



AE Order Number Banner

Report Description

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App Number: pJK1424833743

3RP - 1012

ENTERPRISE PRODUCTS OPERATING, LLC

11/3/2016

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

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

Initial Report 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: Reams LS#4	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: BLM	Mineral Owner: BLM	Serial Number: NM 0020367
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LOCATION OF RELEASE

Unit Letter L	Section 23	Township 26N	Range 6W	Feet from the 1887	North/South Line South	Feet from the 1200	East/West Line West	County Rio Arriba
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OIL CONS. DIV DIST. 3

Latitude 36.4702 Longitude -107.4422

JUL 25 2016

NATURE OF RELEASE

Type of Release: Natural Gas and Condensate	Volume of Release: 1.56 MCF Gas; 10-15 Barrels of Condensate	Volume Recovered: None
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 3/25/2016 @ 10:19 a.m.	Date and Hour of Discovery: 3/25/2016 @ 10:46 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Cory Smith - NMOCD; Katherina Diemer - BLM	
By Whom? Thomas Long	Date and Time: April 19, 2016 @ 6:52 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume	

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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 7/27/2016	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/20/2016	Phone: (713)381-6684	NCS11611654834

* Attach Additional Sheets If Necessary

**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, 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 Management (BLM)		
Discovery Date	March 25, 2016		
Release Report Date	April 1, 2016	Reported by	Thomas Long
Agency Notification	New Mexico Oil Conservation Division (NMOCD) and BLM		
Release Source	Corrosion holes in the pipeline		
Substance(s) Released	Natural Gas and Pipeline Liquids		
NMOCD Site Rank	10		
Distance to Nearest Surface Water	Unnamed ephemeral wash approximately 5330 feet southwest which drains to Albert 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
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 Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	0	Elevation differential information derived from the topographic map of the area; a cathodic protection report for the Federal #12N and #12E located within 400 feet of the release location reports no groundwater encountered to 300 feet below ground surface.	NMOCD Online database, Gonzales Mesa Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
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 foot radius of location.	NMOSE NMWRRS, Gonzales Mesa Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	10	An unnamed, ephemeral wash is located approximately 530 feet southwest of release location which drains to the wash in Albert Canyon.	Gonzales Mesa Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
Site Based Total Ranking 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)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)
NMOCD Action Level*				10	NE	NE	NE	50	1,000**	
Excavation Confirmation Samples										
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

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

**Based on a site ranking of 10

GRO - gasoline range organics

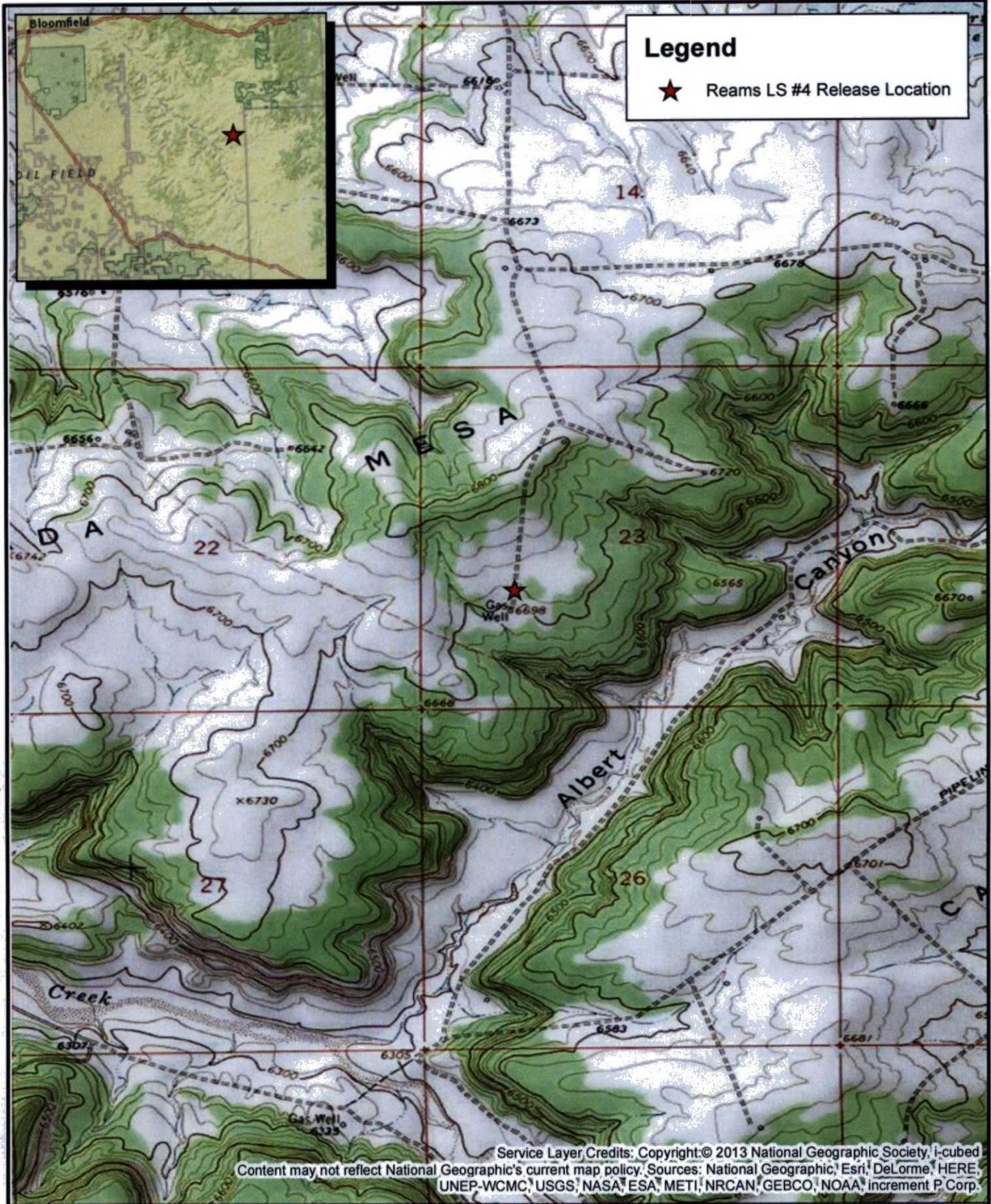
DRO - diesel range organics

NE - not-established

ND - not detected above laboratory reporting limits

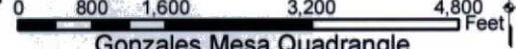
Figures

Document Path: U:\Enterprise Products\Reams LS#2\Reams LS #4 Topo Map.mxd



Rule Engineering, LLC

Solutions to Regulators for Industry



Gonzales Mesa Quadrangle
1:24,000



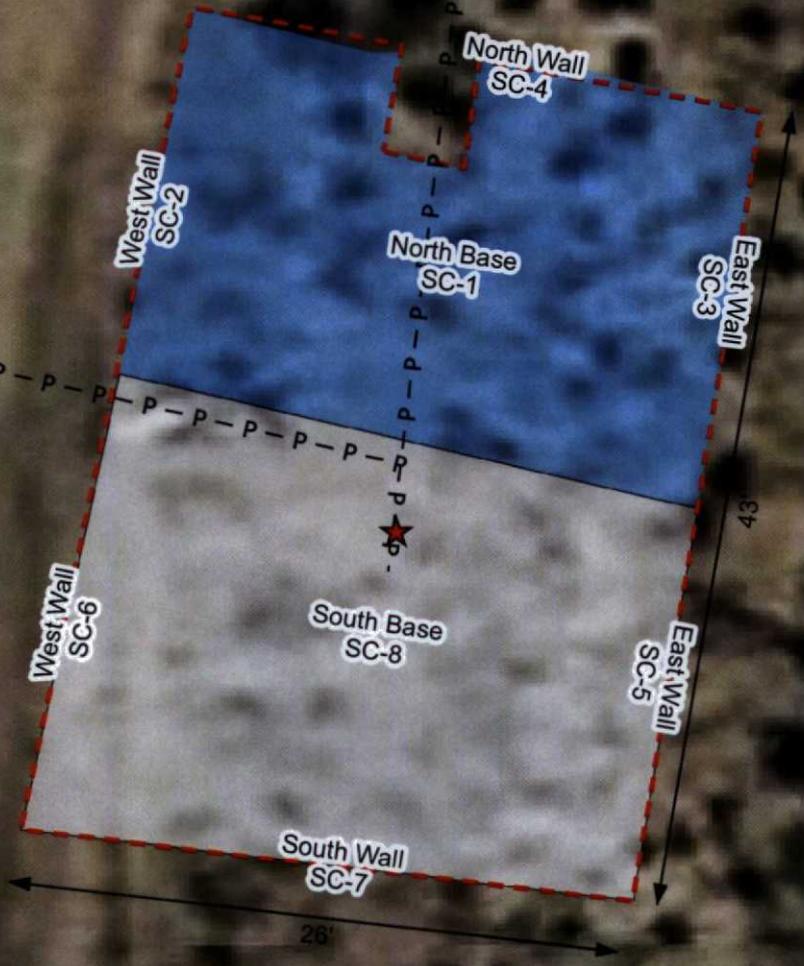
L-S23-T26N-R06W
N36.47020, W107.44220
Rio Arriba County, NM

Figure 1
Topographic Site Map
Reams LS #4
Pipeline Release

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

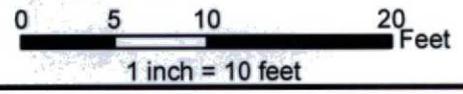
Legend

- ★ Reams LS #4 Release Location
- P - Pipeline
- ▭ Excavation Extent
- ▭ South Portion of Excavation Area
- ▭ North Portion of Excavation Area



Source: Google Earth

Rule Engineering, LLC
Solutions to Regulations for Industry



L-S23-T26N-R06W
N36.47020, W107.44220
Rio Arriba County, NM

Figure 2
Aerial Site Map
Reams LS #4
Pipeline Release

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

State of New Mexico
Energy Minerals and Natural Resources

97057-0769

Form C-138
Revised August 1, 2011

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

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401	
2. Originating Site: Reams LS#4 Pipeline	
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. Source and Description of Waste: Hydrocarbon impacted soil/sludge from hydro-excavation activities associated with a pipeline release.	
5. Estimated Volume <u>10</u> yd ³ (bbls) Known Volume (to be entered by the operator at the end of the haul) <u>136/45</u> yd ³ / bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, <u>Thomas Long</u> <i>Thomas Long</i> representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby PRINT & SIGN NAME COMPANY NAME	
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. <i>Operator Use Only: Waste Acceptance Frequency</i> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load	
<input type="checkbox"/> 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)	
<input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)	
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS	
I, <u>Thomas Long</u> <i>Thomas Long</i> <u>3-31-16</u> , representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to Generator Signature complete the required testing/sign the Generator Waste Testing Certification.	
I, <u>Greg Crabtree</u> <i>Greg Crabtree</i> , representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
6. Transporter: <u>Rocky Mountain Excavation, Doug Foutz, HBL, West States, Rockies</u>	

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011

Address of Facility: Hilltop, NM

Method of Treatment and/or Disposal:

Evaporation Injection Treating Plant Landfarm Landfill Other

Waste Acceptance Status:

APPROVED

DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager DATE: 3/31/16

SIGNATURE: Greg Crabtree
Surface Waste Management Facility Authorized Agent

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
Energy Minerals and Natural Resources

97057-0769

Form C-138
Revised August 1, 2011

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

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401	May '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. Source and Description of Waste: Hydrocarbon impacted soil associated with a pipeline release.	
5. Estimated Volume <u>50</u> (yd) / bbls Known Volume (to be entered by the operator at the end of the haul) <u>386</u> (yd ³) / bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, <u>Thomas Long</u> representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby <small>PRINT & SIGN NAME COMPANY NAME</small> certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non- exempt waste. <i>Operator Use Only: Waste Acceptance Frequency</i> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Per Load	
<input type="checkbox"/> 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)	
<input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4)	
GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS	
I, <u>Thomas Long</u> , representative for <u>Enterprise Field Services, LLC</u> authorize Envirotech, Inc. to Generator Signature complete the required testing/sign the Generator Waste Testing Certification.	
I, <u>[Signature]</u> , representative for <u>Envirotech, Inc.</u> do hereby certify that representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.	
6. Transporter: <u>West States Energy Contractors, Doug Foutz, Flying M, HBL</u>	

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011

Address of Facility: Hilltop, NM

Method of Treatment and/or Disposal:

Evaporation Injection Treating Plant Landfarm Landfill Other

Waste Acceptance Status:

APPROVED

DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Greg Crabtree

TITLE: Environmental Manager DATE: 5/11/16

SIGNATURE: [Signature]
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

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	
Photo Taken by: Justin Valdez	Description: Facing southeast, view of the 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

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 qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-1

Project: Reams LS #4

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

Lab ID: 1605619-001

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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

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

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

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

Matrix: SOIL

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

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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1605619
 Date Reported: 5/16/2016

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

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-4

Project: Reams LS #4

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

Lab ID: 1605619-004

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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

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

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

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

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: JME
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/13/2016 12:06:32 PM	25301
Surr: DNOP	74.7	70-130		%Rec	1	5/13/2016 12:06:32 PM	25301
EPA METHOD 8015D: GASOLINE RANGE							Analyst: 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	25287
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.015		mg/Kg	1	5/13/2016 12:17:00 PM	25287
Toluene	ND	0.030		mg/Kg	1	5/13/2016 12:17:00 PM	25287
Ethylbenzene	ND	0.030		mg/Kg	1	5/13/2016 12:17:00 PM	25287
Xylenes, Total	0.062	0.060		mg/Kg	1	5/13/2016 12:17:00 PM	25287
Surr: 4-Bromofluorobenzene	106	80-120		%Rec	1	5/13/2016 12:17:00 PM	25287

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1605619

Date Reported: 5/16/2016

CLIENT: Rule Engineering LLC

Client Sample ID: SC-6

Project: Reams LS #4

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

Lab ID: 1605619-006

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1605619
 Date Reported: 5/16/2016

CLIENT: Rule Engineering LLC

Client Sample ID: SC-7

Project: Reams LS #4

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

Lab ID: 1605619-007

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
Project: Reams LS #4
Lab ID: 1605619-008

Client Sample ID: SC-8
Collection Date: 5/12/2016 9:30:00 AM
Received Date: 5/13/2016 7:30:00 AM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1605619

16-May-16

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	Analysis Date:	5/13/2016	SeqNo:	1054757	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	8.7		10.00		87.3	70	130			

Sample ID	LCS-25301	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	25301	RunNo:	34205					
Prep Date:	5/13/2016	Analysis Date:	5/13/2016	SeqNo:	1054758	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	41	10	50.00	0	82.8	65.8	136			
Surr: DNOP	4.1		5.000		82.2	70	130			

Sample ID	1605619-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	25301	RunNo:	34205					
Prep Date:	5/13/2016	Analysis Date:	5/13/2016	SeqNo:	1054828	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	95	10	49.85	52.06	87.1	33.9	141			
Surr: DNOP	4.3		4.985		87.1	70	130			

Sample ID	1605619-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	25301	RunNo:	34205					
Prep Date:	5/13/2016	Analysis Date:	5/13/2016	SeqNo:	1054897	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	85	9.9	49.31	52.06	66.0	33.9	141	12.1	20	
Surr: DNOP	4.2		4.931		84.5	70	130	0	0	

Sample ID	MB-25300	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25300	RunNo:	34205					
Prep Date:	5/13/2016	Analysis Date:	5/13/2016	SeqNo:	1055615	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.4		10.00		74.3	70	130			

Qualifiers:

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

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	RunNo: 34211								
Prep Date: 5/12/2016	Analysis Date: 5/13/2016	SeqNo: 1055224	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		102	80	120			

Sample ID LCS-25287	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 25287	RunNo: 34211								
Prep Date: 5/12/2016	Analysis Date: 5/13/2016	SeqNo: 1055225	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.8	80	120			
Surr: BFB	1100		1000		111	80	120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- 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#: 1605619

16-May-16

Client: Rule Engineering LLC

Project: Reams LS #4

Sample ID	MB-25287	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	25287	RunNo:	34211					
Prep Date:	5/12/2016	Analysis Date:	5/13/2016	SeqNo:	1055265	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	LCS-25287	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	25287	RunNo:	34211					
Prep Date:	5/12/2016	Analysis Date:	5/13/2016	SeqNo:	1055266	Units:	mg/Kg			
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

Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1605619**

RcptNo: **1**

Received by/date: AT 05/13/16

Logged By: **Anne Thorne** 5/13/2016 7:30:00 AM *Anne Thorne*

Completed By: **Anne Thorne** 5/13/2016 *Anne Thorne*

Reviewed By: *AT 05/13/16*

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
- 12. Does paperwork match bottle labels? Yes No
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No
(If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 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 Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.9	Good	Yes			

Chain-of-Custody Record

Client: Rule Engineering, LLC

Billing Address: 501 Airport Dr suite 205

Albuquerque, NM 87101

Phone #: 505 716 2787

Mail or Fax#: judal@ruleengineering.com

A/QC Package: Level 4 (Full Validation)

Standard: Level 4 (Full Validation)

Accreditation: NELAP-414 Other

EDD (Type): _____

Turn-Around Time:

Standard Rush same day

Project Name:

Project #: Rooms 15 #4

Project Manager:

Heather Woods

Sampler: Justin Valdes

On Jobs: Yes No

Sample Temperature: 19

At 25/51°C Container Type and # NEALAB

Preservative Type Cold

HEAL No. 105619

Received by: Heather Woods

Date Time: 5/12/16 1422

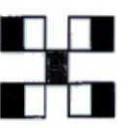
Relinquished by: Justin Valdes

Date Time: 5/12/16 1520

Relinquished by: Heather M. Woods

Date Time: 5/12/16 1520

Received by: Justin Valdes



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	At 25/51°C Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TPH (Gas only)	BTEX + MTBE + TPH (8021)	TPH 8015B (GRO / DRO / 8015)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
5/12/16	12:30pm	Soil	SL-1	(1) 4oz glass	Cold	201	X	X	X									
5/12/16	1:40pm	Soil	SL-2			202	X	X	X									
5/12/16	3:00pm	Soil	SL-3			203	X	X	X									
5/12/16	3:15pm	Soil	SL-4			204	X	X	X									
5/12/16	4:00pm	Soil	SL-5			205	X	X	X									
5/12/16	4:30pm	Soil	SL-6			206	X	X	X									
5/12/16	4:15pm	Soil	SL-7			207	X	X	X									
5/12/16	9:30AM	Soil	SL-8			208	X	X	X									

Remarks: Direct Bill to Enterprise

NON-AFE; N 25205

Ahn Tom Long/Miles Moore

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

OIL CONS. DIV DIST. 3

JUL 28 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

OPERATOR

Initial Report 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 J#4	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: Jicarilla Apache Nation	Mineral Owner: Jicarilla Apache Nation	Serial Number: N/A	i41 011
--	--	--------------------	------------

LOCATION OF RELEASE

Unit Letter D	Section 20	Township 26N	Range 5W	Feet from the 600	North/South Line	Feet from the 768	East/West Line	County Rio Arriba	fce AC.
------------------	---------------	-----------------	-------------	----------------------	---------------------	----------------------	-------------------	----------------------	------------

Latitude 36.477995 Longitude -107.389423

NATURE OF RELEASE

Type of Release: Natural Gas and Condensate	Volume of Release 0.84 MCF	Volume Recovered: None	001
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 6/1/2016 @ 12:30 p.m.	Date and Hour of Discovery: 6/1/2016 @ 12:30 p.m.	
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Hobson Sandoval - JAEPO; Waymore Callado - JAO&G; Vanessa Fields - NMOCD		i41 011
By Whom? Thomas Long	Date and Time Phone call on 6/1/2016 @ 3:15 p.m.; Follow up email on 6/2/2016 @ 7:19 a.m.		fce AC
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume		

If a Watercourse was Impacted, Describe Fully.* The gas leak along the Jicarilla J#4 pipeline was discovered in a small ephemeral wash. No fluids were observed on the ground surface.

Describe Cause of Problem and Remedial Action: On June 1, 2016, Enterprise technicians discovered a gas leak on the Jicarilla J#4 pipeline. No fluids were observed on the ground surface. The pipeline was isolated, blown down, locked out and tagged out. Repairs were completed on June 16, 2016.

Describe Area Affected and Cleanup Action: The pipeline was repaired and no subsurface impacts were observed. All soil sample results indicated that concentrations of BTEX and TPH (DRO/GRO) did not exceed NMOCD remediation action levels. 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 7/29/2016	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/25/2016	Phone: (713)381-6684	NVF161825117

*Attach Additional Sheets If Necessary

66



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:

A handwritten signature in blue ink, reading 'Raneer Deechilly', written over a horizontal line.

Raneer Deechilly
Project Scientist

A handwritten signature in blue ink, reading 'Kyle Summers', written over a horizontal line.

Kyle Summers, CPG
Branch Manager/Senior Project
Manager

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1.2	Project Objective.....	1
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	Figure 2 – Site Vicinity Map
	Figure 3 – Site Map with Soil Analytical Results (Excavation)
	Figure 4 – Site Map with Soil Analytical Results (Stockpile)
Appendix B:	Photographic Documentation
Appendix C:	Table
Appendix D:	Laboratory Analytical Reports & Chain of Custody Documentation

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

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-of-custody 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 shaly 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

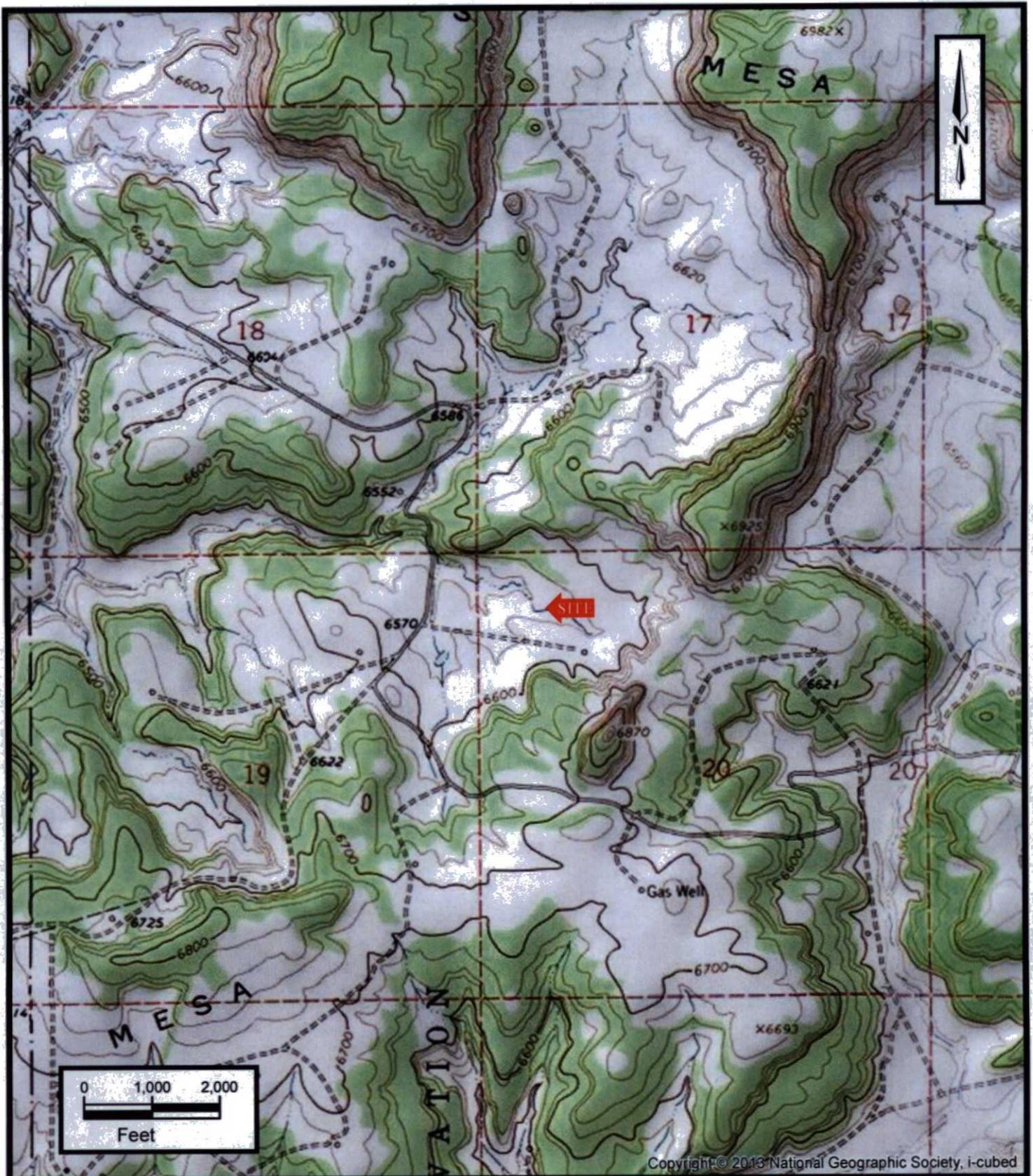
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Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to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

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APPENDIX A

Figures



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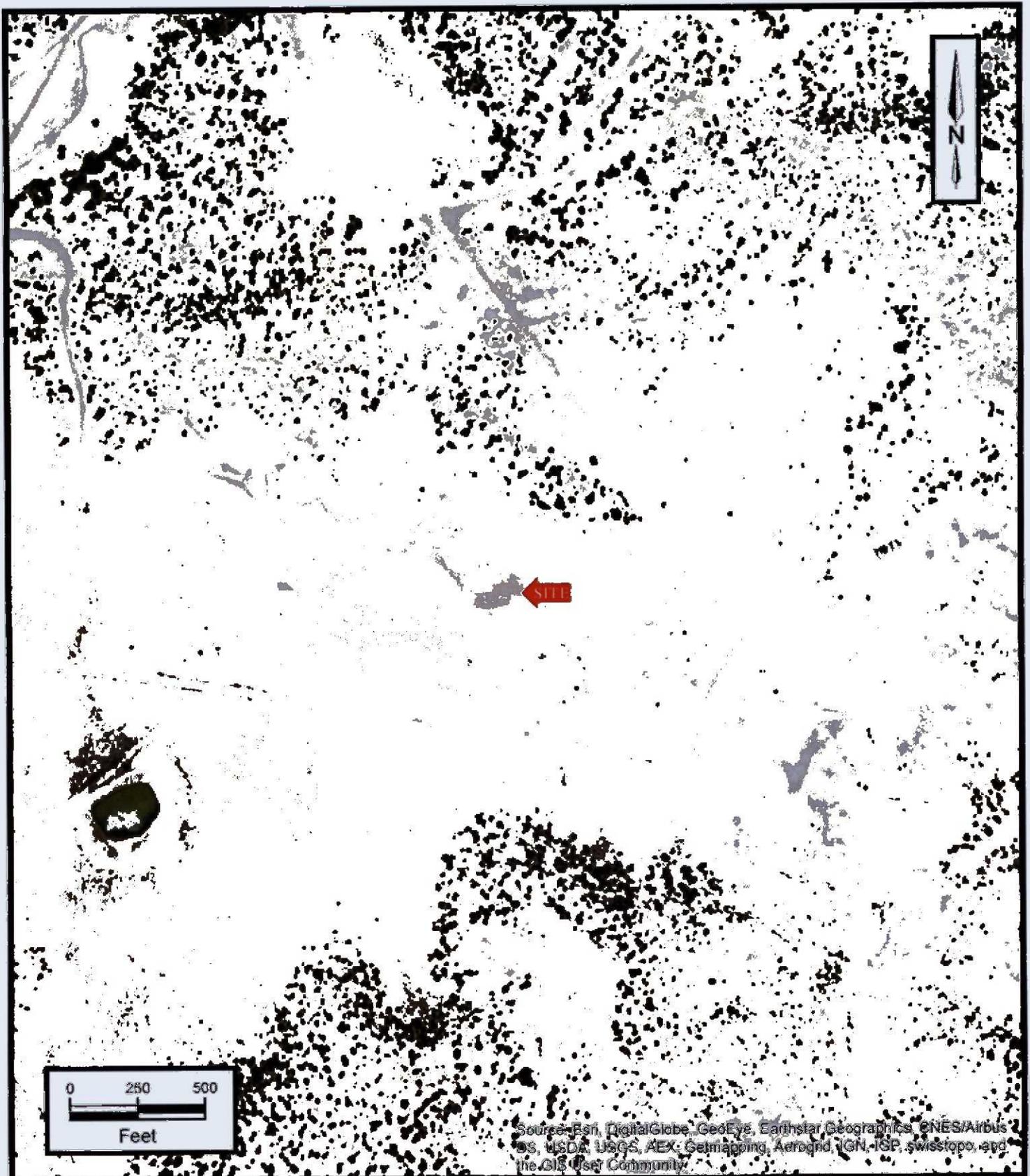
Jicarilla J #4 Well Tie Release
 NW1/4 Sec20 T26N R5W
 Rio Arriba County, New Mexico
 36.47791N, 107.38944W



Apex TITAN, Inc.
 608 South Rio Grande, Suite A
 Aztec, NM 87410
 Phone: (505) 334-5200
www.apexcos.com
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FIGURE 1
Topographic Map
 Gonzales Mesa, NM Quadrangle
 1963

Project No. 725040112167



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



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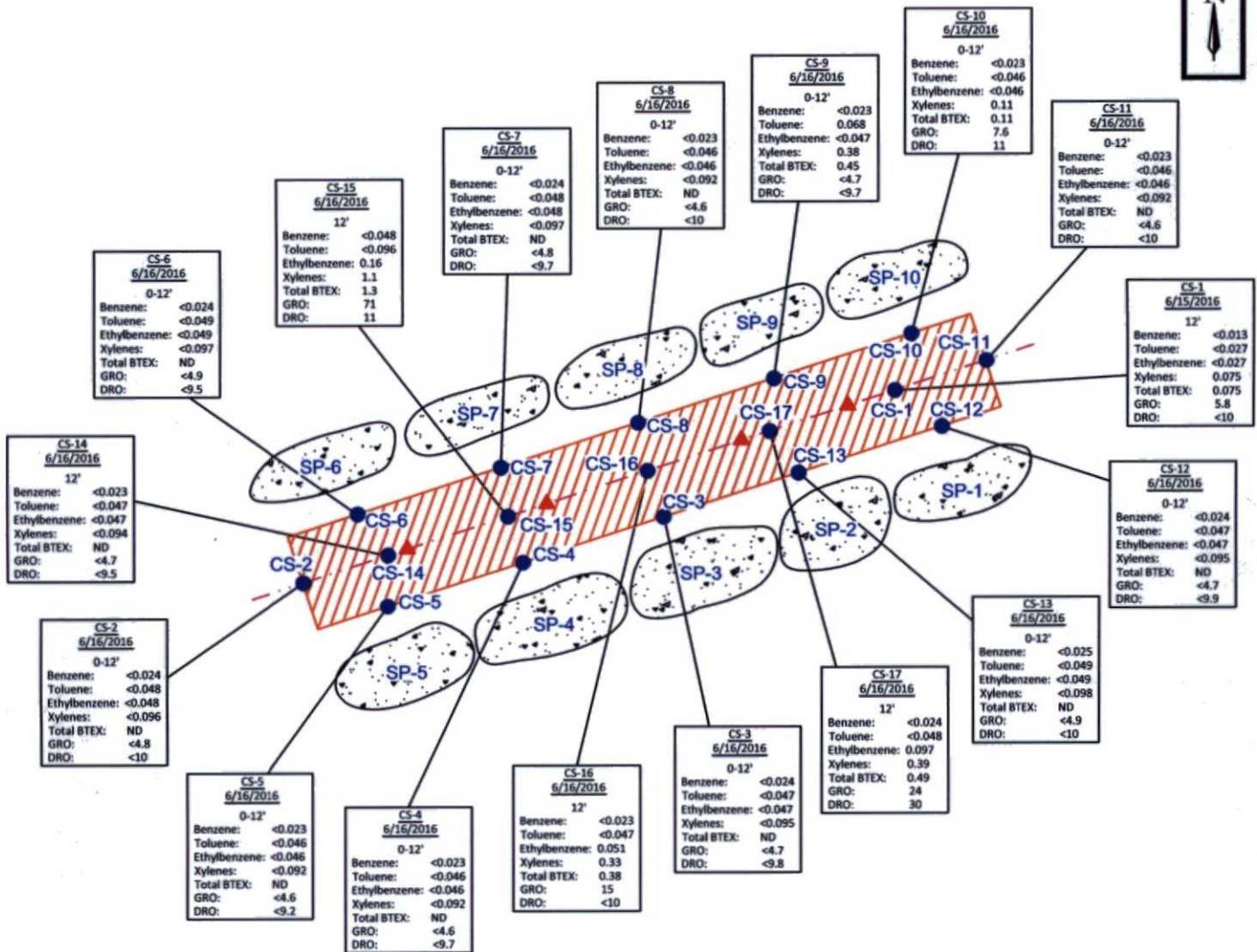
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FIGURE 2

Site Vicinity Map

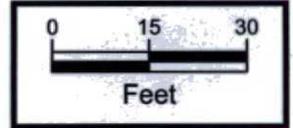
Project No. 725040112167



LEGEND:

- APPROXIMATE PIPELINE LOCATION
- SAMPLE LOCATION
- RELEASE POINT
- EXTENT OF EXCAVATION
- STOCKPILES

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



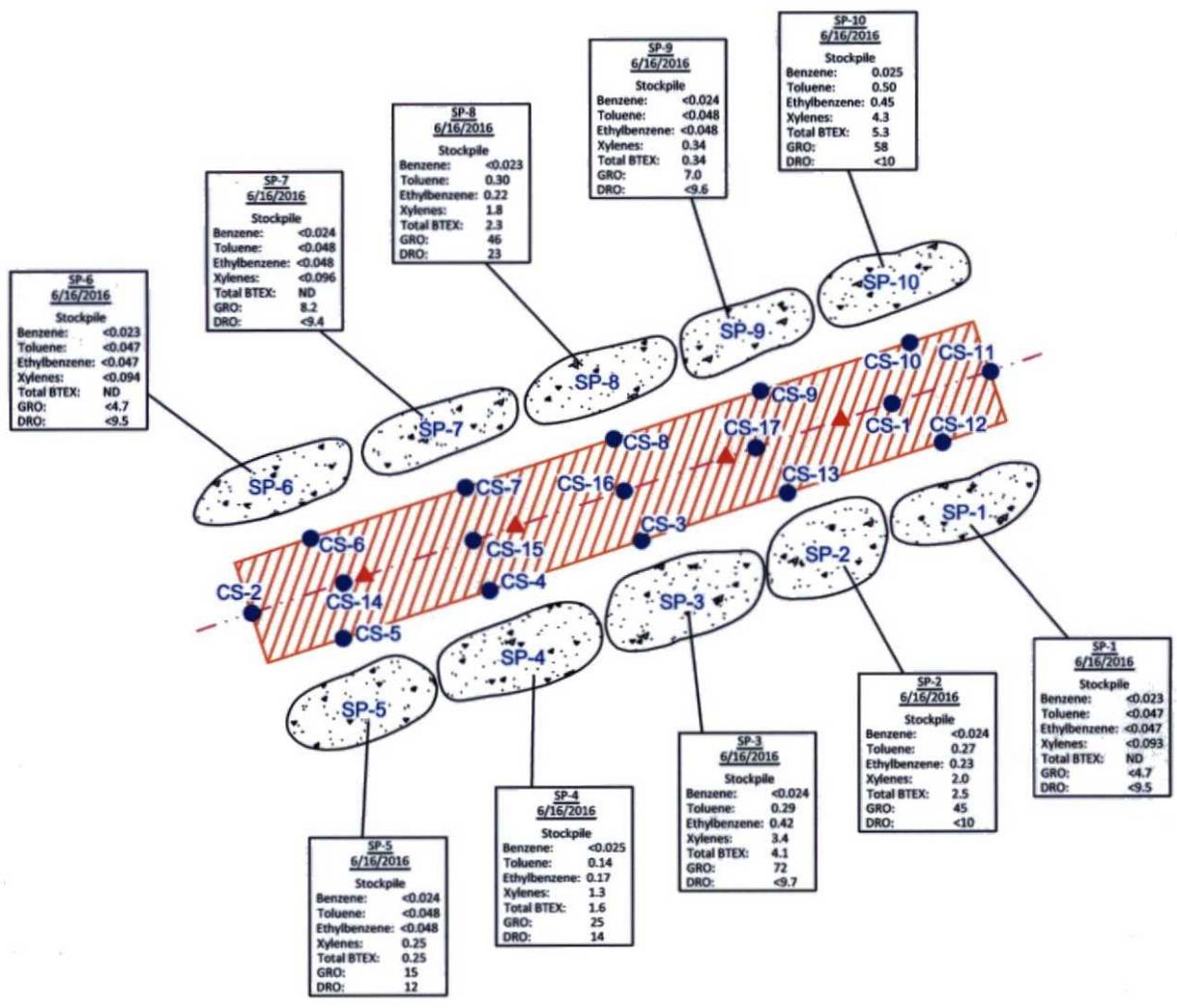
Jicarilla J #4 Well Tie Release
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FIGURE 3
Site Map with
Soil Analytical Results
(Excavation)

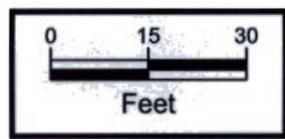
Project No. 725040112167



LEGEND:

- - - - APPROXIMATE PIPELINE LOCATION
- SAMPLE LOCATION
- ▲ RELEASE POINT
- ▨ EXTENT OF EXCAVATION
- ☼ STOCKPILES

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



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FIGURE 4
Site Map with
Soil Analytical Results
(Stockpile)

Project No. 725040112167

APPENDIX B

Photographic Documentation

Photograph 1

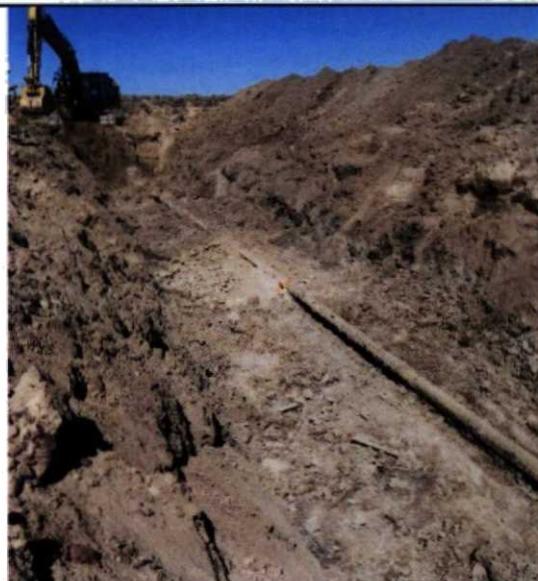
View of the release area, facing southwest.

**Photograph 2**

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

**Photograph 3**

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



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)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100	
Stockpile Soil Samples									
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
Excavation Confirmation Samples									
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)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100	
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 qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue circular stamp.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-1

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 RANGE ORGANICS							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 RANGE							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.

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

QC SUMMARY REPORT

WO#: 1606876

Hall Environmental Analysis Laboratory, Inc.

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	SeqNo:	1080367	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.7		10.00		96.6	70	130			

Sample ID	LCS-25891	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	25891	RunNo:	34959					
Prep Date:	6/16/2016	Analysis Date:	6/16/2016	SeqNo:	1080368	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.00	0	83.7	62.6	124			
Surr: DNOP	4.7		5.000		94.6	70	130			

Sample ID	MB-25834	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25834	RunNo:	34958					
Prep Date:	6/14/2016	Analysis Date:	6/16/2016	SeqNo:	1080383	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	70	130			

Sample ID	LCS-25834	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	25834	RunNo:	34958					
Prep Date:	6/14/2016	Analysis Date:	6/16/2016	SeqNo:	1080385	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.2		5.000		84.7	70	130			

Qualifiers:

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

QC SUMMARY REPORT

WO#: 1606876

Hall Environmental Analysis Laboratory, Inc.

17-Jun-16

Client: APEX TITAN

Project: Jicarilla J #4

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	A34963	RunNo:	34963					
Prep Date:		Analysis Date:	6/16/2016	SeqNo:	1080607	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1100		1000		109	80	120			

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			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	83.7	80	120			
Surr: BFB	1200		1000		119	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

QC SUMMARY REPORT

WO#: 1606876

Hall Environmental Analysis Laboratory, Inc.

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	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	C34963	RunNo:	34963					
Prep Date:		Analysis Date:	6/16/2016	SeqNo:	1080651	Units:	mg/Kg			
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	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	SeqNo:	1080652	Units:	mg/Kg			
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	RunNo:	34963					
Prep Date:		Analysis Date:	6/16/2016	SeqNo:	1080653	Units:	mg/Kg			
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	
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	

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

Sample Log-In Check List

Client Name: **APEX AZTEC**

Work Order Number: **1606876**

RcptNo: 1

Received by/date: *[Signature]*

Logged By: **Lindsay Mangin**

611616
 6/16/2016 7:55:00 AM

[Signature]

Completed By: **Lindsay Mangin**

6/16/2016 8:02:59 AM

[Signature]

Reviewed By: *[Signature]*

611616

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
- 12. Does paperwork match bottle labels? Yes No # of preserved bottles checked for pH: (<2 or >12 unless noted)
- (Note discrepancies on chain of custody)
- 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? Yes No Checked by:
- (If no, notify customer for authorization.)

Special Handling (if applicable)

- 16. Was client notified of all discrepancies with this order? Yes No NA

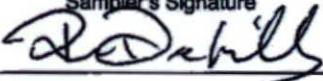
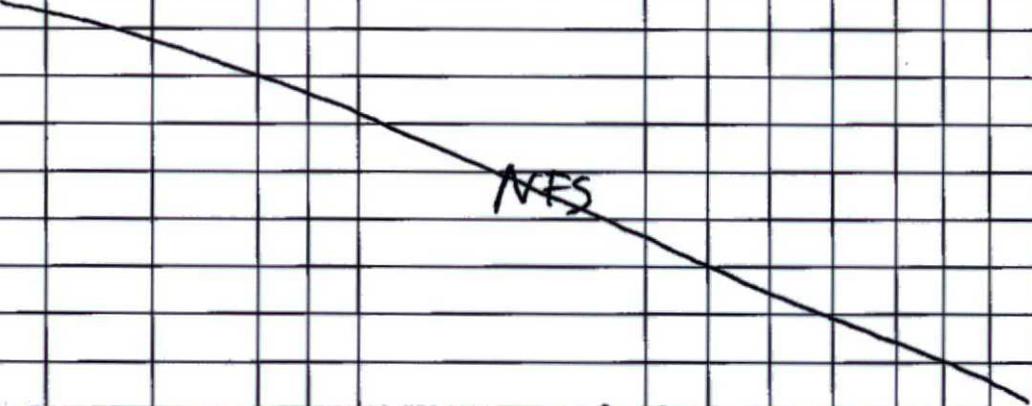
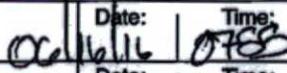
Person Notified: _____ Date: _____
 By Whom: _____ Via: eMail Phone Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.8	Good	Yes			

CHAIN OF CUSTODY RECORD

 APEX Office Location <u>Aztec, NM</u>		Laboratory: <u>Hall Environmental</u> Address: <u>ABQ, NM</u>		ANALYSIS REQUESTED <div style="border: 1px solid black; padding: 5px; transform: rotate(-90deg); display: inline-block;"> 8021 BTEX 8015 TPH (GRO/DEC) </div>										Lab use only Due Date:				
		Contact: <u>A. Freeman</u> Phone: _____ PO/SO #: _____												Temp. of coolers when received (C°): <u>28</u>				
Project Manager <u>K. Summers</u>		Sampler's Name <u>Ranee Deechilly</u> Sampler's Signature 		Lab Sample ID (Lab Use Only) <u>11606876-001</u>														
Proj. No. _____		Project Name <u>Ticarilla J#4</u>												No/Type of Containers _____				
Matrix	Date	Time	Comp	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1L	250 ml	Glass Jar	P/O						
S	6/15/16	1550			CS-1						1	X	X					
  																		
Turn around time <input type="checkbox"/> Normal <input type="checkbox"/> 25% Rush <input type="checkbox"/> 50% Rush <input checked="" type="checkbox"/> 100% Rush																		
Relinquished by (Signature) 			Date: <u>6/15/16</u> Time: <u>1900</u>		Received by (Signature) 			Date: <u>6/16/16</u> Time: <u>0753</u>		NOTES: Bill to Tom Long EPROD Non A/E N25699 <u>Kush</u>								
Relinquished by (Signature) _____			Date: _____ Time: _____		Received by (Signature) _____			Date: _____ Time: _____										
Relinquished by (Signature) _____			Date: _____ Time: _____		Received by (Signature) _____			Date: _____ Time: _____										
Relinquished by (Signature) _____			Date: _____ Time: _____		Received by (Signature) _____			Date: _____ Time: _____										
Matrix Container WW - Wastewater W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - sludge O - Oil VOA - 40 ml vial A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other																		



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

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 qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Jicarilla J 4
Lab ID: 1606973-001

Matrix: SOIL

Client Sample ID: CS-2
Collection Date: 6/16/2016 10:00:00 AM
Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606973-002

Matrix: SOIL

Client Sample ID: CS-3
 Collection Date: 6/16/2016 10:05:00 AM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606973-003

Matrix: SOIL

Client Sample ID: CS-4
 Collection Date: 6/16/2016 10:10:00 AM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606973-004

Matrix: SOIL

Client Sample ID: CS-5
 Collection Date: 6/16/2016 10:15:00 AM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

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	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

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	Qual	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 12:34:45 PM	25919
Surr: DNOP	104	70-130		%Rec	1	6/21/2016 12:34:45 PM	25919
EPA METHOD 8015D: GASOLINE RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606973-007

Matrix: SOIL

Client Sample ID: CS-8
 Collection Date: 6/16/2016 10:30:00 AM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Jicarilla J 4
Lab ID: 1606973-008

Matrix: SOIL

Client Sample ID: CS-9
Collection Date: 6/16/2016 10:35:00 AM
Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	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 1:18:48 PM	25919
Surr: DNOP	105	70-130		%Rec	1	6/21/2016 1:18:48 PM	25919
EPA METHOD 8015D: GASOLINE RANGE							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.

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

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 RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 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	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-12

Project: Jicarilla J 4

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

Lab ID: 1606973-011

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 RANGE ORGANICS							Analyst: TOM
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-13

Project: Jicarilla J 4

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

Lab ID: 1606973-012

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 RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: CS-14

Project: Jicarilla J 4

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

Lab ID: 1606973-013

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 RANGE ORGANICS							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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606973-014

Matrix: SOIL

Client Sample ID: CS-15
 Collection Date: 6/16/2016 11:05:00 AM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

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 RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
Project: Jicarilla J 4
Lab ID: 1606973-016

Matrix: SOIL

Client Sample ID: CS-17
Collection Date: 6/16/2016 11:15:00 AM
Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	30	9.5		mg/Kg	1	6/21/2016 4:45:44 PM	25919
Surr: DNOP	95.4	70-130		%Rec	1	6/21/2016 4:45:44 PM	25919
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	24	4.8		mg/Kg	1	6/27/2016 6:54:32 PM	25922
Surr: BFB	228	80-120	S	%Rec	1	6/27/2016 6:54:32 PM	25922
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	6/27/2016 6:54:32 PM	25922
Toluene	ND	0.048		mg/Kg	1	6/27/2016 6:54:32 PM	25922
Ethylbenzene	0.097	0.048		mg/Kg	1	6/27/2016 6:54:32 PM	25922
Xylenes, Total	0.39	0.095		mg/Kg	1	6/27/2016 6:54:32 PM	25922
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	6/27/2016 6:54:32 PM	25922

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

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

QC SUMMARY REPORT

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	SeqNo:	1083462	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	40	10	50.00	0	79.8	62.6	124			
Surr: DNOP	4.4		5.000		88.1	70	130			

Sample ID	MB-25919	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25919	RunNo:	35040					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1083463	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.4		10.00		93.9	70	130			

Sample ID	1606973-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-2	Batch ID:	25919	RunNo:	35040					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1083468	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.56	5.987	77.2	33.9	141			
Surr: DNOP	4.5		5.056		88.5	70	130			

Sample ID	1606973-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	CS-2	Batch ID:	25919	RunNo:	35040					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1083659	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.9	49.46	5.987	83.3	33.9	141	4.68	20	
Surr: DNOP	4.9		4.946		99.8	70	130	0	0	

Qualifiers:

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

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

QC SUMMARY REPORT

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					
Client ID:	CS-3	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/26/2016	SeqNo:	1088279	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	24.02	0	112	59.3	143			
Surr: BFB	860		960.6		90.0	80	120			

Sample ID	1606973-002AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	CS-3	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/26/2016	SeqNo:	1088280	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.9	24.44	0	110	59.3	143	0.0925	20	
Surr: BFB	860		977.5		87.5	80	120	0	0	

Sample ID	LCS-25922	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/25/2016	SeqNo:	1088298	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	31	5.0	25.00	0	126	80	120			S
Surr: BFB	890		1000		88.8	80	120			

Sample ID	MB-25922	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/25/2016	SeqNo:	1088299	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		90.5	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1606973

29-Jun-16

Client: APEX TITAN

Project: Jicarilla J 4

Sample ID	1606973-003AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	CS-4	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/26/2016	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			
Surr: 4-Bromofluorobenzene	0.91		0.9634		94.7	80	120			

Sample ID	1606973-003AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	CS-4	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/26/2016	SeqNo:	1088388	Units:	mg/Kg			
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	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/25/2016	SeqNo:	1088405	Units:	mg/Kg			
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	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/25/2016	SeqNo:	1088406	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		106	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

Sample Log-In Check List

Client Name: **APEX AZTEC**

Work Order Number: **1606973**

RcptNo: **1**

Received by/date:

Logged By:

Ashley Gallegos

6/17/2016 7:45:00 AM

Completed By:

Ashley Gallegos

6/17/2016 9:55:18 AM

Reviewed By:

AS

6/17/16

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
12. Does paperwork match bottle labels? Yes No
(Note discrepancies on chain of custody)
13. Are matrices correctly identified on Chain of Custody? Yes No
14. Is it clear what analyses were requested? Yes No
15. Were all holding times able to be met? Yes No
(If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

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

CHAIN OF CUSTODY RECORD

APEX
Office Location Aztec
Project Manager N. Summers

Laboratory: Hall
Address: AGG
Contact: Andy Freeman
Phone: 505 345-3975
PO/ISO #:

ANALYSIS REQUESTED
RTX BARI TPH C-PTDRD BARI

Lab use only
Due Date:
Temp. of coolers when received (C°): 1.0
Page 1 of 2

Sampler's Name Ranee Deechilly Sampler's Signature Rm Deuchilly

Proj. No. Project Name Jicarilla T#4 No/Type of Containers:

Matrix	Date	Time	C	o	o	ed	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
5	6/16/16	1000	X				CS-2								110010973-001
		1005					CS-3								-002
		1010					CS-4								-003
		1015					CS-5								-004
		1020					CS-6								-005
		1025					CS-7								-006
		1030					CS-8								-007
		1035					CS-9								-008
		1040					CS-10								-009
		1045					CS-11								-010

Turn around time Normal 25% Rush 50% Rush 100% Rush

Relinquished by (Signature) <u>Rm Deuchilly</u>	Date: <u>6/16/16</u>	Time: <u>2100</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>6/16/16</u>	Time: <u>0745</u>
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by (Signature)	Date:	Time:

NOTES: Bill Tom Long
No AFE # N25699

Matrix: WW - Wastewater, W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil
Container: VOA - 40 ml vial, AG - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other

CHAIN OF CUSTODY RECORD

APEX
Office Location Aztec
Project Manager R. Summers

Laboratory: Hall
Address: _____
Contact: _____
Phone: _____
PO/SO #: _____

ANALYSIS REQUESTED
(Diagonal lines)
STEX BOX 1
TPHG ND10R6 BD15

Lab use only
Due Date: _____
Temp. of coolers when received (C°): 10
Page 2 of 2

Sampler's Name Romeo Deekilly Sampler's Signature Romeo Deekilly

Proj. No. _____ Project Name _____ No/Type of Containers _____

Matrix	Date	Time	COED	bag	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	6/16/16	1050	X		CS-12								14000973 -01
		1055			CS-13								-02
		1100			CS-14								-03
		1105			CS-15								-04
		1110			CS-16								-05
		1115			CS-17								-01U
					IVFS								

Turn around time Normal 25% Rush 50% Rush 100% Rush
 Relinquished by (Signature) Romeo Deekilly Date: 6/16/16 Time: 2100
 Relinquished by (Signature) _____ Date: _____ Time: _____
 Relinquished by (Signature) _____ Date: _____ Time: _____
 Relinquished by (Signature) _____ Date: _____ Time: _____

NOTES: Bill Tam Long

Matrix: WW - Wastewater W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - sludge O - Oil
 Container: VOA - 40 ml vial AG - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other



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

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 qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

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	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606969-002

Matrix: SOIL

Client Sample ID: SP-2
 Collection Date: 6/16/2016 4:05:00 PM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606969-003

Matrix: SOIL

Client Sample ID: SP-3
 Collection Date: 6/16/2016 4:10:00 PM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: SP-4

Project: Jicarilla J 4

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

Lab ID: 1606969-004

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 RANGE ORGANICS							Analyst: TOM
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606969-005

Matrix: SOIL

Client Sample ID: SP-5
 Collection Date: 6/16/2016 4:30:00 PM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE 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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606969-006

Matrix: SOIL

Client Sample ID: SP-6
 Collection Date: 6/16/2016 4:40:00 PM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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		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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606969-007

Matrix: SOIL

Client Sample ID: SP-7
 Collection Date: 6/16/2016 5:00:00 PM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN
 Project: Jicarilla J 4
 Lab ID: 1606969-008

Matrix: SOIL

Client Sample ID: SP-8
 Collection Date: 6/16/2016 5:20:00 PM
 Received Date: 6/17/2016 7:45:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: SP-9

Project: Jicarilla J 4

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

Lab ID: 1606969-009

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 RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: SP-10

Project: Jicarilla J 4

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

Lab ID: 1606969-010

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 RANGE ORGANICS							Analyst: TOM
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 RANGE							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.

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

QC SUMMARY REPORT

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	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.4		5.000		88.1	70	130			

Sample ID	MB-25919	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25919	RunNo:	35040					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1083463	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.4		10.00		93.9	70	130			

Sample ID	MB-25914	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	25914	RunNo:	35041					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1085626	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	11		10.00		106	70	130			

Sample ID	1606969-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SP-1	Batch ID:	25914	RunNo:	35041					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1086503	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	60	9.6	47.98	4.122	115	33.9	141			
Surr: DNOP	4.7		4.798		98.0	70	130			

Sample ID	1606969-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SP-1	Batch ID:	25914	RunNo:	35041					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1086504	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	9.7	48.26	4.122	103	33.9	141	9.74	20	
Surr: DNOP	4.8		4.826		99.1	70	130	0	0	

Sample ID	LCS-25914	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	25914	RunNo:	35041					
Prep Date:	6/17/2016	Analysis Date:	6/21/2016	SeqNo:	1086512	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	53	10	50.00	0	106	62.6	124			
Surr: DNOP	4.9		5.000		98.8	70	130			

Qualifiers:

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

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

QC SUMMARY REPORT

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		SeqNo:	1088059		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	27	5.0	25.00	0	108	80	120				
Surr: BFB	910		1000		90.9	80	120				

Sample ID	MB-25923		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	25923		RunNo:	35159				
Prep Date:	6/17/2016		Analysis Date:	6/24/2016		SeqNo:	1088060		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	ND	5.0									
Surr: BFB	930		1000		93.3	80	120				

Sample ID	LCS-25922		SampType:	LCS		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	LCSS		Batch ID:	25922		RunNo:	35177				
Prep Date:	6/17/2016		Analysis Date:	6/25/2016		SeqNo:	1088298		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	890		1000		88.8	80	120				

Sample ID	MB-25922		SampType:	MBLK		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	PBS		Batch ID:	25922		RunNo:	35177				
Prep Date:	6/17/2016		Analysis Date:	6/25/2016		SeqNo:	1088299		Units: %Rec		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Surr: BFB	910		1000		90.5	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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 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	RunNo:	35096					
Prep Date:	6/17/2016	Analysis Date:	6/23/2016	SeqNo:	1085704	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Sample ID	LCS-25923	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	25923	RunNo:	35159					
Prep Date:	6/17/2016	Analysis Date:	6/24/2016	SeqNo:	1088079	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.025	1.000	0	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			
Xylenes, Total	2.6	0.10	3.000	0	85.4	83.9	122			
Surr: 4-Bromofluorobenzene	0.99		1.000		98.8	80	120			

Sample ID	LCS-25922	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/25/2016	SeqNo:	1088405	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		105	80	120			

Sample ID	MB-25922	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	25922	RunNo:	35177					
Prep Date:	6/17/2016	Analysis Date:	6/25/2016	SeqNo:	1088406	Units:	%Rec			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	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

Sample Log-In Check List

Client Name: **APEX AZTEC**

Work Order Number: **1606969**

RcptNo: **1**

Received by/date: *[Signature]* 06/17/16

Logged By: **Ashley Gallegos** 6/17/2016 7:45:00 AM *[Signature]*

Completed By: **Ashley Gallegos** 6/17/2016 9:51:47 AM *[Signature]*

Reviewed By: *aJ* 6/17/16

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
- 12. Does paperwork match bottle labels? Yes No
(Note discrepancies on chain of custody)
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No
(If no, notify customer for authorization.)

of preserved bottles checked for pH: _____
(<2 or >12 unless noted)

Adjusted? _____

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 Fax In Person

Regarding: _____

Client Instructions: _____

17. Additional remarks:

18. Cooler Information

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

CHAIN OF CUSTODY RECORD

APEX
Office Location Aztec
Project Manager K. Summers

Laboratory: Hall
Address: AAA
Contact: Andy Freeman
Phone: _____
PO/ISO #: _____

ANALYSIS REQUESTED
BTX B21
TPH C10 D10 B21

Lab use only
Due Date: 1-0
Temp. of coolers when received (C°):
1 2 3 4 5
Page 1 of 1

Sampler's Name Rance Dechilly Sampler's Signature Rance Dechilly

Proj. No. _____ Project Name Ticoma J#4 No/Type of Containers _____

Matrix	Date	Time	COED	bag	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	AG 1L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	6/16/16	1600	X		SP-1								X BTX B21 X TPH C10 D10 B21 1606969-001
		1605			SP-2								-002
		1610			SP-3								-003
		1620			SP-4								-004
		1630			SP-5								-005
		1640			SP-6								-006
		1700			SP-7								-007
		1720			SP-8								-008
		1730			SP-9								-009
		1740			SP-10								-010

Turn around time Normal 25% Rush 50% Rush 100% Rush

Relinquished by: (Signature) <u>R Dechilly</u>	Date: <u>6/16/16</u> Time: <u>2100</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>6/17/16</u> Time: <u>0745</u>	NOTES: <u>Bill Tom Long</u> <u>NR 5699</u>
Relinquished by: (Signature)	Date: _____ Time: _____	Received by: (Signature)	Date: _____ Time: _____	
Relinquished by: (Signature)	Date: _____ Time: _____	Received by: (Signature)	Date: _____ Time: _____	
Relinquished by: (Signature)	Date: _____ Time: _____	Received by: (Signature)	Date: _____ Time: _____	

Matrix Container: WW - Wastewater, VOA - 40 ml vial, W - Water, A/G - Amber / Or Glass 1 Ltr, S - Soil, SD - Solid, L - Liquid, A - Air Bag, 250 ml - Glass wide mouth, C - Charcoal tube, P/O - Plastic or other, SL - sludge, O - Oil

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

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

JUL 15 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

OPERATOR

Initial Report 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: Lindrith B#9	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: Private	Mineral Owner: Private	Serial Number: NA	141
------------------------	------------------------	-------------------	-----

LOCATION OF RELEASE

Unit Letter N	Section 27	Township 24N	Range 3W	Feet from the 545	North Line	Feet from the 1645	East Line	County Rio Arriba
------------------	---------------	-----------------	-------------	----------------------	---------------	-----------------------	--------------	----------------------

Latitude 36.27562 Longitude -107.147367

NATURE OF RELEASE

Type of Release: Natural Gas and Condensate	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Third Party Line Strike	Date and Hour of Occurrence: 6/14/2016 @ 2:00 p.m.	Date and Hour of Discovery: 6/14/2016 @ 2:00 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification - Vanessa Fields, NMOCD	
By Whom? Thomas Long	Date and Time June 30, 2016 @ 8:46 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action: At approximately 2:00 p.m. on June 14, 2016, a third party struck the Lindrith B#9 pipeline with a bulldozer. No injuries or fire occurred from the line strike. Natural gas and condensate was released to the ground surface. The pipeline was isolated, depressurized, locked out and tagged out.

Describe Area Affected and Cleanup Action: Enterprise initiated the repairs and remediation on June 29, 2016, and determined the release to be reportable per NMOCD regulation due to the volume of impacted subsurface soils. The contaminant mass was removed by mechanical excavation. 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Field Environmental	Approval Date: 8/2/2016	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/12/2016	Phone: (713)381-6684	

* Attach Additional Sheets If Necessary

NUE 1621527651
Sample Area for
Full Range 8015 and/or 418.1
8021

0

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

OPERATOR

Initial Report 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: Lateral 2C-29	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: Jicarilla Apache Nation	Mineral Owner: Jicarilla Apache Nation	Serial Number: N/A
--	--	--------------------

LOCATION OF RELEASE

Unit Letter M	Section 23	Township 25N	Range 5W	Feet from the 637	North/South Line South	Feet from the 150	East/West Line West	County Rio Arriba
------------------	---------------	-----------------	-------------	----------------------	------------------------------	----------------------	---------------------------	----------------------

Latitude 36.380020 Longitude -107.337917

NATURE OF RELEASE

Type of Release: Natural Gas and Condensate	Volume of Release 11.72 MCF Gas; 3-5 Barrels of Condensate	Volume Recovered: None
Source of Release: Suspected Internal Corrosion	Date and Hour of Occurrence: 1/24/2016 @ 9:15 a.m.	Date and Hour of Discovery: 1/24/2016 @ 10:45 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Hobson Sandoval - JAEPO; Waymore Callado - JAO&G	
By Whom?	Date and Time 1/25/2016 @ 9:24 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action: On January 24, 2016, Enterprise technicians discovered a gas leak on the Lateral 2C-29 pipeline. A small amount of fluids were observed on the ground surface. The pipeline was isolated, blown down, locked out and tagged out. Repairs and remediation were completed on for March 31, 2016.

Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 15 feet long by 15 feet wide 10 feet deep. Approximately 28 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 8/04/16	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/20/2016	Phone: (713)381-6684	NF 1604129228

* Attach Additional Sheets If Necessary

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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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 Pipeline Release		
Site Location Description	Unit Letter M, Section 23, Township 25 North, Range 5 West (N36.38000, W107.33790)		
Land Jurisdiction	Jicarilla Apache Nation		
Discovery Date	January 24, 2016		
Release Report Date	February 25, 2016	Reported by	Thomas Long
Agency Notification	Jicarilla Apache Nation Environmental Protection Office (JANEPO) and New Mexico Oil Conservation Division (NMOCD)		
JANEPO/NMOCD Site Rank	10	Release Source	Corrosion hole in pipeline
Substance(s) and Volume(s) Released	Undetermined volume of natural gas and pipeline liquids		
Distance to Nearest Surface Water	Unnamed, ephemeral wash approximately 760 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 Dimensions	Approximately 15 feet by 15 feet by 10 feet in depth		
Contractor	West States Energy Contractor, Inc. (West 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 Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	0	Elevation differential between location and wash in Lapis Canyon >100 feet; shallow sandstone bedrock observed at location.	NMOCD Online database, Lapis Point Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
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 foot radius of location.	NMOSE NMWRRS, Lapis Point Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	10	Unnamed, ephemeral wash located approximately 760 feet to the south drains to the wash in Lapis Canyon.	Lapis Point Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
Site Based Total Ranking 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)	Ethylbenzene (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**	
Excavation Confirmation Samples											
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
Stockpile Confirmation Samples											
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

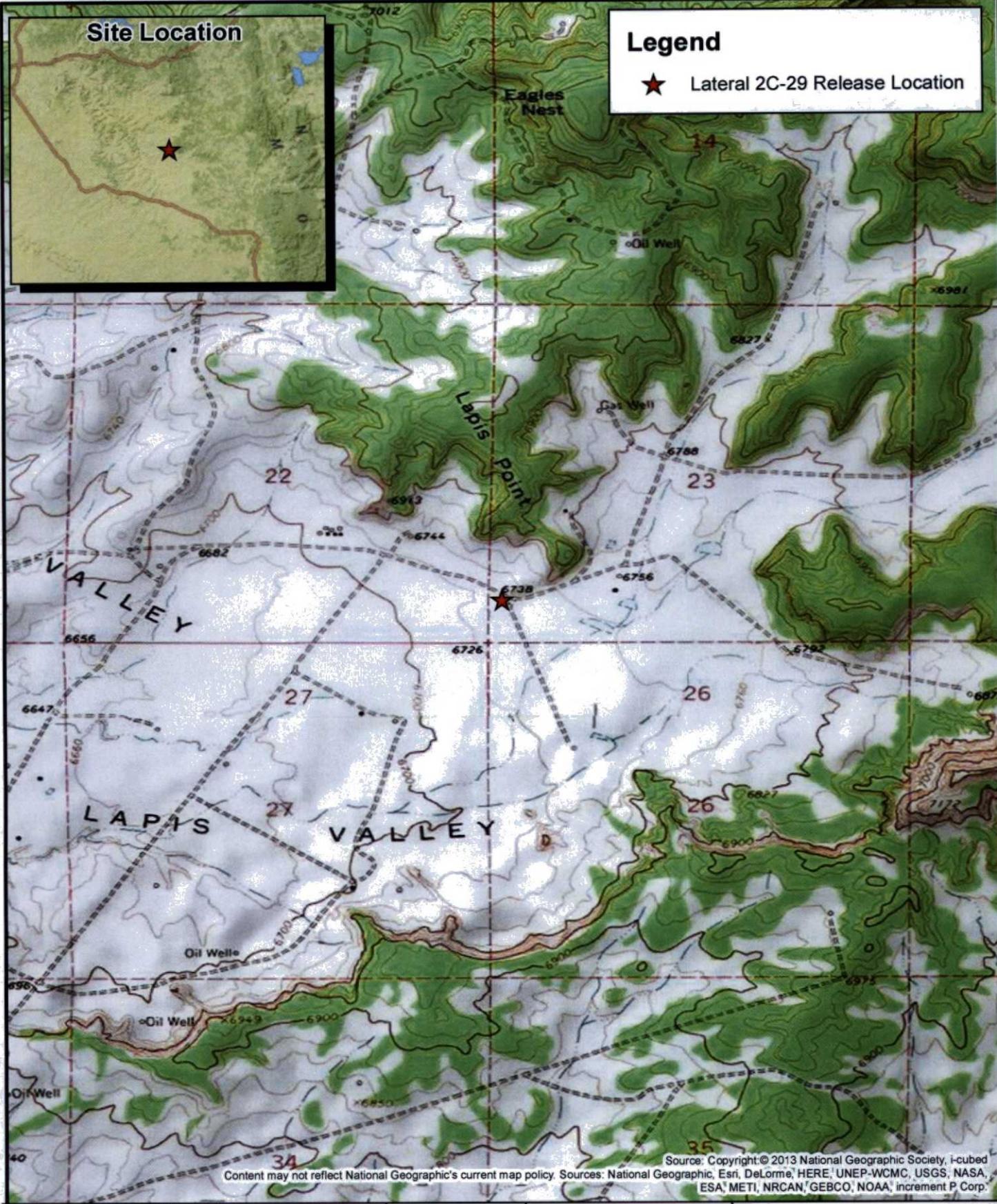
*Based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*

**Based on a site ranking of 10.

Figures

Rule

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



Rule Engineering, LLC
Solutions to Regulations for Industry

0 1,050 2,100 4,200 Feet

Lapis Point Quadrangle
1:24,000

Enterprise Products

O-S22-T25-R05W
N36.38000, W107.33790
Rio Arriba County, NM

Figure 1
Topographic Site Map
Lateral 2C-29

Legend

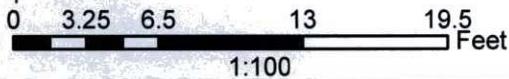
- ★ Lateral 2C-29 Release Location
- ◇ Soil Sample Locations
- ▨ Soil Stockpiles
- ⋯ Estimated Excavation Extent
- P - Pipeline



Source: Google Earth

Sample Name	Date	Location	Approximate Sample Depth (ft bgs)	Field VOCs by PID (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (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**	
Excavation Confirmation Samples											
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
Stockpile Confirmation Samples											
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

Rule Engineering, LLC
Solutions to Regulations for Industry



M-S23-T25-R05W
N36.38000, W107.33790
Rio Arriba County, NM

Figure 2
Aerial Site Map
Lateral 2C-29
Pipeline Release

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

1. **Generator Name and Address:**
Enterprise 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

4. **Source and Description of Waste:**
Source: Natural Gas Pipeline Release
Description: Hydrocarbon impacted soils associated with remediation activities for a natural gas pipeline release.
Estimated Volume 50 yd³ (bbls) Known Volume (to be entered by the operator at the end of the haul) _____ yd³ / bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long, representative or authorized agent for Enterprise Field Services, LLC do hereby
Generator Signature
certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988
regulatory determination, the above described waste is: (Check the appropriate classification)

- RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. Operator Use Only: Waste Acceptance Frequency Monthly Weekly Per Load
- RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24, or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items)
- MSDS Information RCRA Hazardous Waste Analysis Process Knowledge Other (Provide description in Box 4)

GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS

I, Thomas Long, 3-23-16, representative for Enterprise Field Services, LLC authorize TNT, Inc. Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, Craig, representative for TNT, Inc. do hereby certify that
Representative/Agent Signature
representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples
have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results
of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of
19.15.36 NMAC.

5. Transporter: Various approved trucking

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: TNT Evap Pond/Landfarm, NM01-0008
Address of Facility: 70 CR 405, Lindrieth NM

Method of Treatment and/or Disposal:
 Evaporation Injection Treating Plant Landfarm Landfill Other

Waste Acceptance Status:
 APPROVED DENIED (Must Be Maintained As Permanent Record)

PRINT NAME: Garag Schmitz TITLE: Pres. DATE: _____
SIGNATURE: _____ TELEPHONE NO.: _____
Surface Waste Management Facility Authorized Agent



COMMERCIAL LANDFARM TICKET

Ticket No.

T-N-T Environmental, Inc.

9172

#70 CR 405 • Lindrith, NM 87029

Date: 3-30-16 Customer: Enterprise

Well Name & Number: 2C 29 Loop

Customer Rep: Aaron Yazzie / Kevin Baca Charge Code: _____

Trucking Co.: West States Envoy Contractors Driver (print): Aaron Yazzie Phone #: (505) 215-4305

Truck No.: 519 Delivery Ticket No.: _____

Once material is loaded it is your responsibility to secure your load.

By signing, you are releasing T-n-T Environmental Inc., its owners and its employees of any and all liabilities.

ITEM NO.	PAINT FILTER TEST RATIO	CHLORIDE RESULTS	CELL	TRASH CHARGE	Impacted Soil		Tank Bottoms		Drilling Fluid		Comments	Driver Signature
					YRDS	BBLS	YRDS	BBLS	YRDS	BBLS		
1	1-1	97	2		14							
2												
3												
4												
5												
6												
7												
8												

MATERIAL

B = Backfill

T = Topsoil

S = Sandrock

G = Gravel

ITEM NO.	DRIVER'S SIGNATURE	TYPE	YRDS	ITEM NO.	DRIVER'S SIGNATURE	TYPE	YRDS
1				8			
2				9			
3				10			
4				11			
5				12			
6				13			
7				14			

REPROGRAPHICS 0313101

Date 3-30-16 T-N-T Attendant Vicente Enriquez



COMMERCIAL LANDFARM TICKET

T-N-T Environmental, Inc.

#70 CR 405 • Lindrith, NM 87029

Ticket No.

9173

Date: 3-31-16 Customer: ENTERPRISE

Well Name & Number: LAY 26-29 LOOP

Customer Rep: KEVIN Charge Code: _____

Trucking Co.: WSEC Driver (print): FRANK COLWELL Phone #: 215-5950

Truck No.: 515 Delivery Ticket No.: _____

Once material is loaded it is your responsibility to secure your load.

By signing, you are releasing T-n-T Environmental Inc., its owners and its employees of any and all liabilities.

ITEM NO.	PAINT FILTER TEST RATIO	CHLORIDE RESULTS	CELL	TRASH CHARGE	Impacted Soil		Tank Bottoms		Drilling Fluid		Comments	Driver Signature
					YRDS	BBLS	YRDS	BBLS	YRDS	BBLS		
1	1-1	100	2		14							<i>Frank Colwell</i>
2												
3												
4												
5												
6												
7												
8												

MATERIAL

B = Backfill

T = Topsoil

S = Sandrock

G = Gravel

ITEM NO.	DRIVER'S SIGNATURE	TYPE	YRDS	ITEM NO.	DRIVER'S SIGNATURE	TYPE	YRDS
1				8			
2				9			
3				10			
4				11			
5				12			
6				13			
7				14			

REPROGRAPHICS 031310T

Date 3-31-16 T-N-T Attendant Vicente Enriquez

Appendix B
Photograph Log

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	

Photograph #2	
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	

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 qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1604006

Date Reported: 4/7/2016

CLIENT: Rule Engineering LLC
Project: Enterprise Lateral 2C-29
Lab ID: 1604006-001

Matrix: SOIL

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	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1604006
 Date Reported: 4/7/2016

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1604006-002

Matrix: SOIL

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 RANGE ORGANICS							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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: Enterprise Lateral 2C-29

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

Lab ID: 1604006-003

Matrix: SOIL

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

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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-4

Project: Enterprise Lateral 2C-29

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

Lab ID: 1604006-004

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1604006
 Date Reported: 4/7/2016

CLIENT: Rule Engineering LLC
Project: Enterprise Lateral 2C-29
Lab ID: 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 RANGE ORGANICS							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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1604006
 Date Reported: 4/7/2016

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1604006-006

Matrix: SOIL

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 RANGE ORGANICS							Analyst: KJH
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SP-2

Project: Enterprise Lateral 2C-29

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

Lab ID: 1604006-007

Matrix: SOIL

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

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
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 RANGE							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

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

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

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-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	SeqNo:	1021685	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.8	65.8	136			
Surr: DNOP	4.4		5.000		88.5	70	130			

Sample ID	MB-24572	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	24572	RunNo:	33263					
Prep Date:	4/1/2016	Analysis Date:	4/4/2016	SeqNo:	1021686	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.6		10.00		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
- 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

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	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	24581	RunNo:	33288					
Prep Date:	4/1/2016	Analysis Date:	4/4/2016	SeqNo:	1022843	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	25.00	0	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					
Prep Date:	4/1/2016	Analysis Date:	4/4/2016	SeqNo:	1022844	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	1000		1000		101	66.2	112			

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

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	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	24581	RunNo:	33288					
Prep Date:	4/1/2016	Analysis Date:	4/4/2016	SeqNo:	1022974	Units:	mg/Kg			
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			
Toluene	0.93	0.050	1.000	0	93.3	80	124			
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			
Surr: 4-Bromofluorobenzene	1.1		1.000		110	80	120			

Sample ID	MB-24581	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	24581	RunNo:	33288					
Prep Date:	4/1/2016	Analysis Date:	4/4/2016	SeqNo:	1022975	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

Qualifiers:

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



Hall Environmental Analysis Laboratory
 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: **RULE ENGINEERING LL**

Work Order Number: **1604006**

RcptNo: **1**

Received by/date: *JA* **04/01/16**
 Logged By: **Joe Archuleta** **4/1/2016 7:50:00 AM**
 Completed By: **Joe Archuleta** **4/1/2016 8:51:47 AM**
 Reviewed By: **IO** **04/01/16**

JE
JE

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
- 12. Does paperwork match bottle labels? Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 14. Is it clear what analyses were requested? Yes No
- 15. Were all holding times able to be met? Yes No

of preserved bottles checked for pH:
 (<2 or >12 unless noted)
 Adjusted?
 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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

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

Chain-of-Custody Record

Turn-Around Time:

Standard Rush

Project Name:

Enterprise Lateral 2C-29

Project #:

Project Manager:

Heather Woods

Sampler: Heather Woods

On Ice: Yes No

Sample Temperature: 1.0

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Dr, Suite 205

Farmington, NM 87401

Phone #: (505) 716-2787

Mail or Fax#: hwoods@ruleengineering.com

VQC Package:

Standard Level 4 (Full Validation)

Creditation:

NELAP Other

EDD (Type)

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + TMS (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MMS)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
2/16	1120	Soil	SC-1	(1) 4oz Glass	Cold	1604006 -001	X	X											
2/16	1125	Soil	SC-2	(1) 4oz Glass	Cold	-002	X	X											
2/16	1130	Soil	SC-3	(1) 4oz Glass	Cold	-003	X	X											
2/16	1135	Soil	SC-4	(1) 4oz Glass	Cold	-004	X	X											
2/16	1140	Soil	SC-5	(1) 4oz Glass	Cold	-005	X	X											
2/16	1155	Soil	SP-1	(1) 4oz Glass	Cold	-006	X	X											
2/16	1200	Soil	SP-2	(1) 4oz Glass	Cold	-007	X	X											
NEE																			



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Relinquished by: Heather M. Woods

Time: 3/1/16 1713

Received by: [Signature]

Date Time: 3/31/16 1713

Relinquished by: [Signature]

Time: 3/1/16 1747

Received by: [Signature]

Date Time: 04/01/16 0750

Remarks:

Direct Bill to Enterprise
Attn: Tom Long / Miles Moore

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

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

OPERATOR

Initial Report 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: 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

Unit Letter J	Section 22	Township 25N	Range 5W	Feet from the 1604	North/ <u>South</u> Line	Feet from the 150	<u>East</u> / <u>West</u> Line	County Rio Arriba
------------------	---------------	-----------------	-------------	-----------------------	-----------------------------	----------------------	-----------------------------------	----------------------

Latitude 36.380625 Longitude -107.343949

NATURE OF RELEASE

Type of Release: Condensate	Volume of Release 3-5 Barrels of Condensate	Volume Recovered: None
Source of Release: Blow-off Valve Left Open	Date and Hour of Occurrence: 1/29/2016 @ 11:30 a.m.	Date and Hour of Discovery: 1/29/2016 @ 12:30 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Hobson Sandoval - JAEPO; Waymore Callado - JAO&G	
By Whom?	Date and Time 2/1/2016 @ 7:45 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action: On January 24, 2016, Enterprise technicians discovered a condensate release on the Lateral 2C-29 dog leg. An area of approximately 50 feet by 20 feet was impacted by condensate. The pipeline was isolated, blown down, locked out and tagged out. Remediation was completed on for February 22, 2016.

Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. Two excavations were created to remediate the release of condensate. Approximately 84 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 2/19/2016	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7/20/2016	Phone: (713)381-6684	NUF1604129228

* Attach Additional Sheets If Necessary

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

Appendices

Appendix A	Executed C-139 Solid Waste Acceptance Form and Landfarm Records
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 Score	Site-Based Ranking Score	Basis for Determination	Data Sources
Depth to Groundwater				
<50 feet	20	0	Elevation differential between location and wash in Lapis Canyon >100 feet; shallow sandstone bedrock observed at location.	NMOCD Online database, Lapis Point Quadrangle, Google Earth, and Visual Inspection
50-99 feet	10			
>100 feet	0			
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 foot radius of location.	NMOSE NMWRRS, Lapis Point Quadrangle, Google Earth, and Visual Inspection
	0 (No)			
Distance to Surface Water Body				
<200 horizontal feet	20	20	Unnamed, ephemeral wash located approximately 100 feet south drain to the wash in Lapis Canyon.	Lapis Point Quadrangle, Google Earth, and Visual Inspection
200 to 1,000 horizontal feet	10			
>1,000 horizontal feet	0			
Site Based Total Ranking 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)	Ethylbenzene (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	100**	
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
 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.

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

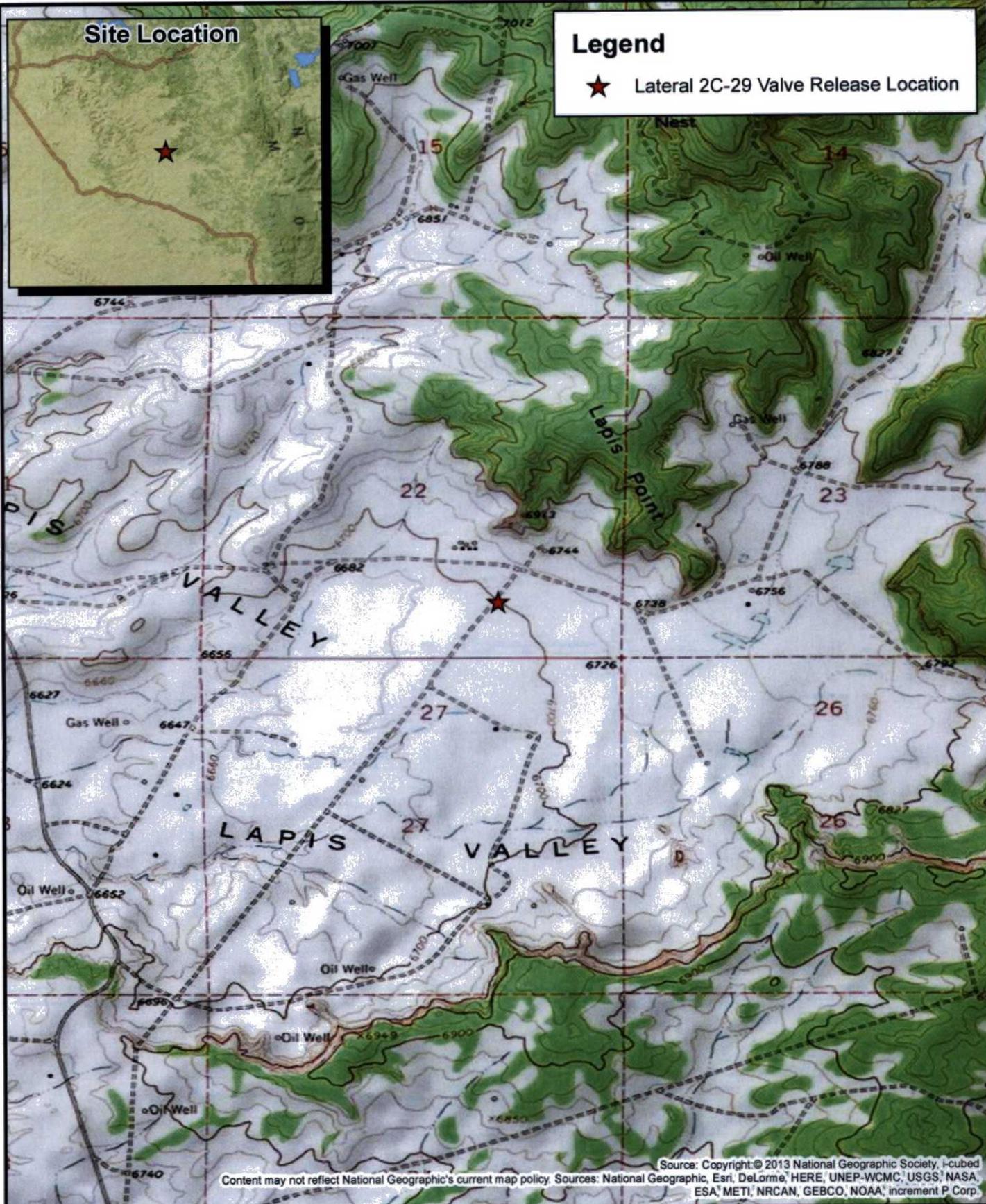
Figures

Document Path: U:\Enterprise Products\Lateral 2C-29\Lateral 2C-29 Valve Release Topo Map.mxd



Legend

★ Lateral 2C-29 Valve Release Location



Source: Copyright: © 2013 National Geographic Society, i-cubed
 Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Rule Engineering, LLC
 Solutions to Regulations for Industry

0 1,050 2,100 4,200 Feet

Lapis Point Quadrangle
 1:24,000

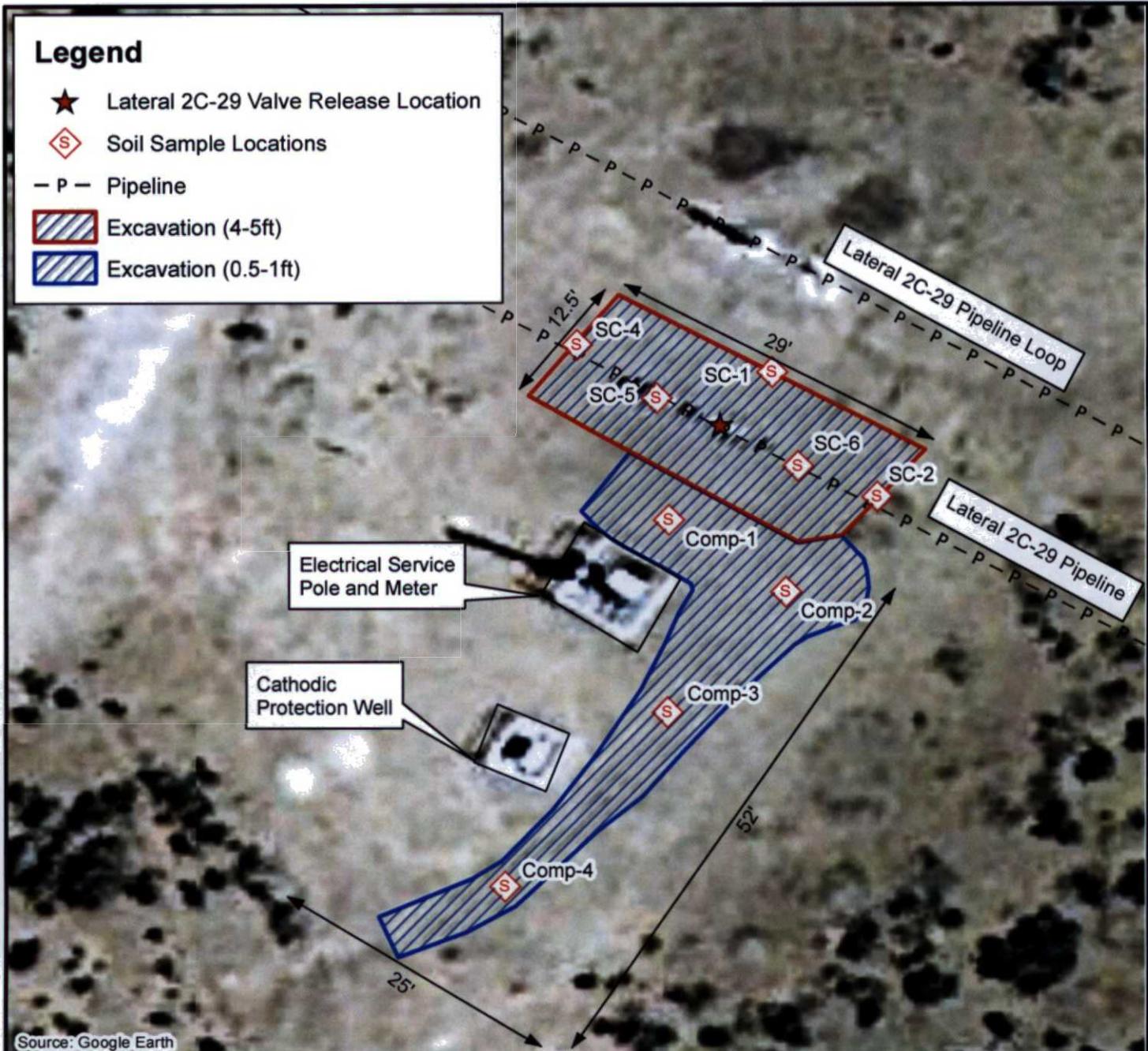


O-S22-T25-R05W
 N36.38057, W107.34384
 Rio Arriba County, NM

Figure 1
Topographic Site Map
 Lateral 2C-29
 Pipeline Valve Release

Legend

- ★ Lateral 2C-29 Valve Release Location
- ◇ Soil Sample Locations
- P - Pipeline
- ▨ Excavation (4-5ft)
- ▨ Excavation (0.5-1ft)



Source: Google Earth

Sample Name	Date	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)
JANEPO/NMOCD Action Level*			100	10	NE	NE	NE	50
SC-1	2/22/2016	0.5 to 5	4.0	<0.048	<0.048	<0.048	<0.097	ND
SC-2	2/22/2016	0.5 to 5	23	<0.047	<0.047	<0.047	<0.093	ND
SC-4	2/22/2016	0.5 to 5	1.5	<0.047	<0.047	<0.047	<0.094	ND
SC-5	2/23/2016	4 to 5	9.3	<0.046	<0.046	<0.046	<0.092	ND
SC-6	2/23/2016	4 to 5	143	<0.049	<0.049	<0.049	<0.097	ND
Comp -1	2/22/2016	0.5 to 1	47	<0.047	<0.047	<0.047	<0.094	ND
Comp-2	2/22/2016	0.5 to 1	45	<0.049	<0.049	<0.049	<0.099	ND
Comp-3	2/22/2016	0.5 to 1	40	<0.048	<0.048	<0.048	<0.096	ND
Comp-4	2/22/2016	0.5 to 1	6.5	<0.047	<0.047	<0.047	<0.095	ND

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

Rule Engineering, LLC
Solutions to Regulators for Industry

0 5 10 20 30 Feet

1:175

O-S22-T25-R05W
N36.38057, W107.34384
Rio Arriba County, NM

Figure 2
Aerial Site Map
Lateral 2C-29
Pipeline Valve Release

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

1. Generator Name and Address: Enterprise 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
4. Source and Description of Waste: Source: Natural Gas Pipeline Release Description: Hydrocarbon impacted soils associated with remediation activities for a natural gas pipeline release. Estimated Volume <u>50</u> yd ³ <input checked="" type="checkbox"/> Known Volume (to be entered by the operator at the end of the haul) _____ yd ³ / bbls
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS I, <u>Thomas Long</u> , representative or authorized agent for <u>Enterprise Field Services, LLC</u> do hereby Generator Signature certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification) <input checked="" type="checkbox"/> RCRA Exempt: Oil field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt waste. <u>Operator Use Only: Waste Acceptance Frequency</u> <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Per Load <input type="checkbox"/> 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) <input type="checkbox"/> MSDS Information <input type="checkbox"/> RCRA Hazardous Waste Analysis <input checked="" type="checkbox"/> Process Knowledge <input type="checkbox"/> Other (Provide description in Box 4) GENERATOR 19.15.36.15 WASTE TESTING CERTIFICATION STATEMENT FOR LANDFARMS I, <u>Thomas Long</u> , 3-23-16, representative for <u>Enterprise Field Services, LLC</u> authorize TNT, Inc. Inc. to complete Generator Signature the required testing/sign the Generator Waste Testing Certification. I, <u>Craig</u> , representative for <u>TNT, Inc.</u> do hereby certify that Representative/Agent Signature representative samples of the oil field waste have been subjected to the paint filter test and tested for chloride content and that the samples have been found to conform to the specific requirements applicable to landfarms pursuant to Section 15 of 19.15.36 NMAC. The results of the representative samples are attached to demonstrate the above-described waste conform to the requirements of Section 15 of 19.15.36 NMAC.

5. Transporter: Various approved trucking
OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: TNT Evap Pond/Landfarm, NM01-0008
Address of Facility: 70 CR 405, Lindrith NM

Method of Treatment and/or Disposal:

Evaporation Injection Treating Plant Landfarm Landfill Other

Waste Acceptance Status:

APPROVED

DENIED (Must Be Maintained As Permanent Record)

PRINT NAME:
SIGNATURE:

Gary Schmitz
Surface Waste Management Facility Authorized Agent

TITLE: Pres.
TELEPHONE NO.:

DATE: _____



COMMERCIAL LANDFARM TICKET

T-N-T Environmental, Inc.

#70 CR 405 • Lindrith, NM 87029

Ticket No.

9156 ✓

Date: 2-23-16 Customer: ENTERPRISE

Well Name & Number: 25-29400

Customer Rep: _____ Charge Code: _____

Trucking Co.: WSECS Driver (print): FRANK COLLATZ Phone #: 215-5950

Truck No.: 515 Delivery Ticket No.: _____

Once material is loaded it is your responsibility to secure your load.

By signing, you are releasing T-n-T Environmental Inc., its owners and its employees of any and all liabilities.

ITEM NO.	PAINT FILTER TEST RATIO	CHLORIDE RESULTS	CELL	TRASH CHARGE	Impacted Soil		Tank Bottoms		Drilling Fluid		Comments	Driver Signature
					YRDS	BBLS	YRDS	BBLS	YRDS	BBLS		
1	1-1	130	2		12							<i>[Signature]</i>
2	1-1	125	2		12							<i>[Signature]</i>
3	1-1	120	2		12							<i>[Signature]</i>
4												
5												
6												
7												
8												

MATERIAL

B = Backfill

T = Topsoil

S = Sandrock

G = Gravel

ITEM NO.	DRIVER'S SIGNATURE	TYPE	YRDS	ITEM NO.	DRIVER'S SIGNATURE	TYPE	YRDS
1				8			
2				9			
3				10			
4				11			
5				12			
6				13			
7				14			

REPROGRAPHICS 0313107

Date 2-23-16 T-N-T Attendant Vicente Enriquez

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

Rule

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	
Photo Taken by: Heather Woods	

Photograph #6	
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	
Photo Taken by: Heather Woods	

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 qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a light blue horizontal line.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1602A15

Date Reported: 3/1/2016

CLIENT: Rule Engineering LLC

Client Sample ID: SC-1

Project: Enterprise Lateral 2C-29

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

Lab ID: 1602A15-001

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 RANGE ORGANICS							Analyst: KJH
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1602A15
 Date Reported: 3/1/2016

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1602A15-002

Matrix: SOIL

Client Sample ID: SC-2
 Collection Date: 2/22/2016 3:20:00 PM
 Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1602A15-004

Matrix: SOIL

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 RANGE ORGANICS							Analyst: KJH
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1602A15
 Date Reported: 3/1/2016

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1602A15-005

Matrix: SOIL

Client Sample ID: SC-5
 Collection Date: 2/23/2016 10:55:00 AM
 Received Date: 2/24/2016 8:05:00 AM

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

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

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

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-6

Project: Enterprise Lateral 2C-29

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

Lab ID: 1602A15-006

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 RANGE ORGANICS							Analyst: KJH
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1602A15
 Date Reported: 3/1/2016

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1602A15-007

Matrix: SOIL

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 RANGE ORGANICS							Analyst: KJH
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 RANGE							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

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1602A15
 Date Reported: 3/1/2016

CLIENT: Rule Engineering LLC
Project: Enterprise Lateral 2C-29
Lab ID: 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 RANGE ORGANICS							Analyst: KJH
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1602A15
 Date Reported: 3/1/2016

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1602A15-009

Matrix: SOIL

Client Sample ID: Comp-3
 Collection Date: 2/22/2016 3:50:00 PM
 Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: KJH
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 RANGE							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.

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
 Lab Order 1602A15
 Date Reported: 3/1/2016

CLIENT: Rule Engineering LLC
 Project: Enterprise Lateral 2C-29
 Lab ID: 1602A15-010

Matrix: SOIL

Client Sample ID: Comp-4
 Collection Date: 2/22/2016 3:35:00 PM
 Received Date: 2/24/2016 8:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							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 RANGE							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.

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1602A15

01-Mar-16

Client: Rule Engineering LLC
Project: Enterprise Lateral 2C-29

Sample ID	LCS-23931	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	23931	RunNo:	32421					
Prep Date:	2/25/2016	Analysis Date:	2/26/2016	SeqNo:	991463	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	10	50.00	0	76.2	65.8	136			
Surr: DNOP	4.0		5.000		79.5	70	130			

Sample ID	MB-23931	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	23931	RunNo:	32421					
Prep Date:	2/25/2016	Analysis Date:	2/26/2016	SeqNo:	991465	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	7.7		10.00		77.3	70	130			

Sample ID	1602A15-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	23931	RunNo:	32421					
Prep Date:	2/25/2016	Analysis Date:	2/26/2016	SeqNo:	992471	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	38	9.5	47.35	0	81.1	31.2	162			
Surr: DNOP	4.1		4.735		86.5	70	130			

Sample ID	1602A15-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	SC-1	Batch ID:	23931	RunNo:	32421					
Prep Date:	2/25/2016	Analysis Date:	2/26/2016	SeqNo:	992549	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	42	10	50.10	0	84.0	31.2	162	9.20	31.7	
Surr: DNOP	4.2		5.010		84.4	70	130	0	0	

Qualifiers:

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

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 8015D: Gasoline Range								
Client ID: PBS	Batch ID: 23942	RunNo: 32426								
Prep Date: 2/25/2016	Analysis Date: 2/26/2016	SeqNo: 992147	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	910		1000		91.5	66.2	112			

Sample ID LCS-23942	SampType: LCS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: LCSS	Batch ID: 23942	RunNo: 32426								
Prep Date: 2/25/2016	Analysis Date: 2/26/2016	SeqNo: 992148	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	5.0	25.00	0	112	79.6	122			
Surr: BFB	990		1000		98.6	66.2	112			

Sample ID 1602A15-002AMS	SampType: MS	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SC-2	Batch ID: 23942	RunNo: 32426								
Prep Date: 2/25/2016	Analysis Date: 2/26/2016	SeqNo: 992153	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.7	23.36	0	113	59.3	143			
Surr: BFB	980		934.6		105	66.2	112			

Sample ID 1602A15-002AMSD	SampType: MSD	TestCode: EPA Method 8015D: Gasoline Range								
Client ID: SC-2	Batch ID: 23942	RunNo: 32426								
Prep Date: 2/25/2016	Analysis Date: 2/26/2016	SeqNo: 992154	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	29	4.7	23.36	0	123	59.3	143	8.15	20	
Surr: BFB	940		934.6		101	66.2	112	0	0	

Qualifiers:

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

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								
Client ID: PBS	Batch ID: 23942	RunNo: 32426								
Prep Date: 2/25/2016	Analysis Date: 2/26/2016	SeqNo: 992277 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID: LCS-23942	SampType: LCS	TestCode: EPA Method 8021B: Volatiles								
Client ID: LCSS	Batch ID: 23942	RunNo: 32426								
Prep Date: 2/25/2016	Analysis Date: 2/26/2016	SeqNo: 992282 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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			S

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 Date: 2/26/2016	SeqNo: 992291 Units: mg/Kg								
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	Batch ID: 23942	RunNo: 32426								
Prep Date: 2/25/2016	Analysis Date: 2/26/2016	SeqNo: 992292 Units: 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

Qualifiers:

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



Hall Environmental Analysis Laboratory
 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: RULE ENGINEERING LL

Work Order Number: 1802A15

RcptNo: 1

Received by/date: JA 02/24/16

Logged By: Anne Thorne 2/24/2016 8:05:00 AM *Anne Thorne*

Completed By: Anne Thorne 2/24/2016 *Anne Thorne*

Reviewed By:

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
- 12. Does paperwork match bottle labels?
(Note discrepancies on chain of custody) Yes No
- 13. Are matrices correctly identified on Chain of Custody? Yes No
- 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

of preserved bottles checked for pH: _____
 (<2 or >12 unless noted)
 Adjusted? _____
 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 Fax In Person
 Regarding: _____
 Client Instructions: _____

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

Chain-of-Custody Record

Client: Ruels Engineering, LLC

Billing Address: 501 Airport Dr, Suite 205

Farmington, NM 87401

Phone #: (505) 716-2787

Mail or Fax#: hwoods@ruelengineering.com

VOC Package: Level 4 (Full Validation)

Standard: Other

Accreditation: NELAP Other

EDD (Type):

Turn-Around Time:

Standard Rush

Project Name:

Enterprise Lateral 2C-29

Project #:

Project Manager:

Heather Woods

Sampler: Heather Woods / Justin Valdez

On Ice: Yes No

Sample Temperature: 1.0

Container Type and #

(1) 4oz Glass

Preservative Type

Cold

HEAL No.

1602A15

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO /)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
2/16	1450	Soil	SC-1			-001	X	X										
2/16	1520		SC-2			-002	X	X										
2/16	1610		SC-3			-003	X	X										
2/16	1615		SC-4			-004	X	X										
3/16	1055		SC-5			-005	X	X										
3/16	1050		SC-6			-006	X	X										
2/16	1425		Comp-1			-007	X	X										
2/16	1600		Comp-2			-008	X	X										
2/16	1550		Comp-3			-009	X	X										
2/16	1535		Comp-4			-010	X	X										

Received by:

Justin Valdez

Date Time

3/31/16 1628

Relinquished by:

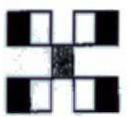
Heather M. Wood

Date Time

3/31/16 0805

Remarks:

Direct Bill to Enterprise
Attn: Tom Long / M. Us Moore
WO: N 24688
Did not receive SC-5



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

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.

AS/1/1/16

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

State of New Mexico
Energy Minerals and Natural
Resources

Form C-141
Revised August 8, 2011

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 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: Lateral 2C-24	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: Jicarilla Apache Tribe	Mineral Owner: Jicarilla Apache Tribe	Serial Number: N/A
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LOCATION OF RELEASE

Unit Letter M	Section 2	Township 24N	Range 5W	Feet from the 318	North South Line	Feet from the 857	East West Line	County Rio Arriba
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Latitude 36.334436 Longitude -107.336924

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: 8/8/2016 @ 10:50 a.m.	Date and Hour of Discovery: 8/9/2016 @ 10:50 a.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Hobson Sandoval – JAEPO; Waymore Callado - JAOGA	
By Whom? Runell Seal	Date and Time August 10, 2016 @ 11:12 a.m.	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume	

OIL CONS. DIV DIST. 3
SEP 06 2016

If a Watercourse was Impacted, Describe Fully.* The release is located in a small ephemeral wash.

Describe Cause of Problem and Remedial Action: On August 9, 2016, Enterprise technicians discovered a gas leak on the Lateral 2C-24 pipeline. A small amount of condensate was observed on the ground surface. The pipeline was isolated, blown down, locked out and tagged out.

Describe Area Affected and Cleanup Action: Repairs and remediation are in the scheduling process. Enterprise will remove the contaminant mass by mechanical excavation. 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.

Signature: <i>Jon Fields</i>	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <i>9/7/2016</i>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>8-19-2016</i> Phone: (713)381-6684	<i>NC 51623028908</i>	

Sample Area For 8015 & 8021 including MRO 1000

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural
Resources

Form C-141
Revised August 8, 2011

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 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.
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LOCATION OF RELEASE

Unit Letter A	Section 9	Township 23N	Range 2W	Feet from the 791	North/South Line	Feet from the 615	East/West Line	County Rio Arriba
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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: 6/20/2016 @ 1:30 p.m.	Date and Hour of Discovery: 6/20/2016 @ 1:30 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Hobson Sandoval - JAEPO; Waymore Callado - JAOAG; Subsequent notification to NMOCD - Vanessa Fields	
By Whom? Thomas Long	Date and Time Phone call on 6/20/2016 @ 3:06 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume	

OIL CONS. DIV DIST. 3
AUG 05 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.

Signature:	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 9/13/2016	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 8/1/2016	Phone: (713)381-6684	NVF1625740715

* Attach Additional Sheets If Necessary

①

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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

Initial Report 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: Lateral 2C-29	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: Jicarilla Apache Nation	Mineral Owner: Jicarilla Apache Nation	API No.	41
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LOCATION OF RELEASE

Unit Letter E	Section 24	Township 25N	Range 5W	Feet from the 2515	North South Line	Feet from the 335	East West Line	County Rio Arriba
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Latitude 36.385567 Longitude -107.319226

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: 7/27/2016 @ 10:00 a.m.	Date and Hour of Discovery: 7/26/2016 @ 12:00 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Hobson Sandoval - JAEPO; Waymore Callado - JAO&G; Cory Smith - NMOCD	
By Whom?	Date and Time July 27, 2015 @ 8:32 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume AUG 08 2016	

If a Watercourse was Impacted, Describe Fully.* The gas release site is located in a small ephemeral wash.

Describe Cause of Problem and Remedial Action: On January 27, 2016, Enterprise technicians discovered a gas leak on the Lateral 2C-29 pipeline. No fluids were observed on the ground surface. The pipeline was isolated, blown down, locked out and tagged out.

Describe Area Affected and Cleanup Action: Repairs and remediation are in the scheduling process. Enterprise will remove the contaminant mass by mechanical excavation. 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.

Signature: <i>Jon E. Fields</i>	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: 9/16/16	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval: Test for TPH (GRO - DDO - MRO) AND BTEX.	Attached <input type="checkbox"/>
Date: 8/3/2016	Phone: (713)381-6684	

* Attach Additional Sheets If Necessary

#NCS 1626051762