		No/Type of Contain	ers .		
Matrix Date Time C G Identifying Ma	rks of Sample(s)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Jar	E////	1.ab Sample ID (Lab Use Only)
5 6/16/16/600 X SP.1			1	XX	1606969-00
1605 51-2			71		-002
1610 SP-3					-003
1620 SP-4	1				7004
1630 SP-5					-1005
1640 51-6					7000
1 1700 SP.7			1		-057
1720 55	8		Π		-00%
1730 SN-	9		1		-007
V V 1740 V SP-1	0		V	+6	-OLD
	50% Rush 100% Rush			- 1::	
	Time: Received by: (Sign	nature)	017	10 0795 R	Tom Long 5699
	Time: Received by: (Sign		Sale:	Time:	5699
Relinquished by (Signature) Date:	Time: Received by: (Sign	Time:			
Relinquished by (Signature) Date:	Time: Received by: (Sign	nature) I	Date:	Time:	
Matrix WW - Wastewater W - Water S Container VOA - 40 mi vial A/G - Amber / O	S - Soll SD - Solid L - Liqu r Glass 1 Liter 250 ml	id A - Air Bag - Glass wide mouth		rcoal tube SL - studge	o -óit

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

100 Rio Brazos Road, Aztec, NM 87410

District IV <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

* Attach Additional Sheets If Necessary

State of New Mexico

Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr.

OIL CONS. DIV DIST. 3

JUL 15 2016

Form C-141 Revised August 8, 2011

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

					ta Fe, NM 8	T. STEERS IN THE DESCRIPTION OF THE PERSON O							
		F	Releas			Corrective	Actio	n					
					OPERATO		\boxtimes		Report		Final Re	port	
Name of C	company:	Enterprise I	Field Sen	vices LLC		Thomas Long							
Address: 6	314 Reilly A	Ave, Farmin				e No. 505-599-2							
Facility Na	me: Lindr	ith B#9			Facility T	ype: Natural Ga	s Gathe	ering P	ipeline				
Surface Owner: Private Mineral Owne								Serial	Number:	NA		41	
e.				LOCA	TION OF RE	LEASE						ice	
Unit Letter N	Section 27	Township 24N	Range 3W	Feet from the 545	North South Line	orth South Feet from East West C				County \C			
			L	11-77 (7562 Longitu	de <u>-107.147367</u> ΕΔSΕ	!						
Type of Rel	ease: Natur	al Gas and C	Condensat			Release: Unknov	wn I	Volume	Recovere	d: None	, 'a	port	
		rd Party Line			Date and 6/14/2016	Date and Hour of Occurrence: Date and				d Hour of Discovery: 16 @ 2:00 p.m.			
Was Immed	diate Notice		- DN-	M Nat	If YES, To	If YES, To Whom? Courtesy Notification – Vanessa Fields, NMOCD							
☐ Yes ☐ No ☒ Not												41	
By Whom?	Thomas Lo	ona			Date and	Date and Time June 30, 2016 @ 8:46 a.m.							
Was a Watercourse Reached?						If YES, Volume							
			☐ Yes	No No No No No No No N								VC.	
If a Waterco	ourse was Ir	npacted, Des	scribe Full	y.*									
with a bulld	ozer. No in	juries or fire	occurred f		ke. Natural gas	on June 14, 2016 and condensate v					e. The		
Describe A	ron Affordari	and Clean	n Antion. I	nternies initia	and the securior of		h 20	2016				par	
to be report	able per NA	AOCD regula	p Action: E	the volume of	impacted subsu	nd remediation on rface soils. The co	June 29	nt mass	and deteri was remo	ninea ti	ne release mechani	cal	
excavation.	A third par	ty corrective	action rep	ort will be inclu	ded with the "Fir	nal" C-141.				,			
¥ .												** ***********************************	
rules and re which may relieve the o ground water	egulations a endanger po operator of l er, surface v	ll operators a ublic health o iability should vater, human	or the environment of their open of health or	d to report and/ ronment. The a rations have fa the environme	or file certain re acceptance of a iled to adequate nt. In addition, I	est of my knowled lease notifications C-141 report by the ly investigate and NMOCD acceptance laws and/or regul	and perf e NMOC remedia ce of a C ations.	orm con D marke te conta -141 rep	rective ac ed as "Fin mination t oort does	tions for al Repo hat pos not relie	r releases ort" does r e a threat	iot	
Signature: La E. Faul						OIL CONSERVATION DIVISION							
5					Approved	by Environmental	Speciali	st:	(>_	2	001	
Title: Direct	or, Field En	vironmental				Date:8121201		piration	Date:			al.	
E-mail Add	ress:jefields	@eprod.com			Conditions	Conditions of Approval:				ed 🗆		41	
Date: 7	/12/2	016	Phon	e: (713)381-66	84 NILLE	ורכוכמון	51			_	11	Dana	

Sample Area For Full Range 8015 and for 418.1 8081

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

JUL 25 2016

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

					0	PERATO	2		Initial	Report	\boxtimes	Final Repor		
Name of Company: Enterprise Field Services LLC Contact: Thomas L						homas Long								
Address: 614 Reilly Ave, Farmington, NM 87401						Telephone No. 505-599-2286								
Facility Name: Lateral 2C-29						Facility Type: Natural Gas Gathering Pipeline								
						. Ussellis A	b- N-4-	_	Contai	Manakaa	. NI/A			
Surface Ov	wner: Jica	rilla Apacn	e Nation	Wilneral O	wne	r: Jicarilla A	pache Nation	1	Serial	Number	: N/A			
				LOCA	TIO	N OF REL	EASE							
Unit Letter	Section	Township	Range	Feet from	No	rth/Couth	Feet from	East	Vest	County	-			
M	23	25N	5W	the 637	Lin	е	the 150	Line	Line Rio Arrib			Į.		
									_					
			Li	atitude 36.38	002	0 Longitud	e -107.33791	7						
				NATU	JRE	OF RELI	EASE							
Type of Rele	ease: Natur	al Gas and C	Condensat	W. 1995 - 1911 - 19			Release 11.72 N	ICF	Volume	Recovere	d: Non	е		
						Gas; 3-5 Barrels of								
<u> </u>						Condensat			-					
Source of R	elease: Sus	spected Inter	nal Corros	ion		1/24/2016 @	our of Occurren	ce:		Hour of 16 @ 10:4		ery:		
Was Immed	iate Notice	Given?			-		Vhom? Hobson	Sandov				allado –		
			s 🗌 No	Not ■		JAO&G				-,y				
Required														
By Whom?	E					Date and Time 1/25/2016 @ 9:24 a.m.								
Was a Wate	rcourse Re			_		If YES, Volume								
			☐ Yes	⊠ No										
If a Waterco	urea wae Ir	nnacted Dec	cribe Full	*										
		*			v 24	2016 Enton	orise technician	e discou	orod o go	e look on	the Le	toral 2C 20		
							peline was isola							
				or March 31, 20										
Describe An	ea Affected	and Cleanu	o Action: T	he contaminan	t ma	ss was remov	ed by mechani	cal exca	vation, T	ne final ex	cavatio	on measured		
approximate	ly 15 feet le	ong by 15 fee	et wide 10	feet deep. App	oroxi	mately 28 cut	oic yards of hyd	rocarbor	n impacte	d soil were	e exca	vated and		
	to a New M	lexico Oil Co	nservation	approved land	farn	n facility. A t	hird party correc	ctive act	ion report	is include	d with	this "Final"		
C-141.														
I hereby cer	tify that the	information	given abov	e is true and o	ompl	ete to the bes	at of my knowled	dge and	understa	nd that pu	rsuant	to NMOCD		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not														
							·141 report by the investigate and							
ground water	er, surface v	vater, human	health or	the environme	nt. I	n addition. NN	MOCD acceptan	ce of a	C-141 rer	ort does	not reli	eve the		
ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.														
OIL CONSERVATION DIVISION														
Signature: fw(. freeld														
Printed Nam	e: Jon E. F	ields												
Printed Name: Jon E. Fields Approved by Environmental Specialist														
Title: Directo	or, Environn	nental				Approval Da	te: 8/04/1	(0 E	Expiration	Date:				
E-mail Addre	ess:jefields	@eprod.com				Conditions of Approval:								
	, ,					11 -				Attache	ed L			
Date: 7	120/201	1	Phon	e: (713)381-66	84	MYFI	COCILIA	28						
	The second second second second	ets If Neces		,		10,11	to har b							

Lateral 2C-29 Pipeline Release Report

UL M, S 23, Township 25N, Range 5W Rio Arriba County, New Mexico

June 30, 2016

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 Lateral 2C-29 Pipeline Release 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. Woods, P.G., Area Manager

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

June 30, 2016

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Table 2 Soil Sample Results - VOCs, Benzene, Total BTEX, and TPH

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Figure 2 Site Map

Appendices

Appendix A Executed C-138 Soil Waste Acceptance Form

Appendix B Photograph Log

Appendix C Analytical Laboratory Report

1.0 Introduction

The Enterprise Field Services, LLC (Enterprise) Lateral 2C-29 pipeline release site is located in Unit Letter M, Section 23, Township 25 North, Range 5 West, in Rio Arriba County, New Mexico. The release resulted from corrosion of the pipeline which was discovered on January 24, 2016.

On March 23, 2016, Enterprise initiated repair activities at the location. The release consisted of an unknown quantity of natural gas and pipeline liquids. Site work included placing a clamp and welded clamp covering on the pipeline, and the 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.

2.0 Release Summary

Site Name	Lateral 2C-29 Pipelir	ne Release								
Site Location Description		Unit Letter M, Section 23, Township 25 North, Range 5 West (N36.38000, W107.33790)								
Land Jurisdiction	Jicarilla Apache Nati	Jicarilla Apache Nation								
Discovery Date	January 24, 2016	January 24, 2016								
Release Report Date	February 25, 2016	February 25, 2016 Reported by Thomas								
Agency Notification		on Environmental Pro Mexico Oil Conserva								
JANEPO/NMOCD Site Rank	10	Release Source								
Substance(s) and Volume(s) Released	Undetermined volum	e of natural gas and	pipeline liquids							
Distance to Nearest Surface Water	Unnamed, ephemera of release location w	al wash approximatel								
Estimated Depth to Groundwater	Greater than 100 feet below grade surface (bgs)	Distance to Nearest Water Well or Spring	Greater than 1,000 feet							
Repair Excavation Dimensions	Approximately 15 fee	et by 15 feet by 10 fe	et in depth							
Contractor	West States Energy	Contractor, Inc. (Wes	st States)							
Volume of Soil Transported for Disposal Remediation	Approximately 28 cubic yards	Disposal Facility	TNT Landfarm (Permit #NM- 01-0008)							



3.0 JANEPO/NMOCD Site Ranking

The release is located on the Jicarilla Apache Nation and follows recommendations from the New Mexico Oil Conservation Division (NMOCD). In accordance with the NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 10 (Table 1).

Depth to groundwater at the site is estimated to be greater than 100 feet bgs based on the elevation differential between the release location and the wash in Lapis Canyon, as well as shallow bedrock observed at the 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. No water wells were observed within a 1,000 foot radius of the location during a visual inspection.

An unnamed, ephemeral wash traverses the area approximately 760 feet south of the release location and drains to the wash in Lapis Canyon.

Based on the ranking score of 10, 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 1,000 mg/kg total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) and diesel range organics (DRO).

4.0 Field Activities

On March 23, 2016, Enterprise initiated repair activities at the location. West States provided heavy equipment operation and repair support. Rule Engineering, LLC (Rule) personnel provided excavation guidance and collected confirmation samples from the resultant excavation and stockpiled soils. The repair included placing a clamp and welded clamp cover onto the pipeline. The final excavation measured approximately 15 feet by 15 feet by 10 feet in depth. Approximately 28 cubic yards were transported to the TNT Landfarm for disposal/remediation. The remedial excavation was backfilled with clean, imported soils from a nearby stockpond selected by JANEPO and the portion of stockpiled soils laboratory analyzed as described below.

A depiction of the excavation with sample locations and summary of analytical results is included as Figure 2. A copy of the executed C-138 Solid Waste Acceptance Form and landfarm records are included in Appendix A. A photograph log is included in Appendix B.

5.0 Soil Sampling

Rule collected confirmation excavation soil samples (SC-1 through SC-5) from the sidewalls and base of the excavation and stockpile composite samples (SP-1 and SP-2).



Each confirmation soil sample is a representative composite comprised of five equivalent portions 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 TPH (GRO/DRO) per USEPA 8015D. Laboratory analytical results are summarized in Table 2, and the analytical laboratory reports are included in Appendix C.

A portion of each sample was 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 2.

6.0 Laboratory Analytical Results

Laboratory analytical results for the excavation confirmation samples SC-1 through SC-5 reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the applicable JANEPO/NMOCD action levels. Laboratory analytical results for the excavation confirmation samples reported TPH (GRO/DRO) concentrations below laboratory reporting limits except for a GRO concentration of 5.2 mg/kg reported in samples SC-2. The TPH concentrations and laboratory reporting limits are all below the JANEPO/NMOCD action level of 1,000 mg/kg for a site rank of 10.

Laboratory analytical results for the stockpile composite samples SP-1 and SP-2 reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the applicable JANEPO/NMOCD action levels. Laboratory analytical results for the stockpile composite samples reported TPH (GRO/DRO) concentrations of 48 mg/kg in SP-1 and 30 mg/kg in SP-2, which are below the JANEPO/NMOCD action level of 1,000 mg/kg for a site rank of 10. The stockpiled soils associated with these samples were returned to the excavation during backfilling. Laboratory analytical results are summarized in Table 2 and presented on Figure 2.

7.0 Conclusions

The Enterprise Lateral 2C-29 pipeline release site is located in Unit Letter M, Section 23, Township 25 North, Range 5 West, in Rio Arriba County, New Mexico. The release resulted from corrosion of the pipeline which was discovered on January 24, 2016. The repair included placing a clamp and welded clamp covering on the pipeline. Confirmation samples were collected from the sidewalls and base of the resultant excavation which measured approximately 15 feet by 15 feet by 10 feet in depth. Confirmation samples were also collected from the stockpiled soil. Laboratory analytical results for the soil confirmation samples (SC-1 through SC-5, SP-1, and SP-2) reported benzene, total BTEX, and total TPH (GRO/DRO) concentrations below the applicable JANEPO/NMOGA action levels. Approximately 28 cubic yards of soils were transported to the TNT



Landfarm for disposal/remediation. The remedial excavations were backfilled with clean, imported soils from a nearby stockpond selected by JANEPO and the stockpiled soils laboratory analyzed as described herein.

Based on laboratory analytical results of the 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.

Tables



Table 1. JANEPO/NMOCD Site Ranking Determination Enterprise Field Services, LLC Lateral 2C-29 Pipeline Release Rio Arriba County, New Mexico

Ranking Criteria	Ranking	Site-Based	Basis for Determination	Data	
	Score	Ranking Score		Sources	
epth to Groundwater					
<50 feet	20		Elevation differential between location and wash in	NMOCD Online database	
50-99 feet	10	0	Lapis Canyon >100 feet; shallow sandstone bedrock observed at location.	Lapis Point Quadrangle, Google Earth, and Visua Inspection	
>100 feet	0			торовает	
/ellhead Protection Area					
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000	NMOSE NMWRRS, Lapis Point Quadrangle, Google	
mont private defined to trace searce	0 (No)		foot radius of location.	Earth, and Visual Inspectio	
Distance to Surface Water Body					
<200 horizontal feet	20			Lapis Point Quadrangle,	
200 to 1,000 horizontal feet	10	10	Unnamed, ephemeral wash located approximately 760 feet to the south drains to the wash in Lapis Canyon.	Google Earth, and Visual	
>1,000 horizontal feet	0			Inspection	
Site Based Total Rank	ing Score	10			



Table 2. Soil Sampling Results - VOCs, Benzene, Total BTEX, and TPH Enterprise Field Services, LLC Lateral 2C-29 Pipeline Release Rio Arriba County, New Mexico

Sample Name	Date	Location	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylben- zene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
	JANEPO/NMOCD Action Level*		100	10	NE	NE	NE	50	1,000**		
7712			11.	Excavation	n Confirmati	on Samples	State Section	建 斯山。			
SC-1	3/31/2016	North Wall	0.5 to 10	1.6	<0.024	<0.048	<0.048	<0.095	ND	<4.8	<9.1
SC-2	3/31/2016	East Wall	0.5 to 10	14	<0.024	<0.047	<0.047	<0.095	ND	5.2	<9.2
SC-3	3/31/2016	South Wall	0.5 to 10	2.0	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<9.3
SC-4	3/31/2016	West Wall	0.5 to 10	4.5	<0.025	<0.050	< 0.050	<0.10	ND	<5.0	<9.9
SC-5	3/31/2016	Base	10	24.0	<0.025	<0.050	<0.050	<0.10	ND	<5.0	<9.5
		1,700 9		Stockpile	Confirmatio	n Samples			4.1	- vo.	
SP-1	3/31/2016	West Stockpile	-	58	<0.023	<0.046	<0.046	<0.092	ND	<4.6	48
SP-2	3/31/2016	East Stockpile	-	49	<0.024	<0.048	<0.048	<0.097	ND	7.8	22

Notes:

VOCs - volatile organic compounds

PID - photoionization detector

ft bgs - feet below grade surface

ppm - parts per million

mg/kg - milligrams per kilogram

NE - not-established

ND - not detected above laboratory reporting limits

BTEX - benzene, toluene, ethylbenzene, and xylenes

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

DRO - diesel range organics

NMOCD - New Mexico Oil Conservation Division

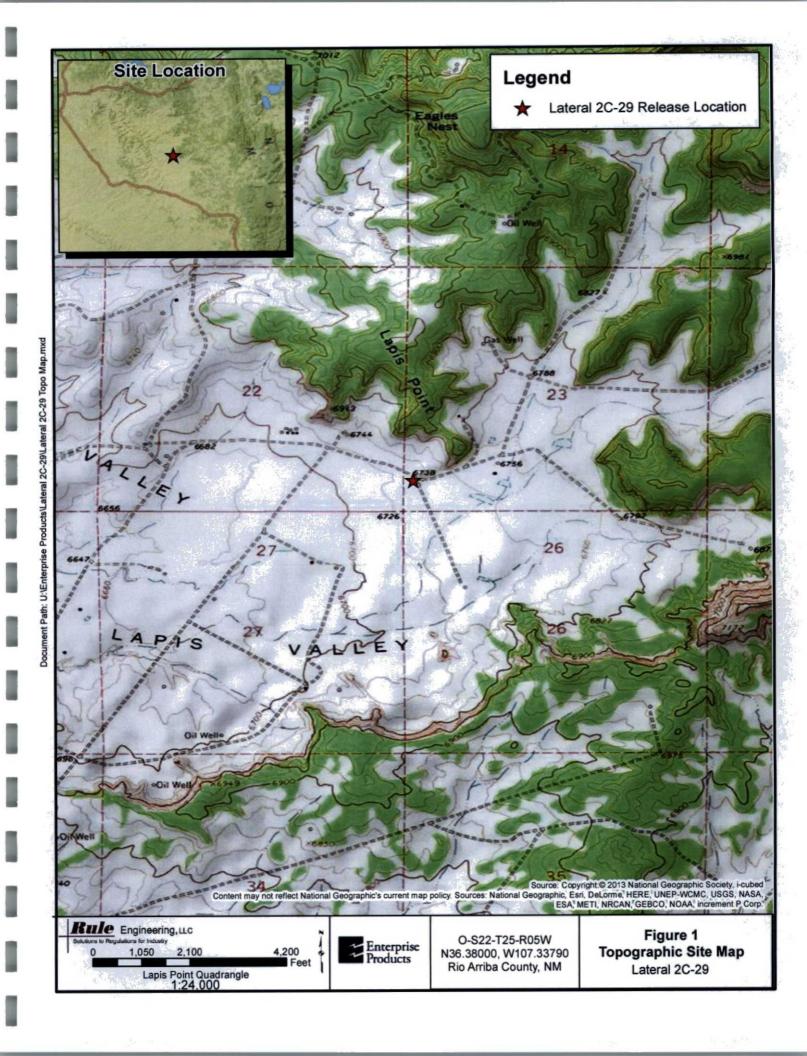
JANEPO - Jicarilla Apache Nation Environmental Protection Office

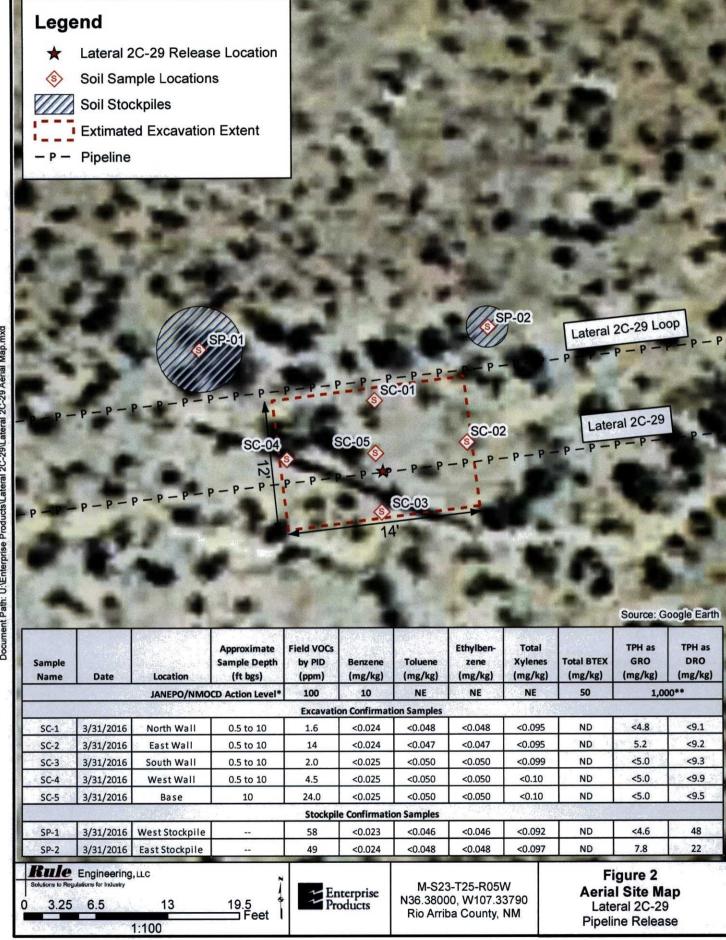
*Based on the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 1993)

**Based on a site ranking of 10.

Figures







Document Path: U:\Enterprise Products\Lateral 2C-29\Lateral 2C-29 Aerial Map.mxd

Appendix A

Executed C-138 Solid Waste Acceptance Form



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

State of New Mexico Energy Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr.

Form C-138 Revised 08/01/11

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

	erprise Field Services, LLC, 614 Reilly Ave, Farmington NM 87401
2.	Originating Site: Lateral 2C-29
3.	Location of Material (Street Address, City, State or ULSTR): UL M Section 23 T25N R5W; 36.380020, -107.337917
So De	Source and Description of Waste: urce: Natural Gas Pipeline Release urce: Natural Gas Pipeline Relea
5.	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
	, representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby Generator Signature fify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 ulatory determination, the above described waste is: (Check the appropriate classification)
	RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency 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)
_	MSDS Information
I,	
I, the	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. TNT, Inc. do hereby certify that
I, the	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. 7
I, the I, repha of 19	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. TNT, Inc. do hereby certify that epresentative/Agent Signature resentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples to been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 15.36 NMAC. Transporter: Various approved trucking
I, the I, R rep ha of 19	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. 7-1 , representative for TNT, Inc. do hereby certify that epresentative/Agent Signature resentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples to 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.
I, the	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for
I, the I, repharent of 19	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. 3-23-16, representative for Inc do hereby certify that epresentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results he representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 15.36 NMAC. Transporter: Various approved trucking CD Permitted Surface Waste Management Facility me and Facility Permit #: TNT Evap Pond/Landfarm, NM01-0008 iddress of Facility: 70 CR 405, Lindrith NM [ethod of Treatment and/or Disposal: Evaporation Injection Treating Plant Landfarm Landfill Other [aste Acceptance Status: Landfarm Landfill Other
I, the I, R rep ha of 19 5.	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for free field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. 7 representative for do hereby certify that epresentative/Agent Signature resentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results he representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 15.36 NMAC. Transporter: Various approved trucking CD Permitted Surface Waste Management Facility mme and Facility Permit #: TNT Evap Pond/Landfarm, NM01-0008 bitness of Facility: 70 CR 405, Lindrith NM sethod of Treatment and/or Disposal: Landfarm Landfarm Landfarm Landfarm Landfarm Cother

*

Date: 3-30-16 Customer: Enterpose

COMMERCIAL LANDFARM TICKET

T-N-T Environmental, Inc.

#70 CR 405 • Lindrith, NM 87029

Ticket No.

9172

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COPIES: WHITE - Landfarm YELLOW - Customer PINK - Transporter GOLD - Landfarm

COMMERCIAL LANDFARM TICKET

T-N-T Environmental, Inc. #70 CR 405 • Lindrith, NM 87029

Ticket No.

9173

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Truck	No.: _	515		s your res	nonci	hility to		ro voi	ır lond		Delivery Ticket No.:		
By sign	ning, yo	ou are re	leasir	ng T-n-T	Enviro	nment	al Inc.	, its o	wners	and its	employees of any and all liabili	ties.	
ITEM	PAINT FILTER	CHLORIDE	CELL	TRASH	Impac	ted Soil	Tank B	ottoms	Drillin	ng Fluid	Comments	Driver Signatu	iro
NO.	TEST RATIO	RESULTS	VIII.	CHARGE	YRDS	BBLS	YRDS	BBLS	YRDS	BBLS	Comments	Dilver Signate	
1	1-1	100	2		14						W)	onke	ttte
2	110 0000				,				*				
3													(a)
4													
5													
6													
7													
8													ð
								M	ATER	IAL			
				B = Bac	kfill	Т	= Top	soil		S = Sa	ndrock G = Gravel		
NO.		DRIVER	rs sic	SNATURE		T	/PE	YR	DS	NO.	DRIVER'S SIGNATURE	TYPE	YRDS
1										8			
2										9			
3										10			
4										11			
5										12			
6										13			
7				*						14			PHICS 0313107

Date 3-31-16 T-N-T Attendant Vicen te

Appendix B
Photograph Log





Photograph Log Lateral 2C-29 Pipeline Release Enterprise Field Services, LLC

Photograph #1	
Client: Enterprise	
Site Name: Lateral 2C-29 Pipeline Release	
Date Photo Taken: January 30, 2016	
Release Location: N36.37997, W107.337953 M-23-25N-5W	
Rio Arriba County, NM	
Photo Taken by: Heather Woods	Description: Facing east, view of the surface expression at the release location.

Photograph #2	
Client: Enterprise	
Site Name:	The state of the s
Lateral 2C-29 Pipeline Release	
Date Photo Taken: March 31, 2016	
Release Location: N36.37800, W107.33790	
M-23-25N-5W Rio Arriba County, NM	your sind of
Photo Taken by: Heather Woods	Description: Facing south, view of the repaired pipeline and final excavation.



Photograph #3	
Client: Enterprise	
Site Name: Lateral 2C-29 Pipeline Release	
Date Photo Taken: March 31, 2016	
Release Location: N36.37800, W107.33790 M-23-25N-5W Rio Arriba County,	
NM Photo Taken by: Heather Woods	Description: Facing north, view of the repaired pipeline and final excavation.

Photograph #4	
Client: Enterprise	
Site Name:	
Lateral 2C-29 Pipeline Release	
Date Photo Taken: March 31, 2016	
Release Location: N36.37800, W107.33790	
M-23-25N-5W Rio Arriba County, NM	
Photo Taken by: Heather Woods	Description: Facing east, view of the repaired pipeline and final excavation.

Appendix C Analytical Laboratory Report





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

April 07, 2016

Heather Woods

Rule Engineering LLC 501 Airport Dr., Ste 205

Farmington, NM 87401 TEL: (505) 325-1055

FAX

RE: Enterprise Lateral 2C-29

OrderNo.: 1604006

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/1/2016 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

andyl

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1604006

Date Reported: 4/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

1604006-001

Lab ID:

Client Sample ID: SC-1

Collection Date: 3/31/2016 11:20:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL	Qual U	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAM	IGE ORGANIC	s				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.1		mg/Kg	1	4/5/2016 10:01:38 PM	24572
Surr: DNOP	121	70-130		%Rec	1	4/5/2016 10:01:38 PM	24572
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	4/5/2016 6:04:30 PM	24581
Surr: BFB	101	66.2-112		%Rec	1	4/5/2016 6:04:30 PM	24581
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	0.024		mg/Kg	1	4/5/2016 6:04:30 PM	24581
Toluene	ND	0.048		mg/Kg	1	4/5/2016 6:04:30 PM	24581
Ethylbenzene	ND	0.048		mg/Kg	1	4/5/2016 6:04:30 PM	24581
Xylenes, Total	ND	0.095		mg/Kg	1	4/5/2016 6:04:30 PM	24581
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	4/5/2016 6:04:30 PM	24581

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1604006

Date Reported: 4/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1604006-002

Client Sample ID: SC-2

Collection Date: 3/31/2016 11:25:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s	3	1		Analyst:	KJH
Diesel Range Organics (DRO)	ND	9.2		mg/Kg	1	4/5/2016 10:23:09 PM	24572
Surr: DNOP	107	70-130		%Rec	1	4/5/2016 10:23:09 PM	24572
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst:	RAA
Gasoline Range Organics (GRO)	5.2	4.7		mg/Kg	1	4/5/2016 6:27:53 PM	24581
Surr: BFB	133	66.2-112	s	%Rec	1	4/5/2016 6:27:53 PM	24581
EPA METHOD 8021B: VOLATILES						Analyst:	RAA
Benzene	ND	0.024		mg/Kg	1	4/5/2016 6:27:53 PM	24581
Toluene	ND	0.047		mg/Kg	1	4/5/2016 6:27:53 PM	24581
Ethylbenzene	ND	0.047		mg/Kg	1	4/5/2016 6:27:53 PM	24581
Xylenes, Total	ND	0.095		mg/Kg	1	4/5/2016 6:27:53 PM	24581
Surr: 4-Bromofluorobenzene	108	80-120		%Rec	1	4/5/2016 6:27:53 PM	24581

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 2 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1604006

Date Reported: 4/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Enterprise Lateral 2C-29 Project:

Lab ID: 1604006-003 Client Sample ID: SC-3

Collection Date: 3/31/2016 11:30:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.3	mg/K	g 1	4/5/2016 10:44:43 PM	24572
Surr: DNOP	109	70-130	%Red	1	4/5/2016 10:44:43 PM	24572
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/K	g 1	4/4/2016 9:34:09 PM	24581
Surr: BFB	103	66.2-112	%Red	1	4/4/2016 9:34:09 PM	24581
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.025	mg/K	g 1	4/4/2016 9:34:09 PM	24581
Toluene	ND	0.050	mg/K	g 1	4/4/2016 9:34:09 PM	24581
Ethylbenzene	ND	0.050	mg/K	g 1	4/4/2016 9:34:09 PM	24581
Xylenes, Total	ND	0.099	mg/K	g 1	4/4/2016 9:34:09 PM	24581
Surr: 4-Bromofluorobenzene	105	80-120	%Red	1	4/4/2016 9:34:09 PM	24581

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 3 of 10 J
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1604006

Date Reported: 4/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1604006-004 Client Sample ID: SC-4

Collection Date: 3/31/2016 11:35:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s		5 2		Analyst	: KJH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/5/2016 11:06:09 PM	24572
Surr: DNOP	110	70-130		%Rec	1	4/5/2016 11:06:09 PM	24572
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	4/4/2016 9:57:31 PM	24581
Surr: BFB	101	66.2-112		%Rec	1	4/4/2016 9:57:31 PM	24581
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	0.025		mg/Kg	1	4/4/2016 9:57:31 PM	24581
Toluene	ND	0.050		mg/Kg	1	4/4/2016 9:57:31 PM	24581
Ethylbenzene	ND	0.050		mg/Kg	1	4/4/2016 9:57:31 PM	24581
Xylenes, Total	ND	0.10		mg/Kg	1	4/4/2016 9:57:31 PM	24581
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	4/4/2016 9:57:31 PM	24581

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % 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 4 of 10 J
- P Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1604006

Date Reported: 4/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Lab ID:

Project: Enterprise Lateral 2C-29

1604006-005

Matrix: SOIL

Client Sample ID: SC-5

Collection Date: 3/31/2016 11:40:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S	E	mink mr	Analyst	KJH
Diesel Range Organics (DRO)	ND	9.5	mg/Kg	1	4/5/2016 11:27:41 PM	24572
Surr: DNOP	113	70-130	%Rec	1	4/5/2016 11:27:41 PM	24572
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	RAA
Gasoline Range Organics (GRO)	ND	5.0	mg/Kg	1	4/4/2016 10:20:48 PM	24581
Surr: BFB	101	66.2-112	%Rec	1	4/4/2016 10:20:48 PM	24581
EPA METHOD 8021B: VOLATILES					Analyst	RAA
Benzene	ND	0.025	mg/Kg	1	4/4/2016 10:20:48 PM	24581
Toluene	ND	0.050	mg/Kg	1	4/4/2016 10:20:48 PM	24581
Ethylbenzene	ND	0.050	mg/Kg	1	4/4/2016 10:20:48 PM	24581
Xylenes, Total	ND	0.10	mg/Kg	1	4/4/2016 10:20:48 PM	24581
Surr: 4-Bromofluorobenzene	105	80-120	%Rec	1	4/4/2016 10:20:48 PM	24581

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

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

Lab Order 1604006

Date Reported: 4/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1604006-006

Client Sample ID: SP-1

Collection Date: 3/31/2016 11:55:00 AM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	48	9.3	mg/Kg	1	4/5/2016 11:49:04 PM	24572
Surr: DNOP	100	70-130	%Rec	1	4/5/2016 11:49:04 PM	24572
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst:	RAA
Gasoline Range Organics (GRO)	ND	4.6	mg/Kg	1	4/4/2016 10:44:13 PM	24581
Surr: BFB	107	66.2-112	%Rec	1	4/4/2016 10:44:13 PM	24581
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Benzene	ND	0.023	mg/Kg	1	4/4/2016 10:44:13 PM	24581
Toluene	ND	0.046	mg/Kg	1	4/4/2016 10:44:13 PM	24581
Ethylbenzene	ND	0.046	mg/Kg	1	4/4/2016 10:44:13 PM	24581
Xylenes, Total	ND	0.092	mg/Kg	1	4/4/2016 10:44:13 PM	24581
Surr: 4-Bromofluorobenzene	103	80-120	%Rec	1	4/4/2016 10:44:13 PM	24581

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 6 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1604006

Date Reported: 4/7/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1604006-007

Client Sample ID: SP-2

Collection Date: 3/31/2016 12:00:00 PM

Received Date: 4/1/2016 7:50:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	IGE ORGANIC	S				Analyst	КЈН
Diesel Range Organics (DRO)	22	9.7		mg/Kg	1	4/6/2016 12:10:31 AM	24572
Surr: DNOP	104	70-130		%Rec	1	4/6/2016 12:10:31 AM	24572
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	RAA
Gasoline Range Organics (GRO)	7.8	4.8		mg/Kg	1	4/4/2016 11:07:39 PM	24581
Surr: BFB	136	66.2-112	S	%Rec	1	4/4/2016 11:07:39 PM	24581
EPA METHOD 8021B: VOLATILES						Analyst	RAA
Benzene	ND	0.024		mg/Kg	1	4/4/2016 11:07:39 PM	24581
Toluene	ND	0.048		mg/Kg	1	4/4/2016 11:07:39 PM	24581
Ethylbenzene	ND	0.048		mg/Kg	1	4/4/2016 11:07:39 PM	24581
Xylenes, Total	ND	0.097		mg/Kg	1	4/4/2016 11:07:39 PM	24581
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	4/4/2016 11:07:39 PM	24581

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 7 of 10
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1604006

07-Apr-16

Qual

Client:

Rule Engineering LLC

Project:

Enterprise Lateral 2C-29

Sample ID LCS-24572

SampType: LCS

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

Client ID: LCSS

Batch ID: 24572

RunNo: 33263

Prep Date: 4/1/2016

Analysis Date: 4/4/2016

44

4.4

Result

SeqNo: 1021685

87.8

SPK value SPK Ref Val %REC

SPK value SPK Ref Val %REC

50.00

5.000

10.00

Units: mg/Kg

136

HighLimit

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

Analyte Diesel Range Organics (DRO) Surr: DNOP

SampType: MBLK

PQL

10

88.5

LowLimit

LowLimit

65.8

130

RPDLimit

Sample ID MB-24572 Client ID: **PBS**

Batch ID: 24572

RunNo: 33263

%RPD

Prep Date: 4/1/2016

Analysis Date: 4/4/2016

SeqNo: 1021686

Units: mg/Kg

HighLimit %RPD **RPDLimit** Qual

Analyte Diesel Range Organics (DRO) Surr: DNOP

Result PQL ND 10 9.6

96.5

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

Page 8 of 10

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

1604006

07-Apr-16

Client:

Rule Engineering LLC

Project:

Enterprise Lateral 2C-29

Sample ID LCS-24581	SampT	ype: LC	S	Tes	tCode: El	PA Method	8015D: Gaso	oline Rang	е	
Client ID: LCSS	Batcl	n ID: 24	581	F	RunNo: 3	3288				
Prep Date: 4/1/2016	Analysis D)ate: 4/	4/2016	8	SeqNo: 1	022843	Units: mg/F	(g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.1	80	120			
Surr: BFB	1000		1000		105	66.2	112			

Sample ID MB-24581 SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range Client ID: PBS Batch ID: 24581 RunNo: 33288 Analysis Date: 4/4/2016 Prep Date: 4/1/2016 SeqNo: 1022844 Units: mg/Kg Result PQL SPK value SPK Ref Val %REC LowLimit **HighLimit** %RPD **RPDLimit** Qual Analyte ND Gasoline Range Organics (GRO) 5.0 Surr: BFB 1000 1000 101 66.2 112

Qualifiers:

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

Page 9 of 10

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1604006

07-Apr-16

Client:

Rule Engineering LLC

Project:

Enterprise Lateral 2C-29

Sample ID LCS-24581	Samp	Type: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles	17	Berig be a
Client ID: LCSS	Batc	h ID: 24	581	F	RunNo: 3	3288			25	100
Prep Date: 4/1/2016	Analysis D	Date: 4/	4/2016	8	SeqNo: 1	022974	Units: mg/k	(g		versal of
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.3	75.3	123		Gr -	(g co pr
Toluene	0.93	0.050	1.000	0	93.3	80	124		. 3	h whi
Ethylbenzene	0.92	0.050	1.000	0	92.3	82.8	121			
Xylenes, Total	2.7	0.10	3.000	0	91.3	83.9	122			ente in Mail
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120		100	In Chine of C

Sample ID MB-24581	SampT	Гуре: МЕ	BLK	Tes	tCode: E	PA Method	8021B: Vola	tiles	. Halle	ALL MENT MODEL
Client ID: PBS	Batch	h ID: 24	581	F	RunNo: 3	3288				10 T 10
Prep Date: 4/1/2016	Analysis D	Date: 4/	4/2016	5	SeqNo: 1	022975	Units: mg/F	(g		PH M
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								Carlotte
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								the Merch
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

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

Page 10 of 10



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

Sample Log-In Check List

Client Nam	e: RULE EN	GINEERING LL	Work O	rder Numbe	er: 16040	06		RcptN	o: 1
Received by	/date:	,	04/01	116					.
Logged By:	Joe Arch	uleta	4/1/2016 7	7:50:00 AM			Jear Jear	,	
Completed	By: Joe Arch	uleta	4/1/2016 8	3:51:47 AM	1		JEast		İ
Reviewed B	y: ±0	,	04/01/	lu	4 4			,	, .
Chain of	Custody								
1. Custody	seals intact on	sample bottles?			Yes		No 🗆	Not Present	
2. Is Chair	of Custody con	nplete?			Yes		No 🗆	Not Present]
3. How wa	s the sample de	livered?			Cour	ier			
Log In									
4. Was ar	attempt made t	to cool the samp	les?		Yes		No 🗆	NA [
5. Were a	l samples receiv	ed at a tempera	ture of >0° C t	o 6.0°C	Yes		No 🗆	NA 🗆)
6. Sample	(s) in proper cor	ntainer(s)?			Yes		No 🗆		
7. Sufficie	nt sample volum	e for indicated to	est(s)?		Yes		No 🗆		
8. Are san	nples (except VC	OA and ONG) pro	operly preserve	d?	Yes		No 🗆		
9. Was pr	eservative added	d to bottles?			Yes		No 🗹	NA [
10.VOA via	als have zero he	adspace?			Yes		No 🗆	No VOA Vials	•
		ainers received b	roken?		Yes		No 🗷	# of preserved	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
								bottles checked	
	aperwork match	bottle labels? chain of custody	٨		Yes		No L	for pH:	2 or >12 unless noted)
		dentified on Chai	177.		Yes		No 🗆	Adjusted?	450
		were requested			Yes		No 🗆		
15. Were a	I holding times a				Yes		No 🗆	Checked b	y:
Special H	andling (if a	pplicable)							
16. Was cli	ent notified of al	discrepancies v	with this order?		Yes		No 🗆	NA	∄
Р	erson Notified:			Date	penounnens	*************	ALCOHOL: PURSUE OF		
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)ate	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAM	BTEX +₩	BTEX + M	TPH 8015B (GRO / DRO	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270	RCRA 8 Metals	Anions (F,CI,NO3,NO2,PO4,SO4)	8081 Pesticides	8260B (VOA)	8270 (Semi-VOA)			Air Bubbles (V or N)	All bubble
1/16	1120	Soil	SC-I	() 4 02 Glass	Cold	-001	X		X												
مالا	1125	Soil	5C-2	(1) 402 Glass	Cold	-002	Х		X												
31/16	1130	Soil	5C-3	(1) Yoz Glass	Cold	-003	X		X												
31/16	1135	Soil	SC-4	(1) 4 oz Glass	Cold	-004	X		x												
31/16	1140	Soil	SC-5	(1) 402 Glass	Cold	-005	X		x												
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31/4	1747	CAN	eter bleten	Par o	Est !	04/0/16 0750						J			*						

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

Type of Release: Condensate

Was Immediate Notice Given?

Was a Watercourse Reached?

Required By Whom?

Source of Release: Blow-off Valve Left Open

If a Watercourse was Impacted, Describe Fully.*

☐ Yes ☐ No ☒ Not

☐ Yes ⊠ No

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

JUL 25 2016 Form C-141 Revised August 8, 2011

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

Volume Recovered: None

1/29/2016 @ 12:30 p.m.

If YES, To Whom? Hobson Sandoval - JAEPO; Waymore Callado -

Date and Hour of Discovery:

Release Notification and Corrective Action OPERATOR Initial Report Name of Company: Enterprise Field Services LLC Contact: Thomas Long Address: 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name: Lateral 2C-29 Dog Leg Release Facility Type: Natural Gas Gathering Pipeline Surface Owner: Jicarilla Apache Nation | Mineral Owner: Jicarilla Apache Nation Serial Number: N/A LOCATION OF RELEASE North/South **Unit Letter** Section Township Range Feet from Feet from East West County the 1604 the 150 Rio Arriba 22 25N **5W** Line Line Latitude 36.380625 Longitude -107.343949

NATURE OF RELEASE

JAO&G

Describe Cause of Problem and Remedial Action: On January 24, 2016, Enterprise technicians discovered a condensate release on the

of Condensate

If YES, Volume

Volume of Release 3-5 Barrels

Date and Hour of Occurrence:

Date and Time 2/1/2016 @ 7:45 a.m.

1/29/2016 @ 11:30 a.m.

Lateral 2C-29 dog leg. An area of approximately 50 feet by 20 fee locked out and tagged out. Remediation was completed on for F		was isolated, blown down,
Describe Area Affected and Cleanup Action: The contaminant may to remediate the release of condensate. Approximately 84 cubic New Mexico Oil Conservation approved land farm facility. A third	yards of hydrocarbon impacted soil were exca	vated and transported to a
I hereby certify that the information given above is true and comprules and regulations all operators are required to report and/or fi which may endanger public health or the environment. The accerelieve the operator of liability should their operations have failed ground water, surface water, human health or the environment. Operator of responsibility for compliance with any other federal, si	ile certain release notifications and perform co eptance of a C-141 report by the NMOCD mark to adequately investigate and remediate cont In addition, NMOCD acceptance of a C-141 re	rrective actions for releases ked as "Final Report" does not amination that pose a threat to
Signature: Fields	OIL CONSERVATION Approved by Environmental Specialist:	N DIVISION
Title: Director, Environmental	Approval Date 9/9/206 Expiration	n Date:
E-mail Address:jefields@eprod.com	Conditions of Approval:	Attached
Date: 7/20/2016 Phone: (713)381-6684 Attach Additional Sheets If Necessary	NOF1604139258	

Lateral 2C-29 Pipeline Valve Release Report

UL O, S 22, Township 25N, Range 5W Rio Arriba County, New Mexico

June 30, 2016

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 Lateral 2C-29 Pipeline Valve Release 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. Woods, P.G., Area Manager

Reviewed by:

Russell Knight, PG, Principal Hydrogeologist

June 30, 2016

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Figure 2 Site Map

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Appendix A Executed C-139 Solid Waste Acceptance Form and Landfarm Records

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Appendix B Photograph Log

Appendix C Analytical Laboratory Report

1.0 Introduction

The Enterprise Field Services, LLC (Enterprise) Lateral 2C-29 pipeline valve release site is located in Unit Letter O, Section 22, Township 25 North, Range 5 West, in Rio Arriba County, New Mexico. The release, which originated from a pipeline valve, was discovered on January 29, 2016.

After the completion of repairs to the valve, Enterprise initiated soil remediation activities at the location on February 16, 2016, and were completed on February 22 through 23, 2016.

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.

2.0 Release Summary

Site Name	Lateral 2C-29 Pipeline Valve Release		
Site Location Description	Unit Letter O, Section 22, Township 25 North, Range 5 West (N36.38057, W107.34384)		
Land Jurisdiction	Jicarilla Apache Nation		
Discovery Date	January 29, 2016		
Release Report Date	February 1, 2016	Reported by	Thomas Long
Agency Notification	Jicarilla Apache Nation Environmental Protection Office (JANEPO) and New Mexico Oil Conservation Division (NMOCD)		
Release Source	Pipeline valve		
Substance(s) and Volume(s) Released	An estimated 5 barrels (bbls) pipeline liquids and an undetermined volume of natural gas		
JANEPO/NMOCD Site Rank	20		
Distance to Nearest Surface Water	Unnamed ephemeral wash approximately 100 feet south of release location which drains to Lapis Canyon		
Estimated Depth to Groundwater	Greater than 100 feet below grade surface (bgs)	Distance to Nearest Water Well or Spring	Greater than 1,000 feet
Repair Excavation Maximum Dimensions	Approximately 29 feet by 12.5 feet by 4 to 5 feet in depth and 52 feet by 25 feet by 0.5 to 1 foot in depth		
Contractor	West States Energy Contractor, Inc. (West States)		
Volume of Soil Transported for Disposal Remediation	Approximately 84 cubic yards	Disposal Facility	TNT Landfarm (Permit #NM- 01-0008)

3.0 JANEPO/NMOCD Site Ranking

The release is located on the Jicarilla Apache Nation and follows recommendations from the New Mexico Oil Conservation Division (NMOCD). In accordance with the NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), this site was assigned a ranking score of 20 (Table 1).

Depth to groundwater at the site is estimated to be greater than 100 feet bgs based on the elevation differential between the release location and the wash in Lapis Canyon, as well as shallow bedrock observed at the 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. No water wells were observed within a 1,000 foot radius of the location during a visual inspection.

An unnamed, ephemeral wash traverses the area approximately 100 feet south of the release location and drains to the wash in Lapis Canyon.

Based on the ranking score of 20, 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 Activities

After the completion of repairs to the valve, Enterprise initiated soil remediation activities at the location on February 16, 2016, and were completed on February 22 through 23, 2016. West States provided heavy equipment operation and repair support. Rule Engineering, LLC (Rule) personnel provided excavation guidance and collected confirmation samples from the resultant excavations. The final repair excavations measured at maximum approximately 29 feet by 12.5 feet by 4 to 5 feet in depth and 52 feet by 25 feet by 0.5 to 1 foot in depth. Approximately 84 cubic yards were transported to the TNT Landfarm for disposal/remediation. The remedial excavations were backfilled with clean, imported soils from a nearby stockpond selected by JANEPO.

A depiction of the excavations with sample locations and summary of analytical results is included as Figure 2. A copy of the executed C-138 Solid Waste Acceptance Form and landfarm records are included in Appendix A. A photograph log is included in Appendix B.

5.0 Soil Sampling

Rule collected confirmation excavation soil samples (SC-1, SC-2, SC-4, SC-5, SC-6 and Comp-1 through Comp-4) from the sidewalls and base of the excavations. The planned



confirmation sidewall sample SC-3 was not collected as the sidewall between the northern and southern final excavations resulted in a gradual slope and is represented by neighboring samples collected. Each confirmation soil sample is a representative composite comprised of five equivalent portions 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 TPH (GRO/DRO) per USEPA 8015D. Laboratory analytical results are summarized in Table 2, and the analytical laboratory reports are included in Appendix C.

A portion of each sample was 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 2.

6.0 Laboratory Analytical Results

Laboratory analytical results for the excavation confirmation samples reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the applicable JANEPO/NMOCD action levels. Laboratory analytical results for the excavation confirmation samples reported TPH (GRO/DRO) concentrations below laboratory reporting limits except for DRO concentrations of 16 mg/kg reported in samples Comp-2 and Comp-3. The TPH concentrations and laboratory reporting limits are all below the JANEPO/NMOCD action level of 100 mg/kg for a site rank of 20. Laboratory analytical results are summarized in Table 2 and presented on Figure 2.

7.0 Conclusions

The Enterprise Lateral 2C-29 pipeline valve release site is located in Unit Letter O, Section 22, Township 25 North, Range 5 West, in Rio Arriba County, New Mexico. The release, which originated from a pipeline valve, was discovered on January 29, 2016. Confirmation samples were collected from the sidewalls and base of the remedial excavations which measured approximately 29 feet by 12.5 feet by 4 to 5 feet in depth and 52 feet by 25 feet by 0.5 to 1 foot in depth. Laboratory analytical results for the soil confirmation samples (SC-1, SC-2, SC-4, SC-5, SC-6 and Comp-1 through Comp-4) reported benzene, total BTEX, and total TPH (GRO/DRO) concentrations below the applicable JANEPO/NMOGA action levels. Approximately 84 cubic yards of soils were transported to the TNT Landfarm for disposal/remediation. The remedial excavations were backfilled with clean, imported soils from a nearby stockpond selected by JANEPO.

Based on laboratory analytical results of the 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.



Tables



Table 1. JANEPO/NMOCD Site Ranking Determination Enterprise Field Services, LLC Lateral 2C-29 Pipeline Valve Release Rio Arriba County, New Mexico

Ranking Criteria	Ranking	Site-Based	Basis for Determination	Data		
	Score	Ranking Score		Sources		
Depth to Groundwater						
<50 feet	20		Elevation differential between location and wash in	NMOCD Online database,		
50-99 feet	10	0	Lapis Canyon >100 feet; shallow sandstone bedrock observed at location.	Lapis Point Quadrangle, Google Earth, and Visual Inspection		
>100 feet	0			mspection		
Wellhead Protection Area						
<1,000 feet from a water source, or <200 feet from private domestic water source	20 (Yes)	0	No water source or recorded water wells within 1,000	NMOSE NMWRRS, Lapis Point Quadrangle, Google		
	0 (No)		foot radius of location.	Earth, and Visual Inspection		
Distance to Surface Water Body						
<200 horizontal feet	20			Lapis Point Quadrangle,		
200 to 1,000 horizontal feet	10	20	Unnamed, ephemeral wash located approximately 100 feet south drain to the wash in Lapis Canyon.	Google Earth, and Visual		
>1,000 horizontal feet	0			Inspection		
Site Based Total Rank	ing Score	20				
Site Daseu Total Kank	ing Score	20				



Table 2. Soil Sampling Results - VOCs, Benzene, Total BTEX, and TPH Enterprise Field Services, LLC Lateral 2C-29 Pipeline Valve Release Rio Arriba County, New Mexico

Sample Name	Date	Location	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylben- zene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
E A PARTY OVE		JANEPO/NMO	CD Action Level*	100	10	NE	NE	NE	50	10	0**
SC-1	2/22/2016	Northeast Wall	0.5 to 5	4.0	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<10
SC-2	2/22/2016	Southeast Wall	0.5 to 5	23	<0.047	<0.047	< 0.047	< 0.093	ND	<4.7	<9.7
SC-4	2/22/2016	Northwest Wall	0.5 to 5	1.5	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<9.7
SC-5	2/23/2016	West Base	4 to 5	9.3	<0.046	<0.046	<0.046	<0.092	ND	<4.6	<10
SC-6	2/23/2016	East Base	4 to 5	143	<0.049	<0.049	<0.049	< 0.097	ND	<4.9	<9.8
Comp -1	2/22/2016	Northwest Flowpath	0.5 to 1	47	<0.047	<0.047	<0.047	< 0.094	ND	<4.7	<9.9
Comp-2	2/22/2016	Northeast Flowpath	0.5 to 1	45	<0.049	<0.049	<0.049	<0.099	ND	<4.9	16
Comp-3	2/22/2016	Central Flowpath	0.5 to 1	40	<0.048	<0.048	<0.048	<0.096	ND	<4.8	16
Comp-4	2/22/2016	Southern Flowpath	0.5 to 1	6.5	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<9.8

Notes:

VOCs - volatile organic compounds

PID - photoionization detector

ft bgs - feet below grade surface

ppm - parts per million

mg/kg - milligrams per kilogram

NE - not-established

ND - not detected above laboratory reporting limits

BTEX - benzene, toluene, ethylbenzene, and xylenes

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

DRO - diesel range organics

NMOCD - New Mexico Oil Conservation Division

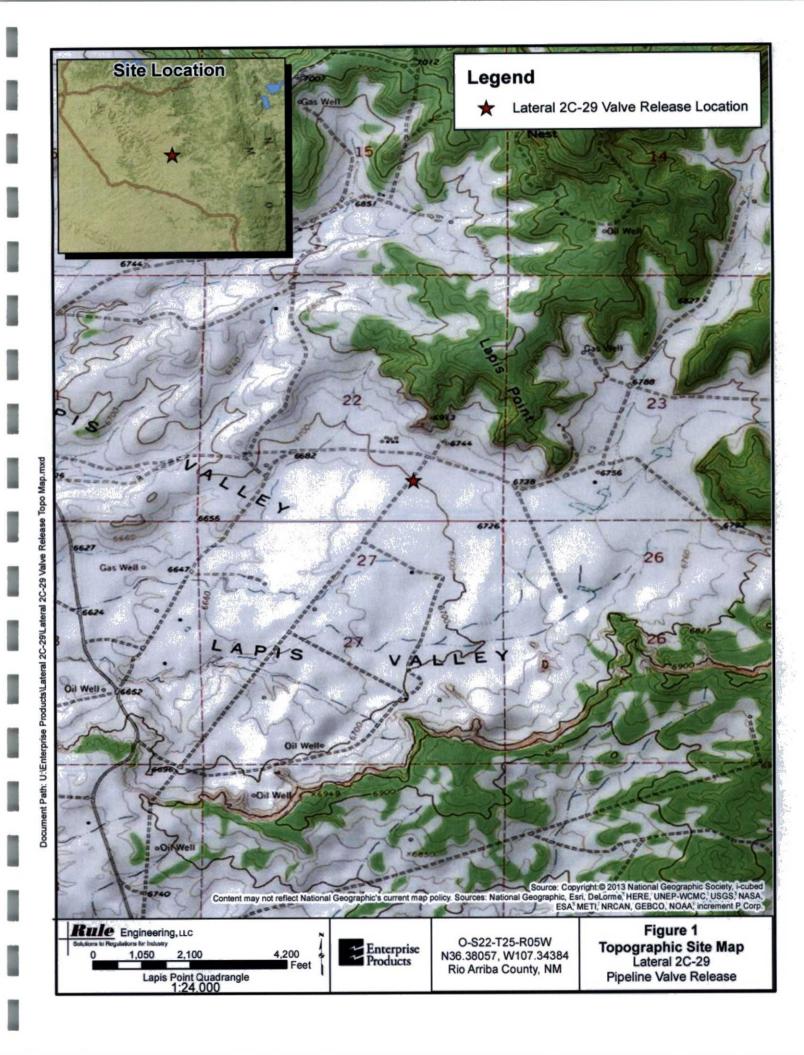
JANEPO - Jicarilla Apache Nation Environmental Protection Office

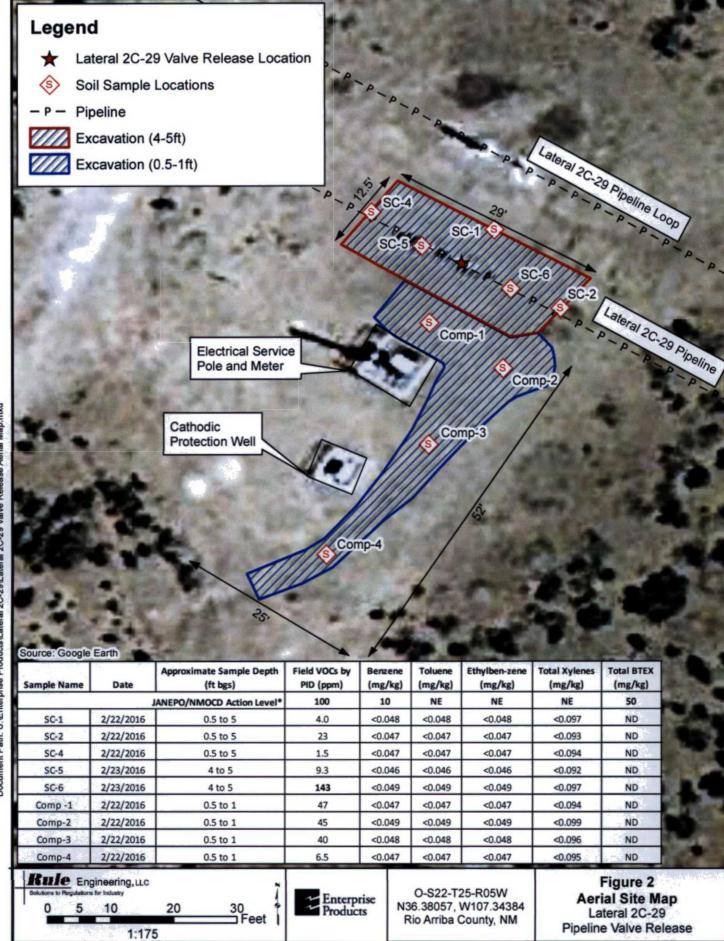
*Based on the NMOCD Guidelines for Remediation of Leaks, Spills and Releases (August 1993)

**Based on a site ranking of 20.

Figures







cument Path: U:Enterprise Products\Lateral 2C-29\Lateral 2C-29 Valve Release Aerial Map.mxc

Appendix A

Executed C-138 Solid Waste Acceptance Form



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

State of New Mexico
Energy Minerals and Natural Resources
Oil Conservation Division
1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-138 Revised 08/01/11

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

	Originating Site: Lateral 2C-29
-	
	Location of Material (Street Address, City, State or ULSTR): UL M Section 23 T25N R5W; 36.380020, -107.337917
Sou Des	Source and Description of Waste: rce: Natural Gas Pipeline Release rription: Hydrocarbon impacted soils associated with remediation activities for a natural gas pipeline release. rated Volume50_yd³ bbls Known Volume (to be entered by the operator at the end of the haul) yd³ / bbls
5.	GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS
I, certi	, representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby Generator Signature fy that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 latory determination, the above described waste is: (Check the appropriate classification)
	RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
	RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
	the appropriate teering
	MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
I, d	MSDS Information ☐ RCRA Hazardous Waste Analysis ☐ Process Knowledge ☐ Other (Provide description in Box 4)
I, the	MSDS Information
I, Crepi have of the	MSDS Information
I, the I, Re representation of the 19.	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. 1-1
I, the I, Rerepi have of the 19.	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. The presentative for TNT, Inc. do hereby certify that presentative Agent Signature resentative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results are representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 5.36 NMAC.
I, the I, Recrept have of the 19.1 So.	GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. TNT. Inc. do hereby certify that presentative for INT. Inc. 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 been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results he representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 5.36 NMAC. Transporter: Various approved trucking TD Permitted Surface Waste Management Facility me and Facility Permit #: TNT Evap Pond/Landfarm, NM01-0008
the I, (Re reprihave of the 19.) Na Add	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 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete Generator Signature required testing/sign the Generator Waste Testing Certification. Tell TNT, Inc. 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 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 5.36 NMAC. Transporter: Various approved trucking Transporter: Transporter: Various approved trucking Transporter: Various app

Date 2-23-16

COMMERCIAL LANDFARM TICKET

T-N-T Environmental, Inc.

#70 CR 405 • Lindrith, NM 87029

Ticket No.

9156

Date:	2	-23	-14	2	_Cust	omer:	EN	1	ER	P	RISE
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Truck	No.:	151	5								Delivery Ticket No.:
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ITEM	PAINT	CHLORIDE		TRASH	Impact	ed Soil	Tank B	ottoms	Drillin	g Fluid	
NO.	TEST RATIO	RESULTS	CELL	CHARGE	YRDS	BBLS	YRDS	BBLS	YRDS	BBLS	Comments Driver Signature
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2	1-1	125	2		12						Throw call
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		£ 00		B = Bac	kfill	Т	= Top	osoil			Sandrock G = Gravel
NO.		DRIVER	r's sic	SNATURE		יד	YPE	YR	DS	NO.	
1										8	
. 2										9	
3							3			10	
4										11	
5										12	
6										13	
7										14	

T-N-T Attendant ViceA +C

CARGEZ

Appendix B

Photograph Log





Photograph Log Lateral 2C-29 Pipeline Valve Release Enterprise Field Services, LLC

Photograph #1

Client: Enterprise

Site Name:

Lateral 2C-29 Pipeline Valve Release

Date Photo Taken: January 30, 2016

Release Location: N36.38057, W107.34384

O-22-25N-5W Rio Arriba County, NM

Photo Taken by: Heather Woods



Description: Facing east, general view of release source.

Photograph #2

Client: Enterprise

Site Name:

Lateral 2C-29 Valve Pipeline Release

Date Photo Taken: January 30, 2016

Release Location: N36.38057, W107.34384

O-22-25N-5W Rio Arriba County, NM

Photo Taken by: Heather Woods

Description: Facing northeast, general view of release area.

Photograph Log Lateral 2C-29 Pipeline Valve Release Enterprise Field Services, LLC



Photograph #3

Client: Enterprise

Site Name:

Lateral 2C-29 Pipeline Valve Release

Date Photo Taken: January 30, 2016

Release Location: N36.38057, W107.34384

O-22-25N-5W Rio Arriba County, NM

Photo Taken by: Heather Woods

Description: Facing southeast, berming and trenching to divert snow melt from release area.

Photograph #4

Client: Enterprise

Site Name:

Lateral 2C-29 Pipeline Valve Release

Date Photo Taken: January 30, 2016

Release Location: N36.38057, W107.34384

O-22-25N-5W Rio Arriba County, NM

Photo Taken by: Heather Woods



Description: Facing southwest, site drainage path to southeast.

Photograph Log Lateral 2C-29 Pipeline Valve Release Enterprise Field Services, LLC

Photograph #5	
Client: Enterprise	
Site Name:	
Lateral 2C-29 Pipeline Valve Release	
Date Photo Taken: February 23, 2016	
Release Location: N36.38057, W107.34384	
O-22-25N-5W Rio Arriba County, NM	graphic to the Change of Tage
Photo Taken by: Heather Woods	Description: Facing southwest, final excavation areas.

Photograph #6	
Client: Enterprise	
Site Name:	Control of the last of the las
Lateral 2C-29 Pipeline Valve Release	
Date Photo Taken: February 23, 2016	
Release Location: N36.38057, W107.34384	
O-22-25N-5W Rio Arriba County, NM	
Photo Taken by: Heather Woods	Description: Facing northeast, final excavation area of flowpath.

Appendix C Analytical Laboratory Report





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

March 01, 2016

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

RE: Enterprise Lateral 2C-29

OrderNo.: 1602A15

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 10 sample(s) on 2/24/2016 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 www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

Andy Freeman

Laboratory Manager

mule

4901 Hawkins NE

Albuquerque, NM 87109

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1602A15-001

Client Sample ID: SC-1

Collection Date: 2/22/2016 2:50:00 PM

Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	2/26/2016 7:01:05 PM	23931
Surr: DNOP	79.6	70-130	%Rec	1	2/26/2016 7:01:05 PM	23931
EPA METHOD 8015D: GASOLINE RAM	NGE				Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.8	mg/Kg	1	2/26/2016 10:48:24 AM	23942
Surr: BFB	92.2	66.2-112	%Rec	1	2/26/2016 10:48:24 AM	23942
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Benzene	ND	0.048	mg/Kg	1	2/26/2016 10:48:24 AM	23942
Toluene	ND	0.048	mg/Kg	1	2/26/2016 10:48:24 AM	23942
Ethylbenzene	ND	0.048	mg/Kg	1	2/26/2016 10:48:24 AM	23942
Xylenes, Total	ND	0.097	mg/Kg	1	2/26/2016 10:48:24 AM	23942
Surr: 4-Bromofluorobenzene	112	80-120	%Rec	1	2/26/2016 10:48:24 AM	23942

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Enterprise Lateral 2C-29 Project:

Lab ID: 1602A15-002 Client Sample ID: SC-2

Collection Date: 2/22/2016 3:20:00 PM

Matrix: SOIL Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	PA METHOD 8015M/D: DIESEL RANGE ORGANICS					
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	2/26/2016 8:05:21 PM	23931
Surr: DNOP	82.6	70-130	%Rec	1	2/26/2016 8:05:21 PM	23931
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	2/26/2016 11:59:28 AM	23942
Surr: BFB	93.9	66.2-112	%Rec	1	2/26/2016 11:59:28 AM	23942
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.047	mg/Kg	1	2/26/2016 11:59:28 AM	23942
Toluene	ND	0.047	mg/Kg	1	2/26/2016 11:59:28 AM	23942
Ethylbenzene	ND	0.047	mg/Kg	1	2/26/2016 11:59:28 AM	23942
Xylenes, Total	ND	0.093	mg/Kg	1	2/26/2016 11:59:28 AM	23942
Surr: 4-Bromofluorobenzene	110	80-120	%Rec	1	2/26/2016 11:59:28 AM	23942

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 12
- Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1602A15-004

Client Sample ID: SC-4

Collection Date: 2/22/2016 4:15:00 PM

Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAI	NGE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.7	mg/Kg	1	2/26/2016 8:26:45 PM	23931
Surr: DNOP	85.1	70-130	%Rec	1	2/26/2016 8:26:45 PM	23931
EPA METHOD 8015D: GASOLINE RA	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	2/26/2016 1:10:14 PM	23942
Surr: BFB	91.8	66.2-112	%Rec	1	2/26/2016 1:10:14 PM	23942
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.047	mg/Kg	1	2/26/2016 1:10:14 PM	23942
Toluene	ND	0.047	mg/Kg	1	2/26/2016 1:10:14 PM	23942
Ethylbenzene	ND	0.047	mg/Kg	1	2/26/2016 1:10:14 PM	23942
Xylenes, Total	ND	0.094	mg/Kg	1	2/26/2016 1:10:14 PM	23942
Surr: 4-Bromofluorobenzene	112	80-120	%Rec	1	2/26/2016 1:10:14 PM	23942

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 3 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project:

Enterprise Lateral 2C-29

Collection Date: 2/23/2016 10:55:00 AM

Lab ID:

1602A15-005

Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual Un	its	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s				Analyst	КЈН
Diesel Range Organics (DRO)	ND	10	mg	g/Kg	1	2/26/2016 8:48:00 PM	23931
Surr: DNOP	84.4	70-130	%F	Rec	1	2/26/2016 8:48:00 PM	23931
EPA METHOD 8015D: GASOLINE RA	ANGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.6	mg	g/Kg	1	2/26/2016 1:33:47 PM	23942
Surr: BFB	99.3	66.2-112	%F	Rec	1	2/26/2016 1:33:47 PM	23942
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.046	mg	g/Kg	1	2/26/2016 1:33:47 PM	23942
Toluene	ND	0.046	mg	g/Kg	1	2/26/2016 1:33:47 PM	23942
Ethylbenzene	ND	0.046	mg	g/Kg	1	2/26/2016 1:33:47 PM	23942
Xylenes, Total	ND	0.092	mg	g/Kg	1	2/26/2016 1:33:47 PM	23942
Surr: 4-Bromofluorobenzene	111	80-120	%F	Rec	1	2/26/2016 1:33:47 PM	23942

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 4 of 12
- Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1602A15-006

Client Sample ID: SC-6

Collection Date: 2/23/2016 10:50:00 AM

Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	PA METHOD 8015M/D: DIESEL RANGE ORGANICS						
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/29/2016 1:21:47 PM	23931
Surr: DNOP	79.9	70-130		%Rec	1	2/29/2016 1:21:47 PM	23931
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/26/2016 1:57:22 PM	23942
Surr: BFB	92.0	66.2-112		%Rec	1	2/26/2016 1:57:22 PM	23942
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.049		mg/Kg	1	2/26/2016 1:57:22 PM	23942
Toluene	ND	0.049		mg/Kg	1	2/26/2016 1:57:22 PM	23942
Ethylbenzene	ND	0.049		mg/Kg	1	2/26/2016 1:57:22 PM	23942
Xylenes, Total	ND	0.097		mg/Kg	1	2/26/2016 1:57:22 PM	23942
Surr: 4-Bromofluorobenzene	111	80-120		%Rec	1	2/26/2016 1:57:22 PM	23942

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 5 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1602A15-007 Client Sample ID: Comp-1

Collection Date: 2/22/2016 2:25:00 PM

Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANIC	s				Analyst	КЈН
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	2/26/2016 9:30:35 PM	23931
Surr: DNOP	88.9	70-130		%Rec	1	2/26/2016 9:30:35 PM	23931
EPA METHOD 8015D: GASOLINE RA	NGE					Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/26/2016 2:21:01 PM	23942
Surr: BFB	91.8	66.2-112		%Rec	1	2/26/2016 2:21:01 PM	23942
EPA METHOD 8021B: VOLATILES						Analyst	NSB
Benzene	ND	0.047		mg/Kg	1	2/26/2016 2:21:01 PM	23942
Toluene	ND	0.047		mg/Kg	1	2/26/2016 2:21:01 PM	23942
Ethylbenzene	ND	0.047		mg/Kg	1	2/26/2016 2:21:01 PM	23942
Xylenes, Total	ND	0.094		mg/Kg	1	2/26/2016 2:21:01 PM	23942
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	2/26/2016 2:21:01 PM	23942

Matrix: SOIL

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 6 of 12 J
- Sample pH Not In Range
- RLReporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Lab ID:

Project:

Enterprise Lateral 2C-29

1602A15-008 Matrix: SOIL Client Sample ID: Comp-2

Collection Date: 2/22/2016 4:00:00 PM

Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL (Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s			Analyst	КЈН
Diesel Range Organics (DRO)	16	10	mg/Kg	1	2/26/2016 9:52:00 PM	23931
Surr: DNOP	87.4	70-130	%Rec	1	2/26/2016 9:52:00 PM	23931
EPA METHOD 8015D: GASOLINE RAI	NGE				Analyst	NSB
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	2/26/2016 2:44:34 PM	23942
Surr: BFB	93.2	66.2-112	%Rec	1	2/26/2016 2:44:34 PM	23942
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Benzene	ND	0.049	mg/Kg	1	2/26/2016 2:44:34 PM	23942
Toluene	ND	0.049	mg/Kg	1	2/26/2016 2:44:34 PM	23942
Ethylbenzene	ND	0.049	mg/Kg	1	2/26/2016 2:44:34 PM	23942
Xylenes, Total	ND	0.099	mg/Kg	1	2/26/2016 2:44:34 PM	23942
Surr: 4-Bromofluorobenzene	111	80-120	%Rec	1	2/26/2016 2:44:34 PM	23942

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Holding times for preparation or analysis exceeded H
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 7 of 12 J
- P Sample pH Not In Range
- Reporting Detection Limit RL
- Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: Comp-3

Project:

Enterprise Lateral 2C-29

Collection Date: 2/22/2016 3:50:00 PM

Lab ID:

1602A15-009

Matrix: SOIL

Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	s				Analyst:	КЈН
Diesel Range Organics (DRO)	16	9.8		mg/Kg	1	2/26/2016 10:13:07 PM	23931
Surr: DNOP	94.0	70-130		%Rec	1	2/26/2016 10:13:07 PM	23931
EPA METHOD 8015D: GASOLINE RAI	NGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	2/26/2016 3:08:10 PM	23942
Surr: BFB	92.6	66.2-112		%Rec	1	2/26/2016 3:08:10 PM	23942
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	0.048		mg/Kg	1	2/26/2016 3:08:10 PM	23942
Toluene	ND	0.048		mg/Kg	1	2/26/2016 3:08:10 PM	23942
Ethylbenzene	ND	0.048		mg/Kg	1	2/26/2016 3:08:10 PM	23942
Xylenes, Total	ND	0.096		mg/Kg	1	2/26/2016 3:08:10 PM	23942
Surr: 4-Bromofluorobenzene	112	80-120		%Rec	1	2/26/2016 3:08:10 PM	23942

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

- Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits
- % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits Page 8 of 12
- Sample pH Not In Range
- Reporting Detection Limit
- Sample container temperature is out of limit as specified

Lab Order 1602A15

Date Reported: 3/1/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Project: Enterprise Lateral 2C-29

Lab ID: 1602A15-010

Client Sample ID: Comp-4

Collection Date: 2/22/2016 3:35:00 PM

Matrix: SOIL Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANIC	S	95		1 100 1	Analyst:	KJH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	2/26/2016 10:34:20 PM	23931
Surr: DNOP	85.6	70-130		%Rec	1	2/26/2016 10:34:20 PM	23931
EPA METHOD 8015D: GASOLINE RAN	IGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/26/2016 5:29:00 PM	23942
Surr: BFB	91.2	66.2-112		%Rec	1	2/26/2016 5:29:00 PM	23942
EPA METHOD 8021B: VOLATILES						Analyst:	NSB
Benzene	ND	0.047		mg/Kg	1	2/26/2016 5:29:00 PM	23942
Toluene	ND	0.047		mg/Kg	1	2/26/2016 5:29:00 PM	23942
Ethylbenzene	ND	0.047		mg/Kg	1	2/26/2016 5:29:00 PM	23942
Xylenes, Total	ND	0.095		mg/Kg	1	2/26/2016 5:29:00 PM	23942
Surr: 4-Bromofluorobenzene	110	80-120		%Rec	1	2/26/2016 5:29:00 PM	23942

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

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 9 of 12
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1602A15

01-Mar-16

Qual

Qual

0

Client:

Rule Engineering LLC

Project:

Enterprise Lateral 2C-29

Sample ID LCS-23931

SampType: LCS

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

LowLimit

65.8

Client ID: LCSS

Batch ID: 23931

PQL

10

RunNo: 32421

%RPD

Prep Date: 2/25/2016

Analysis Date: 2/26/2016

Result

38

4.0

SeqNo: 991463

76.2

79.5

Units: mg/Kg

136

130

HighLimit

Analyte Diesel Range Organics (DRO) Surr: DNOP

> SampType: MBLK Batch ID: 23931

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

RunNo: 32421

Prep Date: 2/25/2016

Sample ID MB-23931

Analysis Date: 2/26/2016

7.7

SeqNo: 991465

Units: mg/Kg

130

HighLimit

Analyte

Client ID:

Result ND

SPK value SPK Ref Val

SPK value SPK Ref Val %REC

SPK value SPK Ref Val %REC

%REC LowLimit

RPDLimit Qual

Diesel Range Organics (DRO) Surr: DNOP

10.00

50.00

5.000

77.3

70

%RPD

RPDLimit

Sample ID 1602A15-001AMS

Sample ID 1602A15-001AMSD

SampType: MS

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

Client ID: SC-1

Batch ID: 23931

RunNo: 32421

Units: mg/Kg

Prep Date: 2/25/2016

Analysis Date: 2/26/2016

PQL

10

SegNo: 992471

Analyte Diesel Range Organics (DRO)

Result PQL 38 9.5 47.35 4.1 4.735

SPK value SPK Ref Val %REC LowLimit 81.1

86.5

HighLimit 162

130

%RPD **RPDLimit** Qual

Surr: DNOP

SampType: MSD

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

31.2

70

Client ID: SC-1 Prep Date: 2/25/2016 Batch ID: 23931

PQL

RunNo: 32421

Analyte Diesel Range Organics (DRO)

Analysis Date: 2/26/2016

Result

SegNo: 992549

Units: mg/Kg

HighLimit %RPD **RPDLimit** 9.20 31.7

Surr: DNOP

42 10 50.10 4.2 5.010

84.0 84.4

31.2 70

LowLimit

162 130

0

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

Page 10 of 12

OC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1602A15

01-Mar-16

Client:

Rule Engineering LLC

Project:

Enterprise Lateral 2C-29

Sample ID MB-23942

SampType: MBLK

TestCode: EPA Method 8015D: Gasoline Range

Client ID: PBS

Batch ID: 23942

RunNo: 32426

Prep Date: 2/25/2016

Analysis Date: 2/26/2016

PQL

5.0

SegNo: 992147

Units: mg/Kg

Gasoline Range Organics (GRO)

ND

HighLimit

%RPD

RPDLimit Qual

Surr: BFB

910

1000

91.5

66.2 112

Sample ID LCS-23942

SampType: LCS

RunNo: 32426

TestCode: EPA Method 8015D: Gasoline Range

Prep Date: 2/25/2016

Client ID: LCSS

Batch ID: 23942

RunNo: 32426

113

105

Units: mg/Kg

%RPD

Qual

Analyte

Result

Analysis Date: 2/26/2016

SeqNo: 992148

Gasoline Range Organics (GRO)

28 990

PQL 25.00

SPK value SPK Ref Val %REC

SPK value SPK Ref Val %REC LowLimit

LowLimit 112 79.6 HighLimit

%RPD **RPDLimit**

5.0 1000

98.6 66.2 122 112

Sur: RFR

Sample ID 1602A15-002AMS

Prep Date: 2/25/2016

Client ID: SC-2

SampType: MS

TestCode: EPA Method 8015D: Gasoline Range

20

0

Page 11 of 12

Analyte

Sample ID 1602A15-002AMSD

Result PQL

4.7

Batch ID: 23942

Analysis Date: 2/26/2016 SPK value SPK Ref Val

23.36

934.6

SeqNo: 992153 %REC

LowLimit 59.3

66.2

Units: mg/Kg HighLimit

143

112

RPDLimit Qual

Qual

Gasoline Range Organics (GRO)

Surr: BFB

SampType: MSD

TestCode: EPA Method 8015D: Gasoline Range

0

123

101

RunNo: 32426

HighLimit

Analyte

Client ID: SC-2 Prep Date: 2/25/2016

Batch ID: 23942 Analysis Date: 2/26/2016

SegNo: 992154

Units: mg/Kg

%RPD

RPDLimit 8.15

Gasoline Range Organics (GRO) Surr: BFB

29

940

26

980

PQL SPK value SPK Ref Val %REC 4.7

23.36

934.6

LowLimit

59.3 66.2

143 112

0

Value exceeds Maximum Contaminant Level.

% Recovery outside of range due to dilution or matrix

D Sample Diluted Due to Matrix

Not Detected at the Reporting Limit

Analyte detected in the associated Method Blank

Analyte detected below quantitation limits

Sample pH Not In Range

Sample container temperature is out of limit as specified

Qualifiers:

Holding times for preparation or analysis exceeded H

R RPD outside accepted recovery limits Value above quantitation range

RL Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#:

1602A15

01-Mar-16

Client:

Rule Engineering LLC

Project:

Enterprise Lateral 2C-29

Sample ID MB-23942

SampType: MBLK

TestCode: EPA Method 8021B: Volatiles

80

TestCode: EPA Method 8021B: Volatiles

Client ID:

PBS

Batch ID: 23942

PQL 0.050

0.050

RunNo: 32426

%RPD

Prep Date: 2/25/2016

Analysis Date: 2/26/2016

Result

ND ND

1.1

SeqNo: 992277

SPK value SPK Ref Val %REC LowLimit

Units: mg/Kg **HighLimit**

RPDLimit Qual

RPDLimit

Qual

S

Analyte Benzene Toluene

Ethylbenzene Xylenes, Total

ND 0.050 ND 0.10

111

120

Sample ID LCS-23942

Surr: 4-Bromofluorobenzene

Batch ID: 23942

RunNo: 32426

Prep Date: 2/25/2016

Client ID: LCSS

SampType: LCS

SeqNo: 992282

Units: mg/Kg

Analysis Date: 2/26/2016

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD
Benzene	1.1	0.050	1.000	0	111	80	120	
Toluene	1.2	0.050	1.000	0	118	80	120	
Ethylbenzene	1.2	0.050	1.000	0	115	80	120	
Xylenes, Total	3.5	0.10	3.000	0	115	80	120	
Surr: 4-Bromofluorobenzene	1.2		1.000		122	80	120	

1.000

Sample ID 1602A15-001AMS

SampType: MS

TestCode: EPA Method 8021B: Volatiles

Client ID: SC-1

Batch ID: 23942

RunNo: 32426

Prep Date: 2/25/2016	Analysis D	Date: 2/	26/2016	8	SeqNo: 9	92291	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.049	0.9709	0	108	71.5	122				
Toluene	1.2	0.049	0.9709	0	119	71.2	123				
Ethylbenzene	1.2	0.049	0.9709	0	118	75.2	130				
Xylenes, Total	3.5	0.097	2.913	0	121	72.4	131				
Surr: 4-Bromofluorobenzene	1.2		0.9709		122	80	120			S	

Sample ID 1602A15-001AMSD SampType: MSD

TestCode: EPA Method 8021B: Volatiles

Client ID: SC-1	Batcl	h ID: 23	942	F	RunNo: 3	2426							
Prep Date: 2/25/2016	Analysis D	Date: 2/	26/2016	8	SeqNo: 9	92292	Units: mg/K	Jnits: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual			
Benzene	1.1	0.049	0.9709	0	111	71.5	122	2.65	20				
Toluene	1.2	0.049	0.9709	0	120	71.2	123	0.848	20				
Ethylbenzene	1.2	0.049	0.9709	0	120	75.2	130	1.46	20				
Xylenes, Total	3.5	0.097	2.913	0	121	72.4	131	0.159	20				
Surr: 4-Bromofluorobenzene	1.2		0.9709		123	80	120	0	0	S			

Oualifiers:

Value exceeds Maximum Contaminant Level.

Sample Diluted Due to Matrix D

Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

Analyte detected in the associated Method Blank

E Value above quantitation range

J Analyte detected below quantitation limits Page 12 of 12

P Sample pH Not In Range

RL Reporting Detection Limit

Sample container temperature is out of limit as specified

% Recovery outside of range due to dilution or matrix



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109

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

Sample Log-In Check List

Client Name: RU	LE ENGINEERING LL	Work Order Number:	1602/	115			RcptNo: 1	
Received by/date:	JA 02/	24/16						
Logged By: A	nne Thorne	2/24/2016 8:05:00 AM			ame,	I.	_	
Completed By: A	nne Thorne	2/24/2016			am.	1-		
Reviewed By:					J			
Chain of Custod	ly .							
1. Custody seals in	tact on sample bottles?		Yes		No		Not Present ✓	
2. Is Chain of Custo	ody complete?		Yes	\checkmark	No		Not Present	
3. How was the sar	mple delivered?		Cour	ier				
Log In								
4. Was an attempt	made to cool the samples	s?	Yes	V	No		NA 🗆	
5. Were all sample	s received at a temperatu	re of >0° C to 6.0°C	Yes	V	No		NA 🗆	
6. Sample(s) in pro	oper container(s)?		Yes	V	No			
7. Sufficient sample	volume for indicated test	t(s)?	Yes	✓	No			
8. Are samples (ex	cept VOA and ONG) prop	erly preserved?	Yes	\checkmark	No			
9. Was preservative	e added to bottles?		Yes		No	V	NA 🗆	
10.VOA vials have a	zero headspace?		Yes		No		No VOA Vials	
11. Were any sample	e containers received bro	ken?	Yes		No	✓	# of preserved	
12. Does paperwork	match hottle lahels?		Yes	~	No		bottles checked for pH:	
	cies on chain of custody)						(<2 or	>12 unless noted)
	rectly identified on Chain	of Custody?	Yes	-	No		Adjusted?	
Mark and a second	nalyses were requested?		Yes	\mathbf{Z}	No		Checked by:	
	times able to be met? omer for authorization.)		Yes	\checkmark	NO	_		
Special Handling	g (if applicable)							
16. Was client notifie	ed of all discrepancies with	h this order?	Yes		No		NA 🗹	
Person No	tified:	Date	_	B				
By Whom:		Via:	eM	ail 🔲	Phone	Fax	☐ In Person	
Regarding		a Comment at the Comment and Comment			ora limita di come e		maker where we are the sections	
Client Instr	ructions:	a water and a			H)) , , , ,		new reverse 1	
17. Additional rema	rks:							
18. Cooler Informa					#1 D 200			
Cooler No	Temp °C Condition		Seal D	ate .	Signed	Ву		~
1 1	.0 Good N	lot Present					J	

ite:	13/16	ite:		1	22/16	22/1	2/14	2/16	3/16	3/16	477	444	2/16	2/16)ate	EDI	NEL	Star	Vac	nailc	one	Far	Pailing		ient	_
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ned by:	the is when	ned by:	WIS HOW		Comp - 4	(Smp - 3	Comp-2	Comp-1	SC-6	50-5	50-4	Se 3 R ozpullo	Sc-2	50-1	Sample Request ID		er	☐ Level 4 (Full Validation)	0	eruluncinarins con	-2787	٠	Swite	0	ering LLC	Chain-of-Custody Record
Received by:	Church	Received by:			+									(1)4 oz Glasi	Container Type and #	Sample Temp	Sampler: He	Heather		Project Manag		Project #:	E	Project Name	X Standard	Turn-Around Time:
					1								_	Cold	Preservative Type	erature: /	Who Mos	Weeds		ger:			aterial 20			Time:
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Air Bubbles (Y or N)

Turn-Around Time:

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.

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

1000 Rio Brazos Road, Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

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

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

Form C-141

Revised August 8, 2011

Oil Conservation Division Santa Fe. NM 87505

1220 South St. Francis Dr.

		F	Releas	e Notifica			orrective	Actio	on					
					0	PERATO		\boxtimes	Initial	Report		Final Report		
		Enterprise F					homas Long	2000						
Facility Na	14 Relly A	Ave, Farmin	gton, NM	8/401			No. 505-599- be: Natural G		oring B	lineline				
racility Na	ne. Later	ai 20-24				racility Ty	e. Naturai G	as Gau	iering F	ipeline				
Surface Ov	vner: Jica	rilla Apach	e Tribe	Mineral C	Owne	r: Jicarilla /	Apache Tribe		Serial	Number:	N/A			
						N OF REI			_					
Unit Letter	Section	Township	Range	Feet from		rth South	Feet from	The second secon	County					
М	2	24N	5W	the 318	Lin	е	the 857	Line		Rio Arrit	oa			
			La	5 7 3 7 7	W WW RC	6_Longitud	le <u>-107.33692</u> EASE	24						
Type of Rele	ease: Natur	al Gas and C	condensate				Release Unkno	wn	Volume	Recovered	: None)		
		spected Inter					our of Occurren	ce:	Date an	d Hour of D	iscove	A ST STORY A ST A STREET, AND ASSESSMENT OF THE PARTY OF		
						8/8/2016 @				6 @ 10:50				
Was Immed	ate Notice		s 🗆 No	☐ Not		If YES, To V JAOGA	Vhom? Hobson	Sandov	al – JAE			_		
Required										OIL CON	S DI	/ DIST. 8		
By Whom?							me August 10,	2016@	11:12 a.r	n.	0.011	10131. 3		
Was a Wate	rcourse Re		⊠ Yes	□ No		If YES, Volu	ime			SEP	06	2016		
Describe Ca	use of Prol	olem and Rei	medial Act	ion: On Augus	st 9, 2	016, Enterpri	all ephemeral v se technicians of The pipeline wa	discover	ed a gas d, blown	leak on the down, lock	Latera ed out	al 2C-24 and tagged		
I hereby cer rules and re which may e relieve the o ground wate	chanical ex ify that the gulations al ndanger po perator of I r, surface v	information of a perators a sublic health o iability should water, human	given above re required rethe environt their ope health or	re is true and of to report and conment. The rations have fa the environment	compl d/or file accep ailed to	ete to the bee e certain rele otance of a C to adequately n addition, Ni	e scheduling produced with the st of my knowled as notifications 141 report by the investigate and MOCD acceptar	dge and s and pe he NMO d remedince of a	understa rform cor CD mark ate conta	nd that pur rective acti ed as "Fina mination th	suant tons for	to NMOCD r releases ort" does not e a threat to		
operator or r	esponsibili	y for compila	nce with a	iny other reder	raı, st	ate, or local is	aws and/or regu		AZDON	DIVICIO) NI			
Signature:	- $$	m/ru	leb				OIL CON	SERV	ALION	DIVISIO	714			
Printed Nam	e: U on E. F	ields				Approved b	/ Environmenta	l Specia	list:	5	ر			
Title: Directo	r, Environn	nental					ite: 0/7/20			Date:	3			
E-mail Addre	ess:jefields	@eprod.com				Conditions	of Approval:			Attache	d 🗆			
Date: 8 Attach Addi	- 19- 2	0/6	Phone	e: (713)381-66	684	Nes	1623027	3096		AND ADDRESS OF THE PARTY OF THE				
Attach Addi	ional She	ets if Neces	sary			Samor	Area ?	OF		122				
5					5684 NCS1623028908 Sample Argo For 8015 & 8021 including MRO 1003							loss (

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

State of New Mexico Energy Minerals and Natural Resources

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141 Revised August 8, 2011

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

Release Notification and Corrective Action OPERATOR Final Report Name of Company: Enterprise Field Services LLC Contact: Thomas Long Address: 614 Reilly Ave, Farmington, NM 87401 Telephone No. 505-599-2286 Facility Name: Jicarilla Apache H Tract 2 #2 Facility Type: Natural Gas Gathering Pipeline Surface Owner: Jicarilla Apache Nation Mineral Owner: Jicarilla Apache Nation API No. LOCATION OF RELEASE Unit Letter Section Township Range Feet from North South Feet from **East** West County Rio Arriba 9 23N 2W the 791 the 615 Line Latitude 36.24775 Longitude -107.04821 NATURE OF RELEASE Type of Release: Natural Gas and Condensate Volume of Release Unknown Volume Recovered: None Source of Release: Suspected Internal Corrosion Date and Hour of Occurrence: Date and Hour of Discovery: 6/20/2016 @ 1:30 p.m. 6/20/2016 @ 1:30 p.m. Was Immediate Notice Given? If YES, To Whom? Hobson Sandoval - JAEPO; Waymore Callado -JAOAG: Subsequent notification to NMOCD - Vanessa Fields Required Date and Time Phone call on 6/20/2016 @ 3:06 p.m. By Whom? Thomas Long Was a Watercourse Reached? ☐ Yes ☒ No AUG 0 5 2016 If a Watercourse was Impacted, Describe Fully.* Describe Cause of Problem and Remedial Action: On June 20, 2016, Enterprise technicians discovered a gas leak on the Jicarilla Apache H Tract 2#2 pipeline. No fluids were observed on the ground surface. The pipeline was isolated, blown down, locked out and tagged out. Repairs and remediation initiated on July 19, 2016 and the release was determined reportable per NMOCD regulation due to the volume of impacted soil. Describe Area Affected and Cleanup Action: Repairs and remediation were completed on July 22, 2016. A third party corrective action report will be included with the "Final." C-141. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. OIL CONSERVATION DIVISION Signature: Printed Name: Jon E. Fields Approved by Environmental Specialist: Title: Director, Environmental Approval Date: **Expiration Date:**

Conditions of Approval:

Phone: (713)381-6684

Attach Additional Sheets If Necessary

E-mail Address:jefields@eprod.com

Attached |

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 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141 Revised August 8, 2011

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

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

Release Notification and Corrective Action

					OPERATO	R	\boxtimes	Initial	Report	☐ Fi	nal Re	port			
Name of C	ompany:	Enterprise F	ield Serv	vices LLC		homas Long									
Address: 6	14 Reilly A	ve, Farmin	gton, NM	87401		No. 505-599-2									
Facility Na	me: Latera	al 2C-29			Facility Ty	oe: Natural Ga	s Gath	ering P	ipeline						
Surface Ov	vner: Jica	rilla Apach	e Nation	Mineral O	wner: Jicarilla /	Apache Nation	1	API No. 4°							
) 5				LOCA	TION OF REI	EASE		3.1							
Unit Letter	Section	Township	Range		North South	Feet from	East	est	County			·C.			
) E	24	25N	5W	the 2515	Line	the 335	Line		Rio Arrib	a					
			Li	atitude_36.38	5567 Longitud	le107.31922	6								
	NATURE OF RELEASE Type of Release: Natural Gas and Condensate Volume of Release Unknown Volume Recovered: None														
Type of Rele	None)	port												
Source of R	elease: Sus	spected Inter	nal Corros	sion		our of Occurrence 10:00 a.m.			Hour of D 6 @ 12:00		:				
Was Immed	iate Notice	Given?				Vhom? Hobson					do –				
			□ No	☐ Not	JAO&G Co	ry Smith - NMO	CD		-200						
Required									IL CONS.	DIV D	IST. 3	41			
By Whom?						me July 27, 201	5 @ 8:32	2 a.m.				J; 1			
Was a Wate	rcourse Re		_ v	57 No.	If YES, Volu	ime			Alig	0 8 201	6	- U.			
til.		1	☐ Yes	⊠ No					Aud	00 200		· .			
If a Waterco	urse was In	npacted, Des	cribe Fully	y.* The gas rele	ease site is locate	d in a small ephe	emeral w	ash.							
					y 27, 2016, Enter pipeline was isol							port			
Describe Are	ea Affected	and Cleanur	Action: R	Repairs and rem	nediation are in the	e scheduling pro	cess. E	nterprise	will remov	e the co	ntamina	ant			
					n report will be in										
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rules and re- which may e relieve the o ground wate	gulations all endanger pu perator of li er, surface w	l operators and operators and operators of the operators	re required the envir their ope health or	d to report and/or conment. The a crations have fai the environmer	omplete to the best or file certain relecceptance of a Colled to adequately nt. In addition, NN al, state, or local la	ase notifications 141 report by th investigate and MOCD acceptant	and perf e NMOC remedia ce of a C	orm com D markete conta	rective action do as "Final mination the	ons for re Report" at pose	does rathream	not			
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