

**3R-1011**

**Release Report/ General  
Correspondence**

**Enterprise SJ**

**Date: Oct-Dec 2015**

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

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

OCT 01 2015

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: Middle Mesa Compressor Station	Facility Type: Natural Gas Compressor Station

Surface Owner: BLM	Mineral Owner: BLM	API No.
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**LOCATION OF RELEASE**

Unit Letter <b>M</b>	Section <b>10</b>	Township <b>31N</b>	Range <b>7W</b>	Feet from the <b>175</b>	North/South Line <b>South</b>	Feet from the <b>832</b>	East/West Line <b>West</b>	County <b>San Juan</b>
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Latitude 36.907238 Longitude 107.564722

**NATURE OF RELEASE**

Type of Release: Natural Gas	Volume of Release: 1,747 MCF Gas	Volume Recovered: None
Source of Release: Faulty Valve	Date and Hour of Occurrence: 9/18/2015 @ 12:00 p.m.	Date and Hour of Discovery: 9/18/2015 @ 5:30 p.m.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Cory Smith - NMOCD	
By Whom? Thomas Long	Date and Hour 9/18/2015 @ 1:33 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On September 18, 2015, a PSV valve was discovered leaking. After records review the valve had leaked three days releasing 1,747 MCF gas. The PSV valve was isolated and is scheduled for replacement.

Describe Area Affected and Cleanup Action Taken On September 18, 2015, a PSV valve was discovered leaking. After records review the valve had leaked three days releasing 1,747 MCF gas. The PSV valve was isolated and is scheduled for replacement

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>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>Cory Smith</i>	
Title: Director, Environmental	Approval Date: <i>11/9/15</i>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>9-28-2015</i> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

#NCS 15313417201

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**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 2B-24	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: BLM	Mineral Owner: BLM	API No.
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**LOCATION OF RELEASE**

Unit Letter E	Section 23	Township 28 N	Range 10W	Feet from the 1904 Line	North South Line	Feet from the 195 Line	East West Line	County San Juan
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Latitude 36.649603 Longitude -107.873435

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release 13.61 MCF Gas; Estimated 10-15 BBLs Fluids	Volume Recovered: None
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 7/16/15 @ 11:10 a.m.	Date and Hour of Discovery: 7/16/15 @ 12:10 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification - Cory Smith - NMOCD, Shari Ketcham - BLM	
By Whom? Thomas Long	Date and Time 7/28/15 at 2:00 p.m.	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\* Fluids were released to the ground surface and flowed down the hill into a small ephemeral wash.

Describe Cause of Problem and Remedial Action: On July 16, 2015, Enterprise technicians confirmed a minor gas leak on the Lateral 2B-24 pipeline. Fluids were released to the ground surface and flowed down the hill into a small ephemeral wash. The pipeline was isolated, blown down, locked out and tagged out for safety and environmental concerns. Repair and remediation were completed on August 13, 2015.

Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 53 feet long by 28 feet wide by ranging from 6 to 12 feet deep. Approximately 734 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: <i>Jon E. Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: 11/9/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 9-30-2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

#NCS1523031981

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**CORRECTIVE ACTION REPORT**

Property:

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

September 15, 2015  
Apex Project No. 7250415015

Prepared for:

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

Prepared by:

A handwritten signature in blue ink that reads 'Rane Dechilly'.

---

Ranee Dechilly  
Environmental Scientist

A handwritten signature in blue ink that reads 'Kyle Summers'.

---

Kyle Summers, CPG  
Branch Manager/Senior Geologist

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## CORRECTIVE ACTION REPORT

### Lateral 2B - 24 Pipeline Release

NW 1/4, S23 T28N R10W  
San Juan County, New Mexico

Apex Project No. 7250415015

## 1.0 INTRODUCTION

### 1.1 Site Description & Background

The Lateral 2B-24 pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 23 in Township 28 North and Range 10 West in rural San Juan County, New Mexico (36.64960N, 107.87343W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

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

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

### 1.2 Project Objective

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

## 2.0 SITE RANKING

In accordance with the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the Office of the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:



Ranking 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	
<b>Total Ranking Score</b>			<b>20</b>

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

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

### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

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

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

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

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

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

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

A total of approximately 734 cubic yards of hydrocarbon affected soils were transported to the Envirotech, Inc. (Envirotech) landfarm near Hilltop, New Mexico for disposal/remediation. The executed C-138 form is provided in Appendix B. The excavation was backfilled with clean fill and contoured to surrounding grade.

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

### 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of 22 confirmation soil samples (C-1 through C-22) from the resulting excavation for laboratory analysis. Samples C-3, C-11, and C-17, and C-21 were removed by excavation. Additionally, one (1) composite sample (SP-1) was collected from the stockpiled soil to determine the potential to reuse a segregated clean overburden stockpile as backfill material. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

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

### 3.3 Laboratory Analytical Methods

The confirmation soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) utilizing Environmental Protection Agency (EPA) SW-846 Method #8021, and total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA SW-846 Method #8015. Additionally, soil samples C-2, C-4, C-7, C-10, C-17, and SP-1 were also analyzed for chlorides utilizing EPA Method 300.0.

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

## 4.0 DATA EVALUATION

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

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

#### 4.1 Confirmation Soil Samples

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

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

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

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2B-24 pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 23 in Township 28 North and Range 10 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

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

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

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

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

## 6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE

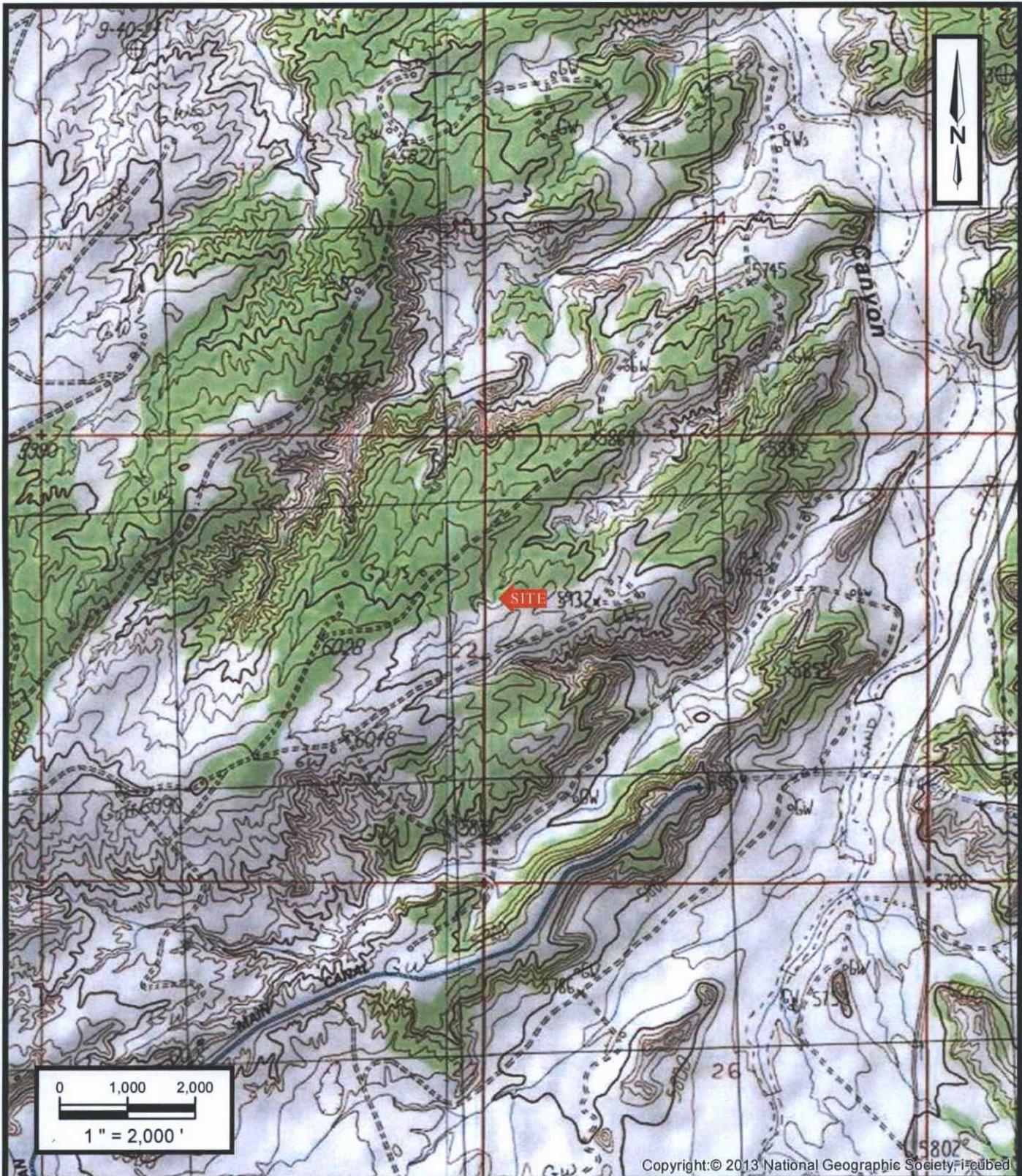
Apex's services were performed in accordance with standards customarily provided by a firm rendering the same or similar services in the area during the same time period. Apex makes no warranties, expressed or implied, as to the services performed hereunder. Additionally, Apex does not warrant the work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

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

This report has been prepared for the exclusive use of Enterprise, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the expressed written authorization of Enterprise and Apex. Any unauthorized



distribution or reuse is at the client's sole risk. Notwithstanding the foregoing, reliance by authorized parties will be subject to the terms, conditions and limitations stated in the proposal, the report, and Apex's Agreement. The limitation of liability defined in the agreement is the aggregate limit of Apex's liability to the client.



Lateral 2B-24 Pipeline Release  
 NW1/4 Sec23 T28N R10W  
 San Juan County, New Mexico  
 36.64960N, 107.87343W

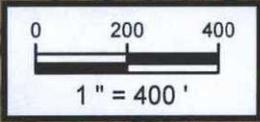
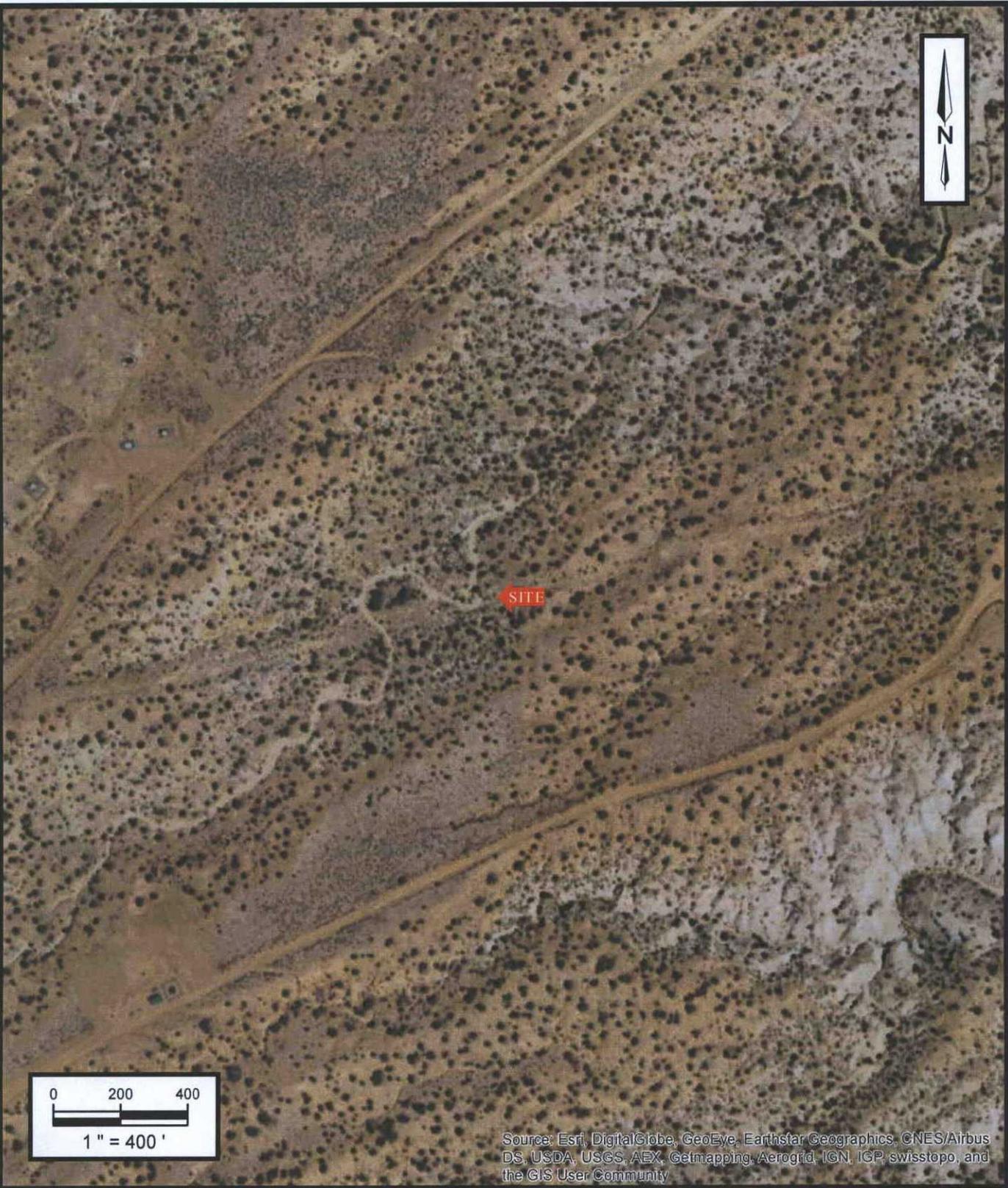


**Apex TITAN, Inc.**  
 806 South Rio Grande, Suite A  
 Aztec, NM 87410  
 Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
 A Subsidiary of Apex Companies, LLC

**FIGURE 1**

**Topographic Map**  
 Blanco, NM Quadrangle  
 1985

Project No. 7250415015



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Geomapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

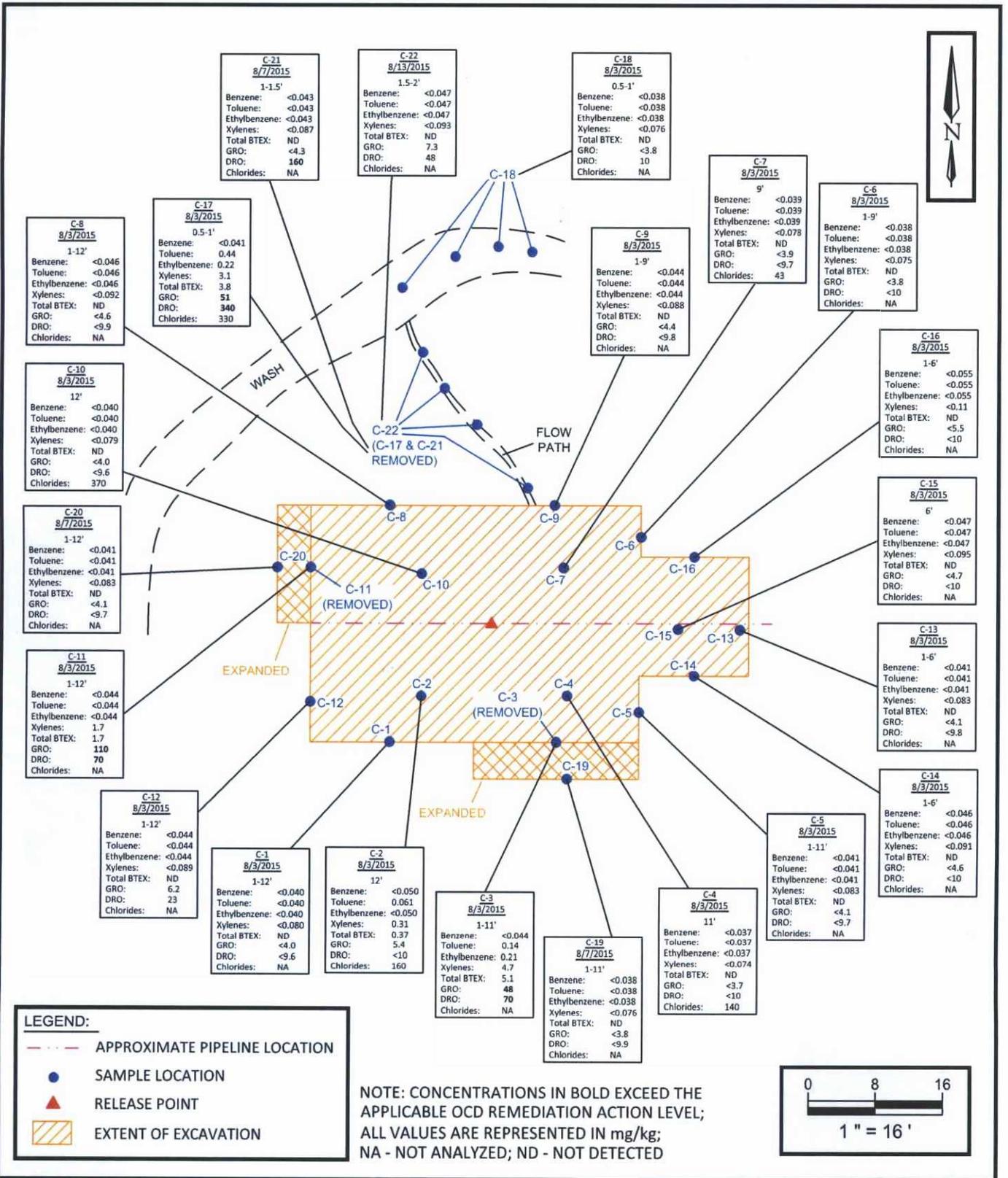
**Lateral 2B-24 Pipeline Release**  
 NW1/4 Sec23 T28N R10W  
 San Juan County, New Mexico  
 36.64960N, 107.87343W



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**FIGURE 2**  
 Site Vicinity Map

Project No. 7250415015



**Lateral 2B-24 Pipeline Release**  
 NW1/4 Sec23 T28N R10W  
 San Juan County, New Mexico  
 36.64960N, 107.87343W



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 A Subsidiary of Apex Companies, LLC

**FIGURE 3**  
**Site Map**

Project No. 7250415015

District I  
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State of New Mexico  
Energy Minerals and Natural Resources

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

97057-0724  
Form C-138  
Revised August 1, 2011

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. Originating Site: Lateral 2B-24 Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Unit Letter F Section 23 Township 28 North Range 10 West; 36.649603, -107.873435
4. Source and Description of Waste: Hydrocarbon impacted soils associated with a release from a natural gas pipeline.
5. Estimated Volume <u>100</u> (yd <sup>3</sup> ) bbls Known Volume (to be entered by the operator at the end of the haul) <u>734</u> (yd <sup>3</sup> ) bbls

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long* representative or authorized agent for Enterprise Field Services, LLC 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)

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 *Thomas Long* 8-3-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to  
Generator Signature  
complete the required testing/sign the Generator Waste Testing Certification.

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

6. Transporter: West State Entergy Contractors HBL, Doug Foutz

OCD Permitted Surface Waste Management Facility  
Name and Facility Permit #: Envirotech, Inc. Soil Remediation Facility \* Permit #: NM 01-0011  
Address of Facility: Hilltop, NM

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

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

PRINT NAME: Cecilia Kuning TITLE: Waste Coordinator DATE: 8-3-15  
SIGNATURE: Renee Runyan TELEPHONE NO.: 505-632-0615  
Surface Waste Management Facility Authorized Agent

**Photograph 1**

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



**Photograph 2**

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



**Photograph 3**

View of the final excavation, facing west.



**Photograph 4**

View of the over-excavated Site,  
facing northwest.



**Photograph 5**

View of the over-excavated Site,  
facing southeast.



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

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	Chlorides (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			10	NE	NE	NE	50	100		NE
<b>Stockpile Samples</b>										
SP-1	8.3.15	Stockpile	<0.042	<0.042	<0.042	<0.085	ND	<4.2	<9.9	<30
<b>Confirmation Samples Removed by Excavation</b>										
C-3	8.3.15	1 to 11	<0.044	0.14	0.21	4.7	5.1	<b>48</b>	<b>70</b>	NA
C-11	8.3.15	1 to 12	<0.044	<0.044	<0.044	1.7	1.7	<b>110</b>	<b>70</b>	NA
C-17	8.3.15	0.5 to 1	<0.041	0.44	0.22	3.1	3.8	<b>51</b>	<b>340</b>	330
C-21	8.7.15	1 to 1.5	<0.043	<0.043	<0.043	<0.087	ND	<4.3	<b>160</b>	NA
<b>Excavation Confirmation Samples</b>										
C-1	8.3.15	1 to 12	<0.040	<0.040	<0.040	<0.080	ND	<4.0	<9.6	NA
C-2	8.3.15	12	<0.050	0.061	<0.050	0.31	0.37	5.4	<10	160
C-4	8.3.15	11	<0.037	<0.037	<0.037	<0.074	ND	<3.7	<10	140
C-5	8.3.15	1 to 11	<0.041	<0.041	<0.041	<0.083	ND	<4.1	<9.7	NA
C-6	8.3.15	1 to 9	<0.038	<0.038	<0.038	<0.075	ND	<3.8	<10	NA
C-7	8.3.15	9	<0.039	<0.039	<0.039	<0.078	ND	<3.9	<9.7	43
C-8	8.3.15	1 to 12	<0.046	<0.046	<0.046	<0.092	ND	<4.6	<9.9	NA
C-9	8.3.15	1 to 9	<0.044	<0.044	<0.044	<0.088	ND	<4.4	<9.8	NA
C-10	8.3.15	12	<0.040	<0.040	<0.040	<0.079	ND	<4.0	<9.6	370
C-12	8.3.15	1 to 12	<0.044	<0.044	<0.044	<0.089	ND	6.2	23	NA
C-13	8.3.15	1 to 6	<0.041	<0.041	<0.041	<0.083	ND	<4.1	<9.8	NA
C-14	8.3.15	1 to 6	<0.046	<0.046	<0.046	<0.091	ND	<4.6	<10	NA
C-15	8.3.15	6	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<10	NA
C-16	8.3.15	1 to 6	<0.055	<0.055	<0.055	<0.11	ND	<5.5	<10	NA
C-18	8.3.15	0.5 to 1	<0.038	<0.038	<0.038	<0.076	ND	<3.8	10	NA
C-19	8.7.15	1 to 11	<0.038	<0.038	<0.038	<0.076	ND	<3.8	<9.9	NA
C-20	8.7.15	1 to 12	<0.041	<0.041	<0.041	<0.083	ND	<4.1	<9.7	NA
C-22	8.13.15	1.5 to 2	<0.047	<0.047	<0.047	<0.093	ND	7.3	48	NA

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

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established

NA = Not analyzed



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

August 07, 2015

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

RE: Lateral 2B-24

OrderNo.: 1508067

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 18 sample(s) on 8/4/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-1

Project: Lateral 2B-24

Collection Date: 8/3/2015 3:00:00 PM

Lab ID: 1508067-001

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/5/2015 9:28:32 AM	20600
Surr: DNOP	112	57.9-140		%REC	1	8/5/2015 9:28:32 AM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	8/4/2015 3:30:37 PM	20569
Surr: BFB	92.4	75.4-113		%REC	1	8/4/2015 3:30:37 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.040		mg/Kg	1	8/4/2015 3:30:37 PM	20569
Toluene	ND	0.040		mg/Kg	1	8/4/2015 3:30:37 PM	20569
Ethylbenzene	ND	0.040		mg/Kg	1	8/4/2015 3:30:37 PM	20569
Xylenes, Total	ND	0.080		mg/Kg	1	8/4/2015 3:30:37 PM	20569
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	8/4/2015 3:30:37 PM	20569

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-2

Project: Lateral 2B-24

Collection Date: 8/3/2015 3:05:00 PM

Lab ID: 1508067-002

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-3

Project: Lateral 2B-24

Collection Date: 8/3/2015 3:10:00 PM

Lab ID: 1508067-003

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	70	9.7		mg/Kg	1	8/5/2015 12:22:32 PM	20600
Surr: DNOP	91.0	57.9-140		%REC	1	8/5/2015 12:22:32 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	48	4.4		mg/Kg	1	8/4/2015 4:20:16 PM	20569
Surr: BFB	369	75.4-113	S	%REC	1	8/4/2015 4:20:16 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	8/4/2015 4:20:16 PM	20569
Toluene	0.14	0.044		mg/Kg	1	8/4/2015 4:20:16 PM	20569
Ethylbenzene	0.21	0.044		mg/Kg	1	8/4/2015 4:20:16 PM	20569
Xylenes, Total	4.7	0.087		mg/Kg	1	8/4/2015 4:20:16 PM	20569
Surr: 4-Bromofluorobenzene	141	80-120	S	%REC	1	8/4/2015 4:20:16 PM	20569

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	

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-4

Project: Lateral 2B-24

Collection Date: 8/3/2015 3:15:00 PM

Lab ID: 1508067-004

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

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

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**  
 Lab Order 1508067  
 Date Reported: 8/7/2015

**CLIENT:** APEX TITAN  
**Project:** Lateral 2B-24  
**Lab ID:** 1508067-005

**Matrix:** SOIL

**Client Sample ID:** C-5  
**Collection Date:** 8/3/2015 3:20:00 PM  
**Received Date:** 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2015 2:23:08 PM	20600
Surr: DNOP	92.7	57.9-140		%REC	1	8/5/2015 2:23:08 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.1		mg/Kg	1	8/4/2015 5:09:44 PM	20569
Surr: BFB	98.4	75.4-113		%REC	1	8/4/2015 5:09:44 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.041		mg/Kg	1	8/4/2015 5:09:44 PM	20569
Toluene	ND	0.041		mg/Kg	1	8/4/2015 5:09:44 PM	20569
Ethylbenzene	ND	0.041		mg/Kg	1	8/4/2015 5:09:44 PM	20569
Xylenes, Total	ND	0.083		mg/Kg	1	8/4/2015 5:09:44 PM	20569
Surr: 4-Bromofluorobenzene	104	80-120		%REC	1	8/4/2015 5:09:44 PM	20569

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

<b>Qualifiers:</b>	* 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	

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-6

Project: Lateral 2B-24

Collection Date: 8/3/2015 3:25:00 PM

Lab ID: 1508067-006

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2015 2:44:33 PM	20600
Surr: DNOP	86.8	57.9-140		%REC	1	8/5/2015 2:44:33 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	8/4/2015 5:34:26 PM	20569
Surr: BFB	93.9	75.4-113		%REC	1	8/4/2015 5:34:26 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.038		mg/Kg	1	8/4/2015 5:34:26 PM	20569
Toluene	ND	0.038		mg/Kg	1	8/4/2015 5:34:26 PM	20569
Ethylbenzene	ND	0.038		mg/Kg	1	8/4/2015 5:34:26 PM	20569
Xylenes, Total	ND	0.075		mg/Kg	1	8/4/2015 5:34:26 PM	20569
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	8/4/2015 5:34:26 PM	20569

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1508067  
 Date Reported: 8/7/2015

CLIENT: APEX TITAN  
 Project: Lateral 2B-24  
 Lab ID: 1508067-007

Matrix: SOIL

Client Sample ID: C-7  
 Collection Date: 8/3/2015 3:30:00 PM  
 Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	43	30		mg/Kg	20	8/6/2015 12:02:26 AM	20633
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/5/2015 3:29:01 PM	20600
Surr: DNOP	87.6	57.9-140		%REC	1	8/5/2015 3:29:01 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	8/4/2015 5:59:12 PM	20569
Surr: BFB	93.4	75.4-113		%REC	1	8/4/2015 5:59:12 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.039		mg/Kg	1	8/4/2015 5:59:12 PM	20569
Toluene	ND	0.039		mg/Kg	1	8/4/2015 5:59:12 PM	20569
Ethylbenzene	ND	0.039		mg/Kg	1	8/4/2015 5:59:12 PM	20569
Xylenes, Total	ND	0.078		mg/Kg	1	8/4/2015 5:59:12 PM	20569
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	8/4/2015 5:59:12 PM	20569

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**  
 Lab Order 1508067  
 Date Reported: 8/7/2015

**CLIENT:** APEX TITAN  
**Project:** Lateral 2B-24  
**Lab ID:** 1508067-008

**Matrix:** SOIL

**Client Sample ID:** C-8  
**Collection Date:** 8/3/2015 3:35:00 PM  
**Received Date:** 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2015 3:50:39 PM	20600
Surr: DNOP	101	57.9-140		%REC	1	8/5/2015 3:50:39 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/4/2015 6:24:01 PM	20569
Surr: BFB	92.9	75.4-113		%REC	1	8/4/2015 6:24:01 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.046		mg/Kg	1	8/4/2015 6:24:01 PM	20569
Toluene	ND	0.046		mg/Kg	1	8/4/2015 6:24:01 PM	20569
Ethylbenzene	ND	0.046		mg/Kg	1	8/4/2015 6:24:01 PM	20569
Xylenes, Total	ND	0.092		mg/Kg	1	8/4/2015 6:24:01 PM	20569
Surr: 4-Bromofluorobenzene	99.7	80-120		%REC	1	8/4/2015 6:24:01 PM	20569

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

<b>Qualifiers:</b>	* 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	

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-9

Project: Lateral 2B-24

Collection Date: 8/3/2015 3:40:00 PM

Lab ID: 1508067-009

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/5/2015 4:12:03 PM	20600
Surr: DNOP	89.6	57.9-140		%REC	1	8/5/2015 4:12:03 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	8/4/2015 6:48:43 PM	20569
Surr: BFB	94.3	75.4-113		%REC	1	8/4/2015 6:48:43 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	8/4/2015 6:48:43 PM	20569
Toluene	ND	0.044		mg/Kg	1	8/4/2015 6:48:43 PM	20569
Ethylbenzene	ND	0.044		mg/Kg	1	8/4/2015 6:48:43 PM	20569
Xylenes, Total	ND	0.088		mg/Kg	1	8/4/2015 6:48:43 PM	20569
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	8/4/2015 6:48:43 PM	20569

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1508067  
 Date Reported: 8/7/2015

CLIENT: APEX TITAN  
 Project: Lateral 2B-24  
 Lab ID: 1508067-010

Matrix: SOIL

Client Sample ID: C-10  
 Collection Date: 8/3/2015 3:45:00 PM  
 Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	370	30		mg/Kg	20	8/6/2015 12:14:51 AM	20633
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	8/5/2015 4:33:40 PM	20600
Surr: DNOP	91.9	57.9-140		%REC	1	8/5/2015 4:33:40 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	8/4/2015 7:13:28 PM	20569
Surr: BFB	112	75.4-113		%REC	1	8/4/2015 7:13:28 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.040		mg/Kg	1	8/4/2015 7:13:28 PM	20569
Toluene	ND	0.040		mg/Kg	1	8/4/2015 7:13:28 PM	20569
Ethylbenzene	ND	0.040		mg/Kg	1	8/4/2015 7:13:28 PM	20569
Xylenes, Total	ND	0.079		mg/Kg	1	8/4/2015 7:13:28 PM	20569
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	8/4/2015 7:13:28 PM	20569

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-11

Project: Lateral 2B-24

Collection Date: 8/3/2015 3:50:00 PM

Lab ID: 1508067-011

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	70	9.9		mg/Kg	1	8/5/2015 5:16:40 PM	20600
Surr: DNOP	88.6	57.9-140		%REC	1	8/5/2015 5:16:40 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	110	4.4		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Surr: BFB	477	75.4-113	S	%REC	1	8/4/2015 10:56:15 PM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.044		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Toluene	ND	0.044		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Ethylbenzene	ND	0.044		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Xylenes, Total	1.7	0.088		mg/Kg	1	8/4/2015 10:56:15 PM	20569
Surr: 4-Bromofluorobenzene	213	80-120	S	%REC	1	8/4/2015 10:56:15 PM	20569

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report  
 Lab Order 1508067  
 Date Reported: 8/7/2015

CLIENT: APEX TITAN  
 Project: Lateral 2B-24  
 Lab ID: 1508067-012

Matrix: SOIL

Client Sample ID: C-12  
 Collection Date: 8/3/2015 3:55:00 PM  
 Received Date: 8/4/2015 7:45:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-13

Project: Lateral 2B-24

Collection Date: 8/3/2015 4:00:00 PM

Lab ID: 1508067-013

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-14

Project: Lateral 2B-24

Collection Date: 8/3/2015 4:05:00 PM

Lab ID: 1508067-014

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2015 6:21:05 PM	20600
Surr: DNOP	92.4	57.9-140		%REC	1	8/5/2015 6:21:05 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	8/5/2015 12:10:40 AM	20569
Surr: BFB	104	75.4-113		%REC	1	8/5/2015 12:10:40 AM	20569
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.046		mg/Kg	1	8/5/2015 12:10:40 AM	20569
Toluene	ND	0.046		mg/Kg	1	8/5/2015 12:10:40 AM	20569
Ethylbenzene	ND	0.046		mg/Kg	1	8/5/2015 12:10:40 AM	20569
Xylenes, Total	ND	0.091		mg/Kg	1	8/5/2015 12:10:40 AM	20569
Surr: 4-Bromofluorobenzene	105	80-120		%REC	1	8/5/2015 12:10:40 AM	20569

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-15

Project: Lateral 2B-24

Collection Date: 8/3/2015 4:10:00 PM

Lab ID: 1508067-015

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: <b>KJH</b>							
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/5/2015 6:42:41 PM	20600
Surr: DNOP	102	57.9-140		%REC	1	8/5/2015 6:42:41 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							
Analyst: <b>NSB</b>							
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/5/2015 12:35:24 AM	R27950
Surr: BFB	96.9	75.4-113		%REC	1	8/5/2015 12:35:24 AM	R27950
<b>EPA METHOD 8021B: VOLATILES</b>							
Analyst: <b>NSB</b>							
Benzene	ND	0.047		mg/Kg	1	8/5/2015 12:35:24 AM	R27950
Toluene	ND	0.047		mg/Kg	1	8/5/2015 12:35:24 AM	R27950
Ethylbenzene	ND	0.047		mg/Kg	1	8/5/2015 12:35:24 AM	R27950
Xylenes, Total	ND	0.095		mg/Kg	1	8/5/2015 12:35:24 AM	R27950
Surr: 4-Bromofluorobenzene	101	80-120		%REC	1	8/5/2015 12:35:24 AM	R27950

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-16

Project: Lateral 2B-24

Collection Date: 8/3/2015 4:15:00 PM

Lab ID: 1508067-016

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-17

Project: Lateral 2B-24

Collection Date: 8/3/2015 4:20:00 PM

Lab ID: 1508067-017

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	330	30		mg/Kg	20	8/6/2015 12:27:15 AM	20633
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	340	100		mg/Kg	10	8/6/2015 9:59:03 AM	20600
Surr: DNOP	0	57.9-140	S	%REC	10	8/6/2015 9:59:03 AM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	51	4.1		mg/Kg	1	8/5/2015 3:04:37 AM	R27950
Surr: BFB	336	75.4-113	S	%REC	1	8/5/2015 3:04:37 AM	R27950
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.041		mg/Kg	1	8/5/2015 3:04:37 AM	R27950
Toluene	0.44	0.041		mg/Kg	1	8/5/2015 3:04:37 AM	R27950
Ethylbenzene	0.22	0.041		mg/Kg	1	8/5/2015 3:04:37 AM	R27950
Xylenes, Total	3.1	0.082		mg/Kg	1	8/5/2015 3:04:37 AM	R27950
Surr: 4-Bromofluorobenzene	128	80-120	S	%REC	1	8/5/2015 3:04:37 AM	R27950

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508067

Date Reported: 8/7/2015

CLIENT: APEX TITAN

Client Sample ID: C-18

Project: Lateral 2B-24

Collection Date: 8/3/2015 4:25:00 PM

Lab ID: 1508067-018

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	10	9.6		mg/Kg	1	8/6/2015 9:37:40 AM	20600
Surr: DNOP	108	57.9-140		%REC	1	8/6/2015 9:37:40 AM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	8/5/2015 3:29:26 AM	R27950
Surr: BFB	101	75.4-113		%REC	1	8/5/2015 3:29:26 AM	R27950
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.038		mg/Kg	1	8/5/2015 3:29:26 AM	R27950
Toluene	ND	0.038		mg/Kg	1	8/5/2015 3:29:26 AM	R27950
Ethylbenzene	ND	0.038		mg/Kg	1	8/5/2015 3:29:26 AM	R27950
Xylenes, Total	ND	0.076		mg/Kg	1	8/5/2015 3:29:26 AM	R27950
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	8/5/2015 3:29:26 AM	R27950

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

<b>Qualifiers:</b>	* 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	

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

WO#: 1508067  
 07-Aug-15

**Client:** APEX TITAN  
**Project:** Lateral 2B-24

Sample ID <b>MB-20633</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 300.0: Anions</b>	
Client ID: <b>PBS</b>	Batch ID: <b>20633</b>	RunNo: <b>27996</b>	
Prep Date: <b>8/6/2015</b>	Analysis Date: <b>8/5/2015</b>	SeqNo: <b>842792</b>	Units: <b>mg/Kg</b>
Analyte	Result	PQL	SPK value
Chloride	ND	1.5	

Sample ID <b>LCS-20633</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 300.0: Anions</b>	
Client ID: <b>LCSS</b>	Batch ID: <b>20633</b>	RunNo: <b>27996</b>	
Prep Date: <b>8/6/2015</b>	Analysis Date: <b>8/5/2015</b>	SeqNo: <b>842793</b>	Units: <b>mg/Kg</b>
Analyte	Result	PQL	SPK value
Chloride	15	1.5	15.00

**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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508067

07-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	MB-20600	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20600	RunNo:	27957					
Prep Date:	8/4/2015	Analysis Date:	8/5/2015	SeqNo:	841196	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	9.5		10.00		94.9	57.9	140			

Sample ID	LCS-20600	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20600	RunNo:	27957					
Prep Date:	8/4/2015	Analysis Date:	8/5/2015	SeqNo:	841396	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.1	57.4	139			
Surr: DNOP	4.8		5.000		95.4	57.9	140			

Sample ID	1508067-001AMSD	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-1	Batch ID:	20600	RunNo:	27957					
Prep Date:	8/4/2015	Analysis Date:	8/5/2015	SeqNo:	842444	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.9	49.70	0	93.7	42.3	146	1.90	0	
Surr: DNOP	4.1		4.970		81.7	57.9	140	0	0	

Sample ID	1508067-001AMS	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-1	Batch ID:	20600	RunNo:	27957					
Prep Date:	8/4/2015	Analysis Date:	8/5/2015	SeqNo:	842445	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	49.80	0	95.3	42.3	146			
Surr: DNOP	4.1		4.980		82.5	57.9	140			

Sample ID	MB-20611	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20611	RunNo:	27998					
Prep Date:	8/5/2015	Analysis Date:	8/6/2015	SeqNo:	843188	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	12		10.00		117	57.9	140			

Sample ID	LCS-20611	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20611	RunNo:	27998					
Prep Date:	8/5/2015	Analysis Date:	8/6/2015	SeqNo:	843210	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		98.9	57.9	140			

### 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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508067

07-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	MB-20569	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	20569	RunNo:	27950					
Prep Date:	8/3/2015	Analysis Date:	8/4/2015	SeqNo:	840959	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	920		1000		91.5	75.4	113			

Sample ID	LCS-20569	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	20569	RunNo:	27950					
Prep Date:	8/3/2015	Analysis Date:	8/4/2015	SeqNo:	840960	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	102	79.6	122			
Surr: BFB	1000		1000		105	75.4	113			

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	840981	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		91.1	75.4	113			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	840982	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	79.6	122			
Surr: BFB	1000		1000		101	75.4	113			

Sample ID	1508067-015AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	C-15	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/5/2015	SeqNo:	840984	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.7	23.74	0	97.6	62.5	151			
Surr: BFB	970		949.7		103	75.4	113			

Sample ID	1508067-015AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	C-15	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/5/2015	SeqNo:	840985	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

### Qualifiers:

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508067

07-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	1508067-015AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	C-15	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/5/2015	SeqNo:	840985	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	4.7	23.74	0	95.8	62.5	151	1.90	22.1	
Surr: BFB	970		949.7		102	75.4	113	0	0	

Sample ID	LCS-20610	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	20610	RunNo:	28000					
Prep Date:	8/5/2015	Analysis Date:	8/6/2015	SeqNo:	843531	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	75.4	113			

Sample ID	MB-20610	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	20610	RunNo:	28000					
Prep Date:	8/5/2015	Analysis Date:	8/6/2015	SeqNo:	843532	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	910		1000		90.6	75.4	113			

### Qualifiers:

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508067

07-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	<b>MB-20569</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>20569</b>	RunNo:	<b>27950</b>					
Prep Date:	<b>8/3/2015</b>	Analysis Date:	<b>8/4/2015</b>	SeqNo:	<b>840998</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		101	80	120			

Sample ID	<b>LCS-20569</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>20569</b>	RunNo:	<b>27950</b>					
Prep Date:	<b>8/3/2015</b>	Analysis Date:	<b>8/4/2015</b>	SeqNo:	<b>840999</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	108	76.6	128			
Toluene	1.1	0.050	1.000	0	109	75	124			
Ethylbenzene	1.1	0.050	1.000	0	110	79.5	126			
Xylenes, Total	3.5	0.10	3.000	0	118	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		111	80	120			

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R27950</b>	RunNo:	<b>27950</b>					
Prep Date:		Analysis Date:	<b>8/4/2015</b>	SeqNo:	<b>841022</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		99.5	80	120			

Sample ID	<b>100NG BTEX LCS</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R27950</b>	RunNo:	<b>27950</b>					
Prep Date:		Analysis Date:	<b>8/4/2015</b>	SeqNo:	<b>841023</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.050	1.000	0	110	76.6	128			
Toluene	1.1	0.050	1.000	0	109	75	124			
Ethylbenzene	1.1	0.050	1.000	0	108	79.5	126			
Xylenes, Total	3.5	0.10	3.000	0	116	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- 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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508067  
07-Aug-15

Client: APEX TITAN  
Project: Lateral 2B-24

Sample ID	1508067-016AMS	SampType:	MS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	C-16	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/5/2015	SeqNo:	841026	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.055	1.107	0	106	69.6	136			
Toluene	1.1	0.055	1.107	0	103	76.2	134			
Ethylbenzene	1.1	0.055	1.107	0	103	75.8	137			
Xylenes, Total	3.6	0.11	3.322	0.03134	109	78.9	133			
Surr: 4-Bromofluorobenzene	1.2		1.107		104	80	120			

Sample ID	1508067-016AMSD	SampType:	MSD	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	C-16	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/5/2015	SeqNo:	841027	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.055	1.107	0	104	69.6	136	1.53	20	
Toluene	1.1	0.055	1.107	0	103	76.2	134	0.163	20	
Ethylbenzene	1.1	0.055	1.107	0	103	75.8	137	0.627	20	
Xylenes, Total	3.6	0.11	3.322	0.03134	108	78.9	133	0.305	20	
Surr: 4-Bromofluorobenzene	1.2		1.107		106	80	120	0	0	

Sample ID	LCS-20610	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	20610	RunNo:	28000					
Prep Date:	8/5/2015	Analysis Date:	8/6/2015	SeqNo:	843552	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		105	80	120			

Sample ID	MB-20610	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	20610	RunNo:	28000					
Prep Date:	8/5/2015	Analysis Date:	8/6/2015	SeqNo:	843553	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

### 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 |   |

**Sample Log-In Check List**

Client Name: APEX AZTEC

Work Order Number: 1508067

RcptNo: 1

Received by/date: LM 08/04/15

Logged By: Anne Thorne 8/4/2015 7:45:00 AM

*Anne Thorne*

Completed By: Anne Thorne 8/4/2015

*Anne Thorne*

Reviewed By: *JA 08/04/15*

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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	1.8	Good	Yes			

CHAIN OF CUSTODY RECORD



Office Location Aztec, NM

Laboratory: Hall Environmental

Address: Albuquerque, NM

Contact: Andy Freeman

Phone: \_\_\_\_\_

PO/SO #: 7250415015

ANALYSIS REQUESTED

Lab use only  
Due Date:

Temp. of coolers when received (C°): 1.8

1	2	3	4	5
---	---	---	---	---

Page 1 of 2

Project Manager K Summers

Sampler's Name

Ranee Deechilly

Sampler's Signature

Rm Deechilly

Proj. No.

7250415015

Project Name

Lateral 2B-24

No/Type of Containers

Matrix	Date	Time	Coed	Grab	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1 L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)
S	8/3/15	1500			C-1								1508067 -001
S		1505			C-2								-002
S		1510			C-3								-003
S		1515			C-4								-004
S		1520			C-5								-005
S		1525			C-6								-006
S		1530			C-7								-007
S		1535			C-8								-008
S		1540			C-9								-009
S		1545			C-10								-010

802LBTEX  
 8015 TPH PROVIDED  
 Chlorides PD  
 Chlorides

Turn around time  Normal  25% Rush  50% Rush  100% Rush X 2 Day

Relinquished by (Signature) <u>Rm Deechilly</u>	Date: <u>8/3/15</u>	Time: <u>1705</u>	Received by (Signature) <u>Chris Walt</u>	Date: <u>8/3/15</u>	Time: <u>1705</u>
Relinquished by (Signature) <u>Christine Walt</u>	Date: <u>8/3/15</u>	Time: <u>1740</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>8/04/15</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:

NOTES:  
  
Bill to  
Enterprise Tom Long  
N/A APE # N22104  
  
2-day rush

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

CHAIN OF CUSTODY RECORD

**APEX**  
 Office Location Aztec, NM  
 Project Manager K. Summers

Laboratory: Hall Environmental  
 Address: Albuquerque, NM  
 Contact: Andy Freeman  
 Phone: \_\_\_\_\_  
 PO/SO #: 7250415015

ANALYSIS  
 REQUESTED

Lab use only  
 Due Date: \_\_\_\_\_  
 Temp. of coolers  
 when received (C°): 1.8  
 1 2 3 4 5  
 Page 2 of 2

Sampler's Name Ranee Deechilly Sampler's Signature Ranee Deechilly  
 Proj. No. 7250415015 Project Name Lateral 2B-24 No/Type of Containers \_\_\_\_\_

8021 BTEA  
 8015 TPT (provided)  
 Chlorides

Matrix	Date	Time	COED	Bar	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	8/3/15	1550			C-11								1508067-011
S		1555			C-12								-012
S		1600			C-13								-013
S		1605			C-14								-014
S		1610			C-15								-015
S		1615			C-16								-016
S		1620			C-17								-017
S		1625			C-18								-018
N/A													

Turn around time  Normal  25% Rush  50% Rush  100% Rush x 2 Day

Relinquished by (Signature) <u>Ranee Deechilly</u>	Date: <u>8/3/15</u>	Time: <u>1705</u>	Received by (Signature) <u>M. Waela</u>	Date: <u>8/3/15</u>	Time: <u>1705</u>
Relinquished by (Signature) <u>M. Waela</u>	Date: <u>8/3/15</u>	Time: <u>1740</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>8/3/15</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:

NOTES:  
 Bill to  
 Enterprise Tom Long  
 Non AFE # N22104  
2-day Rush

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



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

August 21, 2015

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

RE: Lateral 2B-24

OrderNo.: 1508748

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/14/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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 rectangular background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508748

Date Reported: 8/21/2015

CLIENT: APEX TITAN

Client Sample ID: C-22

Project: Lateral 2B-24

Collection Date: 8/13/2015 9:30:00 AM

Lab ID: 1508748-001

Matrix: SOIL

Received Date: 8/14/2015 7:00:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508748

21-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	MB-20893	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20893	RunNo:	28339					
Prep Date:	8/20/2015	Analysis Date:	8/20/2015	SeqNo:	855806	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	9.6		10.00		96.2	57.9	140			

Sample ID	LCS-20893	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20893	RunNo:	28339					
Prep Date:	8/20/2015	Analysis Date:	8/20/2015	SeqNo:	855807	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9		5.000		78.4	57.9	140			

Sample ID	MB-20877	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20877	RunNo:	28339					
Prep Date:	8/19/2015	Analysis Date:	8/20/2015	SeqNo:	856515	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.7		10.00		97.4	57.9	140			

Sample ID	LCS-20877	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20877	RunNo:	28339					
Prep Date:	8/19/2015	Analysis Date:	8/20/2015	SeqNo:	856516	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	54	10	50.00	0	108	57.4	139			
Surr: DNOP	4.6		5.000		92.6	57.9	140			

Sample ID	1508748-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-22	Batch ID:	20877	RunNo:	28339					
Prep Date:	8/19/2015	Analysis Date:	8/20/2015	SeqNo:	856518	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	70	10	49.90	48.38	43.5	42.3	146			
Surr: DNOP	5.0		4.990		99.6	57.9	140			

Sample ID	1508748-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-22	Batch ID:	20877	RunNo:	28339					
Prep Date:	8/19/2015	Analysis Date:	8/20/2015	SeqNo:	856519	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	77	9.7	48.73	48.38	58.3	42.3	146	9.13	28.9	
Surr: DNOP	4.8		4.873		99.2	57.9	140	0	0	

### Qualifiers:

- \* 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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508748

21-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	MB-20847	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	20847	RunNo:	28291					
Prep Date:	8/17/2015	Analysis Date:	8/18/2015	SeqNo:	854187	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	800		1000		80.3	75.4	113			

Sample ID	LCS-20847	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	20847	RunNo:	28291					
Prep Date:	8/17/2015	Analysis Date:	8/18/2015	SeqNo:	854188	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	79.6	122			
Surr: BFB	840		1000		83.9	75.4	113			

Sample ID	1508748-001AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	C-22	Batch ID:	20847	RunNo:	28329					
Prep Date:	8/17/2015	Analysis Date:	8/19/2015	SeqNo:	855397	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28	4.8	24.18	7.280	83.8	62.5	151			
Surr: BFB	1100		967.1		119	75.4	113			S

Sample ID	1508748-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	C-22	Batch ID:	20847	RunNo:	28329					
Prep Date:	8/17/2015	Analysis Date:	8/19/2015	SeqNo:	855398	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	39	4.9	24.34	7.280	132	62.5	151	35.4	22.1	R
Surr: BFB	1400		973.7		141	75.4	113	0	0	S

**Qualifiers:**

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

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# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508748

21-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	MB-20847	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	20847	RunNo:	28291					
Prep Date:	8/17/2015	Analysis Date:	8/18/2015	SeqNo:	854208	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.93		1.000		93.0	80	120			

Sample ID	LCS-20847	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	20847	RunNo:	28291					
Prep Date:	8/17/2015	Analysis Date:	8/18/2015	SeqNo:	854209	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.96	0.050	1.000	0	96.0	76.6	128			
Toluene	0.96	0.050	1.000	0	96.3	75	124			
Ethylbenzene	0.99	0.050	1.000	0	99.3	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	98.6	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.6	80	120			

### Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | 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 |   |

**Sample Log-In Check List**

Client Name: **APEX AZTEC**

Work Order Number: **1508748**

RcptNo: **1**

Received by/date: AG 08/14/15

Logged By: **Anne Thorne** 8/14/2015 7:00:00 AM *Anne Thorne*

Completed By: **Anne Thorne** 8/15/2015 *Anne Thorne*

Reviewed By: EO 08/17/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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	3.0	Good	Yes			

CHAIN OF CUSTODY RECORD

**APEX**  
 Office Location Aztec, NM  
 Project Manager K Summers

Laboratory: Hall Environmental  
 Address: Albuquerque, NM  
 Contact: Andy Freeman  
 PO/SO #: 7250415015

ANALYSIS REQUESTED

8021 BTEX  
8015 TPH GEO IDEO

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

Sampler's Name Renee Deechilly Sampler's Signature Renee Deechilly

Proj. No. 7250415015 Project Name Lateral 2B-24 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	Lab Sample ID (Lab Use Only)
S	8/13/15	930			C-22								1508748-001
<del>NRS</del>													

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

Relinquished by (Signature) <u>Renee Deechilly</u>	Date: <u>8/13/15</u>	Time: <u>1200</u>	Received by: (Signature) <u>Maria Walter</u>	Date: <u>8/13/15</u>	Time: <u>1200</u>
Relinquished by (Signature) <u>Maria Walter</u>	Date: <u>8/13/15</u>	Time: <u>2115</u>	Received by: (Signature) <u>Amgalejos</u>	Date: <u>08/14/15</u>	Time: <u>0700</u>
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

NOTES:  
 Bill to Enterprise Tom Long  
 Non APE # 22104

Matrix Container: WW - Wastewater, VOA - 40 ml vial, W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil, 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](http://www.hallenvironmental.com)

August 12, 2015

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

RE: Lateral 2B-24

OrderNo.: 1508348

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 3 sample(s) on 8/8/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508348

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-19

Project: Lateral 2B-24

Collection Date: 8/7/2015 11:45:00 AM

Lab ID: 1508348-001

Matrix: MEOH (SOIL)

Received Date: 8/8/2015 9:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: <b>KJH</b>							
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/10/2015 11:55:25 AM	20683
Surr: DNOP	91.2	57.9-140		%REC	1	8/10/2015 11:55:25 AM	20683
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							
Analyst: <b>RAA</b>							
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	8/10/2015 10:30:06 AM	20670
Surr: BFB	86.1	75.4-113		%REC	1	8/10/2015 10:30:06 AM	20670
<b>EPA METHOD 8021B: VOLATILES</b>							
Analyst: <b>RAA</b>							
Benzene	ND	0.038		mg/Kg	1	8/10/2015 10:30:06 AM	20670
Toluene	ND	0.038		mg/Kg	1	8/10/2015 10:30:06 AM	20670
Ethylbenzene	ND	0.038		mg/Kg	1	8/10/2015 10:30:06 AM	20670
Xylenes, Total	ND	0.076		mg/Kg	1	8/10/2015 10:30:06 AM	20670
Surr: 4-Bromofluorobenzene	93.2	80-120		%REC	1	8/10/2015 10:30:06 AM	20670

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

**Analytical Report**  
 Lab Order 1508348  
 Date Reported: 8/12/2015

**CLIENT:** APEX TITAN  
**Project:** Lateral 2B-24  
**Lab ID:** 1508348-002

**Client Sample ID:** C-20  
**Collection Date:** 8/7/2015 11:50:00 AM  
**Matrix:** MEOH (SOIL) **Received Date:** 8/8/2015 9:45:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508348

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-21

Project: Lateral 2B-24

Collection Date: 8/7/2015 11:55:00 AM

Lab ID: 1508348-003

Matrix: MEOH (SOIL)

Received Date: 8/8/2015 9:45:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508348

12-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	MB-20683	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20683	RunNo:	28064					
Prep Date:	8/10/2015	Analysis Date:	8/10/2015	SeqNo:	845328	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.2		10.00		91.8	57.9	140			

Sample ID	LCS-20683	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20683	RunNo:	28064					
Prep Date:	8/10/2015	Analysis Date:	8/10/2015	SeqNo:	845329	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	124	57.4	139			
Surr: DNOP	5.7		5.000		115	57.9	140			

Sample ID	1508348-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-19	Batch ID:	20683	RunNo:	28064					
Prep Date:	8/10/2015	Analysis Date:	8/10/2015	SeqNo:	845689	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	51	9.7	48.36	0	106	42.3	146			
Surr: DNOP	4.6		4.836		94.2	57.9	140			

Sample ID	1508348-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-19	Batch ID:	20683	RunNo:	28064					
Prep Date:	8/10/2015	Analysis Date:	8/10/2015	SeqNo:	845690	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	9.5	47.39	0	101	42.3	146	6.63	28.9	
Surr: DNOP	4.2		4.739		89.2	57.9	140	0	0	

### Qualifiers:

- |   |   |
|---|---|
| * Value exceeds Maximum Contaminant Level.              | 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 |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508348

12-Aug-15

**Client:** APEX TITAN

**Project:** Lateral 2B-24

Sample ID	<b>MB-20670</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>20670</b>	RunNo:	<b>28068</b>					
Prep Date:	<b>8/7/2015</b>	Analysis Date:	<b>8/10/2015</b>	SeqNo:	<b>845747</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	880		1000		87.9	75.4	113			

Sample ID	<b>LCS-20670</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>20670</b>	RunNo:	<b>28068</b>					
Prep Date:	<b>8/7/2015</b>	Analysis Date:	<b>8/10/2015</b>	SeqNo:	<b>845748</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.6	79.6	122			
Surr: BFB	990		1000		98.8	75.4	113			

**Qualifiers:**

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

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

WO#: 1508348  
 12-Aug-15

**Client:** APEX TITAN  
**Project:** Lateral 2B-24

Sample ID	MB-20670	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	20670	RunNo:	28068					
Prep Date:	8/7/2015	Analysis Date:	8/10/2015	SeqNo:	845787	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.96		1.000		95.9	80	120			

Sample ID	LCS-20670	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	20670	RunNo:	28068					
Prep Date:	8/7/2015	Analysis Date:	8/10/2015	SeqNo:	845788	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	105	76.6	128			
Toluene	1.0	0.050	1.000	0	103	75	124			
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total	3.3	0.10	3.000	0	109	78.8	124			
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120			

**Qualifiers:**

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



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

# Sample Log-In Check List

Client Name: **APEX AZTEC**

Work Order Number: **1508348**

RcptNo: **1**

Received by/date:

*[Signature]*

08/08/15

Logged By: **Lindsay Mangin**

8/8/2015 9:45:00 AM

*[Signature]*

Completed By: **Lindsay Mangin**

8/8/2015 11:20:35 AM

*[Signature]*

Reviewed By:

*[Signature]*

08/08/15

### Chain of Custody

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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	4.6	Good	Yes			

CHAIN OF CUSTODY RECORD

**APEX**  
 Office Location Aztec, NM  
 Project Manager K Summers

Laboratory: Hall Environmental  
 Address: Albuquerque, NM  
 Contact: Andy Freeman  
 Phone: \_\_\_\_\_  
 PO/SO #: 7250415015

ANALYSIS REQUESTED

Lab use only  
 Due Date: \_\_\_\_\_  
 Temp. of coolers when received (C°): 4.6  
 1 2 3 4 5  
 Page 1 of 1

Sampler's Name Raneel Deechilly Sampler's Signature Raneel Deechilly

Proj. No. 7250415015 Project Name Lateral 2B-24 No/Type of Containers \_\_\_\_\_

Matrix	Date	Time	COED	GLASS	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	8/7/15	1145			C-19						1		X X 1508348-001
S	↓	1150			C-20						1		X X -0022 +
S	↓	1155			C-21						1		X X -003
NFS													

8021 BTEX  
8015 TPH GEO/DED

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

Relinquished by (Signature) <u>Raneel Deechilly</u>	Date: <u>8/7/15</u>	Time: <u>1434</u>	Received by: (Signature) <u>Mat Labele</u>	Date: <u>8/7/15</u>	Time: <u>1434</u>
Relinquished by (Signature) <u>Mat Labele</u>	Date: <u>8/7/15</u>	Time: <u>1807</u>	Received by: (Signature) _____	Date: <u>08/08/15</u>	Time: <u>0945</u>
Relinquished by (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Date: _____	Time: _____
Relinquished by (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Date: _____	Time: _____

NOTES:  
 Bill to Enterprise Tom Long  
 Non AFE # 22104

Matrix Container: WW - Wastewater, VOA - 40 ml vial, W - Water, S - Soil, SD - Solid, L - Liquid, A - Air Bag, C - Charcoal tube, SL - sludge, O - Oil, 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](http://www.hallenvironmental.com)

August 06, 2015

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

RE: Lateral 2B-24

OrderNo.: 1508070

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 2 sample(s) on 8/4/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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 1508070

Date Reported: 8/6/2015

CLIENT: APEX TITAN

Client Sample ID: SP-1

Project: Lateral 2B-24

Collection Date: 8/3/2015 4:30:00 PM

Lab ID: 1508070-001

Matrix: SOIL

Received Date: 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	8/6/2015 12:39:40 AM	20633
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/5/2015 8:30:08 PM	20600
Surr: DNOP	84.8	57.9-140		%REC	1	8/5/2015 8:30:08 PM	20600
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Surr: BFB	97.4	75.4-113		%REC	1	8/5/2015 3:54:15 AM	R27950
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.042		mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Toluene	ND	0.042		mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Ethylbenzene	ND	0.042		mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Xylenes, Total	ND	0.085		mg/Kg	1	8/5/2015 3:54:15 AM	R27950
Surr: 4-Bromofluorobenzene	109	80-120		%REC	1	8/5/2015 3:54:15 AM	R27950

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

**Analytical Report**  
 Lab Order 1508070  
 Date Reported: 8/6/2015

**CLIENT:** APEX TITAN

**Client Sample ID:** BG-1

**Project:** Lateral 2B-24

**Collection Date:** 8/3/2015 4:35:00 PM

**Lab ID:** 1508070-002

**Matrix:** SOIL

**Received Date:** 8/4/2015 7:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 300.0: ANIONS</b>							Analyst: <b>LGT</b>
Chloride	ND	30		mg/Kg	20	8/6/2015 12:52:04 AM	20633

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

<b>Qualifiers:</b>	* 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	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508070

06-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

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

Sample ID	<b>LCS-20633</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 300.0: Anions</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>20633</b>	RunNo:	<b>27996</b>					
Prep Date:	<b>8/6/2015</b>	Analysis Date:	<b>8/5/2015</b>	SeqNo:	<b>842793</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	97.7	90	110			

### 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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508070

06-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	MB-20600	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20600	RunNo:	27957					
Prep Date:	8/4/2015	Analysis Date:	8/5/2015	SeqNo:	841196	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	9.5		10.00		94.9	57.9	140			

Sample ID	LCS-20600	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20600	RunNo:	27957					
Prep Date:	8/4/2015	Analysis Date:	8/5/2015	SeqNo:	841396	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	10	50.00	0	94.1	57.4	139			
Surr: DNOP	4.8		5.000		95.4	57.9	140			

### 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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508070

06-Aug-15

Client: APEX TITAN

Project: Lateral 2B-24

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	840981	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		91.1	75.4	113			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	840982	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	95.2	79.6	122			
Surr: BFB	1000		1000		101	75.4	113			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508070  
06-Aug-15

Client: APEX TITAN  
Project: Lateral 2B-24

Sample ID	5ML RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	841022	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	1.0		1.000		99.5	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	R27950	RunNo:	27950					
Prep Date:		Analysis Date:	8/4/2015	SeqNo:	841023	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	110	76.6	128			
Toluene	1.1	0.050	1.000	0	109	75	124			
Ethylbenzene	1.1	0.050	1.000	0	108	79.5	126			
Xylenes, Total	3.5	0.10	3.000	0	116	78.8	124			
Surr: 4-Bromofluorobenzene	1.1		1.000		108	80	120			

**Qualifiers:**

- \* Value exceeds Maximum Contaminant Level.
- 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

**Sample Log-In Check List**

Client Name: **APEX AZTEC**

Work Order Number: **1508070**

RcptNo: **1**

Received by/date: LM 08/04/15

Logged By: **Anne Thorne** 8/4/2015 7:45:00 AM *Anne Thorne*

Completed By: **Anne Thorne** 8/4/2015 *Anne Thorne*

Reviewed By: *JA* 08/04/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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	1.8	Good	Yes			

CHAIN OF CUSTODY RECORD

**APEX**  
 Office Location Aztec, NM  
 Project Manager R. Summers

Laboratory: Hall Environmental  
 Address: Albuquerque, NM  
 Contact: Andy Freeman  
 Phone: \_\_\_\_\_  
 PO/SO #: 7250415015

ANALYSIS REQUESTED

*8021 STDs  
 8015 TPH analyzed  
 Chlorides*

Lab use only  
 Due Date: \_\_\_\_\_  
 Temp. of coolers when received (C°): 18  

1	2	3	4	5
---	---	---	---	---

 Page 1 of 1

Sampler's Name Ranee Deechirly Sampler's Signature R. Deechirly

Proj. No. 7250415015 Project Name Lateral 2B-24 No./Type of Containers \_\_\_\_\_

Matrix	Date	Time	COED	G-bar	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	8/31/15	1630			SP-1						1		1508070-001
S	8/31/15	1635			BQ-1						1		-002
<i>NBS</i>													

Turn around time  Normal  25% Rush  50% Rush  100% Rush x 2 day

Relinquished by (Signature) <u>Ranee Deechirly</u>	Date: <u>8/31/15</u>	Time: <u>1705</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>8/31/15</u>	Time: <u>1705</u>
Relinquished by (Signature) <u>[Signature]</u>	Date: <u>8/31/15</u>	Time: <u>1740</u>	Received by (Signature) <u>[Signature]</u>	Date: <u>08/04/15</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: _____

NOTES:  
 Bill to Enterprise Tom Long  
 Non APE # 22104  
2-day rush

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

OCT 05 2015

Form C-141  
Revised August 8, 2011

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

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 2A-4	Facility Type: Natural Gas Gathering Pipeline
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter C	Section 24	Township 27N	Range 10W	Feet from the 860'	North South Line	Feet from the 1450'	East West Line	County San Juan
------------------	---------------	-----------------	--------------	-----------------------	---------------------	------------------------	-------------------	--------------------

Latitude 36.565507 Longitude -107.851115

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release 17.88 MCF Gas; Estimated 5-10 BBLs Liquids	Volume Recovered: None
Source of Release: Failed Repair	Date and Hour of Occurrence: 7/13/15 @ 1:30 p.m.	Date and Hour of Discovery: 7/13/15 @ 2:05 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 - Cory Smith - NMOCD; Shari Ketcham	
By Whom? Runell Seale	Date and Time 7/24/15 at :8:00 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On July 13, 2015, Enterprise technicians confirmed a minor gas leak on the Lateral 2B-4 pipeline. The pipeline was isolated, blown down, locked out and tagged out for safety and environmental concerns. Repairs and remediation were completed on August 10, 2015.

Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 27 feet long by 15 feet wide by 11.5 feet deep. Approximately 226 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: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>Cory Smith</i>	
Title: Director, Environmental	Approval Date: <i>11/9/15</i>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <i>9-28-2015</i> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

# NCS 152155302

30



**CORRECTIVE ACTION REPORT**

Property:

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

September 15, 2015  
Apex Project No. 7250415014

Prepared for:

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

Prepared by:

A handwritten signature in blue ink, appearing to read 'Rane Dechilly', written over a horizontal line.

Ranee Dechilly  
Environmental Scientist

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

Kyle Summers, CPG  
Branch Manager/Senior Geologist

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### LIST OF APPENDICES

Appendix A:	Figure 1 – Topographic Map Figure 2 – Site Vicinity Map Figure 3 – Site Map
Appendix B:	Executed C-138 Solid Waste Acceptance Form
Appendix C:	Photographic Documentation
Appendix D:	Table
Appendix E:	Laboratory Analytical Reports & Chain of Custody Documentation



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## CORRECTIVE ACTION REPORT

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

**Apex Project No. 7250415014**

### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Lateral 2A-4 pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 24 in Township 27 North and Range 10 West in rural San Juan County, New Mexico (36.56551N, 107.85112W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

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

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

#### 1.2 Project Objective

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

### 2.0 SITE RANKING

In accordance with the New Mexico ENMRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the Office of the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table



Ranking Criteria			Ranking Score
Depth to Groundwater	<50 feet	20	0
	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	
<b>Total Ranking Score</b>			<b>20</b>

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

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

### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

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

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

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

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

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

### 3.2 Soil Sampling Program

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

Apex's soil sampling program included the collection of eight (8) confirmation soil samples (C-1 through C-8) from the resulting excavation for laboratory analysis. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

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

### 3.3 Laboratory Analytical Methods

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

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

## 4.0 DATA EVALUATION

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

### 4.1 Confirmation Soil Samples

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

- The laboratory analyses of confirmation samples collected from soils remaining in place did not indicate benzene concentrations above the laboratory reporting limits, which are below the OCD RAL of 10 milligram per kilogram (mg/kg).
- The laboratory analyses of the confirmation samples collected from soils remaining in place do not indicate total BTEX concentrations above the laboratory reporting limits, which are below the OCD RAL of 50 mg/kg.

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

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

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

## 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2A-4 pipeline release site is located within the Enterprise ROW in the NW ¼ of Section 24 in Township 27 North and Range 10 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

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

- The primary objective of the corrective action was to reduce the concentration of COCs in the on-Site soils to below the New Mexico EMNRD OCD *RALs* using the New Mexico EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases* as guidance.
- The lithology encountered during the completion of corrective action activities consisted primarily of unconsolidated poorly sorted silty sand with limited clay.
- The final excavation measured approximately 27 feet long by 15 feet wide, with a total depth of approximately 11.5 feet bgs.
- Prior to backfilling, eight (8) confirmation samples soil samples were collected from the resulting final excavation for laboratory analyses. Based on analytical results, soils remaining in place do not exhibit COC concentrations above the OCD *RALs* for a Site ranking of "20".
- A total of approximately 226 cubic yards of hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with clean imported fill contoured to surrounding grade.

**Based on field observations and laboratory analytical results, no additional investigation or corrective action warranted at this time.**

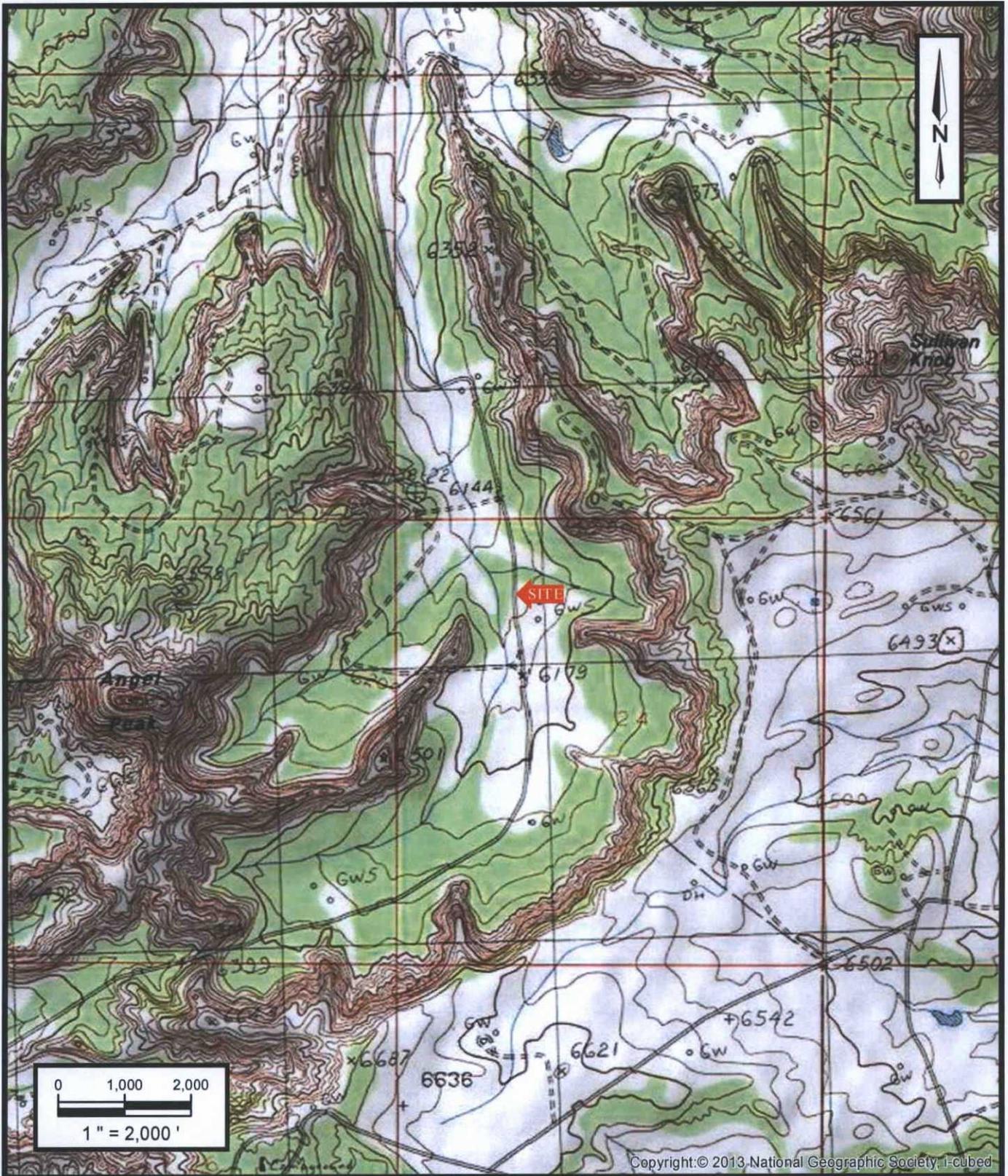


## **6.0 STANDARD OF CARE, LIMITATIONS, AND RELIANCE**

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

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

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



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**Lateral 2A-4 Pipeline Release**  
 NW1/4 Sec24 T27N R10W  
 San Juan County, New Mexico  
 36.56551N, 107.85112W



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

**FIGURE 1**

**Topographic Map**  
 Huerfanito Peak, NM Quadrangle  
 1985

Project No. 7250415014



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

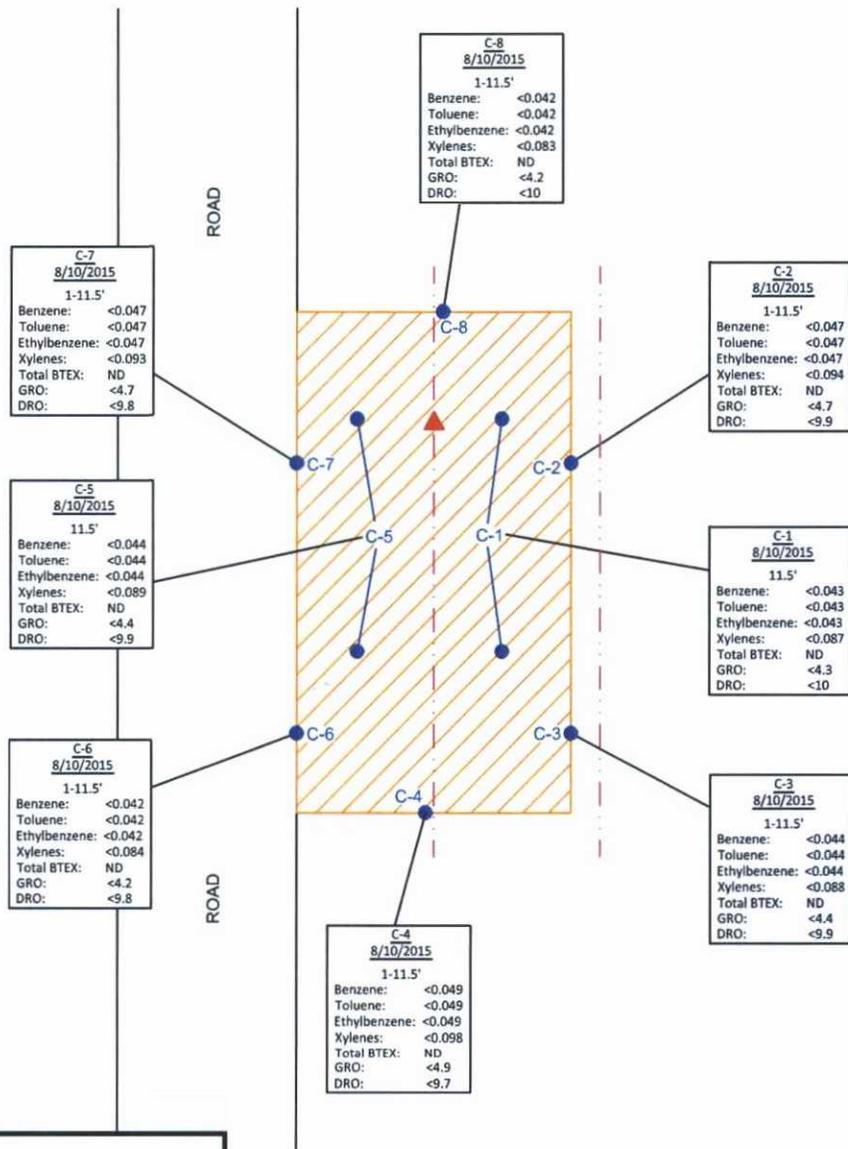
**Lateral 2A-4 Pipeline Release**  
 NW1/4 Sec24 T27N R10W  
 San Juan County, New Mexico  
 36.56551N, 107.85112W

Project No. 7250415014



**Apex TITAN, Inc.**  
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 Aztec, NM 87410  
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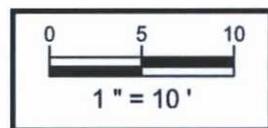
**FIGURE 2**  
**Site Vicinity Map**



**LEGEND:**

- APPROXIMATE PIPELINE LOCATION
- SAMPLE LOCATION
- RELEASE POINT
- EXTENT OF SOIL REMOVAL DUE TO IMPACT

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



**Lateral 2A-4 Pipeline Release**  
NW1/4 Sec24 T27N R10W  
San Juan County, New Mexico  
36.56551N, 107.85112W



**Apex TITAN, Inc.**  
606 S. Rio Grande, Suite A  
Aztec, New Mexico 87410  
Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
A Subsidiary of Apex Companies, LLC

**FIGURE 3**  
**Site Map**

Project No. 7250415014

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

97057-0707

Form C-138  
Revised March 12, 2007

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 Ave., Farmington, NM 87401	REVISED 7-24-15
2. Originating Site: Lateral 2A-4 Pipeline release	July 2015
3. Location of Material (Street Address, City, State or ULSTR): UL C, S24, T27N, R10W San Juan County	
4. Source and Description of Waste: Soil impacted with hydrocarbons associated with a pipeline release. Envirotech Inc is authorized to sign the Generator Waste Testing Certification. Estimated Volume <u>60</u> yd <sup>3</sup> Known Volume (to be entered by the operator at the end of the haul) <u>60</u> yd <sup>3</sup> bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
I, <u>Rumell Seale</u> <u>7/24/15</u> <u>Rumell Seale</u> , representative or authorized agent for <u>Enterprise Field Services, LLC</u> SIGNATURE OF REPRESENTATIVE, PRINT NAME do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<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 checked="" 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 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>Kendra Rensing</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.	
5. Transporter:	<u>Unknown</u> <u>West states, ABC,</u>

#### OCD Permitted Surface Waste Management Facility

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

Address of Facility: Hilltop, New Mexico #43 Road 7175 South of Bloomfield, N.M.

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: Kendra Rensing TITLE: Waste Coordinator DATE: 7-24-15

SIGNATURE: Kendra Rensing TELEPHONE NO.: 505-632-0615  
Surface Waste Management Facility Authorized Agent

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

97057-0707

Form C-138  
Revised March 12, 2007

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 Ave., Farmington, NM 87401	REVISED 7-24-15
2. Originating Site: Lateral 2A-4 Pipeline release	Aug 2015
3. Location of Material (Street Address, City, State or ULSTR): UL C, S24, T27N, R10W San Juan County	
4. Source and Description of Waste: Soil impacted with hydrocarbons associated with a pipeline release. Envirotech Inc is authorized to sign the Generator Waste Testing Certification. Estimated Volume <u>60</u> yd <sup>3</sup> Known Volume (to be entered by the operator at the end of the haul) <u>166</u> yd <sup>3</sup> bbls	
5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS	
1. <u>Runell Seale 7/24/15</u> Runell Seale, representative or authorized agent for <u>Enterprise Field Services, LLC</u> SIGNATURE OF REPRESENTATIVE - PRINT NAME do hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is: (Check the appropriate classification)	
<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 checked="" 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 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	
1. <u>Kendra Runung</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.	
5. Transporter:	<u>Unknown Doug Fontz, West States, HR2</u>

OCD Permitted Surface Waste Management Facility

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

Address of Facility: Hilltop, New Mexico #243 CR 7175, south of Bloomfield, 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)

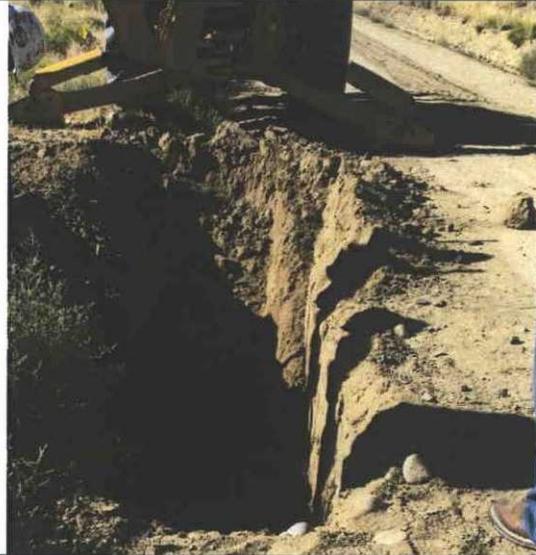
PRINT NAME: Kendra Runung TITLE: Waste Coordinator DATE: 8/10/15

SIGNATURE: Kendra Runung TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

**Photograph 1**

View of early excavation activities, facing south.



**Photograph 2**

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



**Photograph 3**

View of the final excavation, facing north.



**Photograph 4**

View of the final excavation, facing southeast.





**TABLE 1**  
**Lateral 2A-4 Pipeline Release**  
**SOIL ANALYTICAL SUMMARY**

Sample I.D.	Date	Sample Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department, Oil Conservation Division, Remediation Action Level			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>100</b>	
Excavation Confirmation Samples									
C-1	8.10.15	11.5	<0.043	<0.043	<0.043	<0.087	ND	<4.3	<10
C-2	8.10.15	1 to 11.5	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<9.9
C-3	8.10.15	1 to 11.5	<0.044	<0.044	<0.044	<0.088	ND	<4.4	<9.9
C-4	8.10.15	1 to 11.5	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<9.7
C-5	8.10.15	11.5	<0.044	<0.044	<0.044	<0.089	ND	<4.4	<9.9
C-6	8.10.15	1 to 11.5	<0.042	<0.042	<0.042	<0.084	ND	<4.2	<9.8
C-7	8.10.15	1 to 11.5	<0.047	<0.047	<0.047	<0.093	ND	<4.7	<9.8
C-8	8.10.15	1 to 11.5	<0.042	<0.042	<0.042	<0.083	ND	<4.2	<10

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

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established



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

August 12, 2015

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

RE: Lateral 2A-4

OrderNo.: 1508405

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 8 sample(s) on 8/11/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-1

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:00:00 PM

Lab ID: 1508405-001

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.3		mg/Kg	1	8/11/2015 10:44:59 AM	R28109
Surr: BFB	105	70-130		%REC	1	8/11/2015 10:44:59 AM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/11/2015 12:52:11 PM	20702
Surr: DNOP	80.8	57.9-140		%REC	1	8/11/2015 12:52:11 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.043		mg/Kg	1	8/11/2015 10:44:59 AM	20686
Toluene	ND	0.043		mg/Kg	1	8/11/2015 10:44:59 AM	20686
Ethylbenzene	ND	0.043		mg/Kg	1	8/11/2015 10:44:59 AM	20686
Xylenes, Total	ND	0.087		mg/Kg	1	8/11/2015 10:44:59 AM	20686
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%REC	1	8/11/2015 10:44:59 AM	20686
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	8/11/2015 10:44:59 AM	20686
Surr: Dibromofluoromethane	113	70-130		%REC	1	8/11/2015 10:44:59 AM	20686
Surr: Toluene-d8	99.5	70-130		%REC	1	8/11/2015 10:44:59 AM	20686

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-2

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:05:00 PM

Lab ID: 1508405-002

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							
Analyst: DJF							
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/11/2015 11:12:28 AM	R28109
Surr: BFB	105	70-130		%REC	1	8/11/2015 11:12:28 AM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: KJH							
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/11/2015 1:13:33 PM	20702
Surr: DNOP	83.1	57.9-140		%REC	1	8/11/2015 1:13:33 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							
Analyst: DJF							
Benzene	ND	0.047		mg/Kg	1	8/11/2015 11:12:28 AM	20686
Toluene	ND	0.047		mg/Kg	1	8/11/2015 11:12:28 AM	20686
Ethylbenzene	ND	0.047		mg/Kg	1	8/11/2015 11:12:28 AM	20686
Xylenes, Total	ND	0.094		mg/Kg	1	8/11/2015 11:12:28 AM	20686
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	8/11/2015 11:12:28 AM	20686
Surr: 4-Bromofluorobenzene	101	70-130		%REC	1	8/11/2015 11:12:28 AM	20686
Surr: Dibromofluoromethane	120	70-130		%REC	1	8/11/2015 11:12:28 AM	20686
Surr: Toluene-d8	94.9	70-130		%REC	1	8/11/2015 11:12:28 AM	20686

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-3

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:10:00 PM

Lab ID: 1508405-003

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	8/11/2015 11:40:00 AM	R28109
Surr: BFB	109	70-130		%REC	1	8/11/2015 11:40:00 AM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/11/2015 1:35:01 PM	20702
Surr: DNOP	84.3	57.9-140		%REC	1	8/11/2015 1:35:01 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.044		mg/Kg	1	8/11/2015 11:40:00 AM	20686
Toluene	ND	0.044		mg/Kg	1	8/11/2015 11:40:00 AM	20686
Ethylbenzene	ND	0.044		mg/Kg	1	8/11/2015 11:40:00 AM	20686
Xylenes, Total	ND	0.088		mg/Kg	1	8/11/2015 11:40:00 AM	20686
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	8/11/2015 11:40:00 AM	20686
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	8/11/2015 11:40:00 AM	20686
Surr: Dibromofluoromethane	119	70-130		%REC	1	8/11/2015 11:40:00 AM	20686
Surr: Toluene-d8	96.7	70-130		%REC	1	8/11/2015 11:40:00 AM	20686

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-4

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:15:00 PM

Lab ID: 1508405-004

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	8/11/2015 12:07:31 PM	R28109
Surr: BFB	103	70-130		%REC	1	8/11/2015 12:07:31 PM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	8/11/2015 1:59:48 PM	20702
Surr: DNOP	86.8	57.9-140		%REC	1	8/11/2015 1:59:48 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.049		mg/Kg	1	8/11/2015 12:07:31 PM	20686
Toluene	ND	0.049		mg/Kg	1	8/11/2015 12:07:31 PM	20686
Ethylbenzene	ND	0.049		mg/Kg	1	8/11/2015 12:07:31 PM	20686
Xylenes, Total	ND	0.098		mg/Kg	1	8/11/2015 12:07:31 PM	20686
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	1	8/11/2015 12:07:31 PM	20686
Surr: 4-Bromofluorobenzene	98.3	70-130		%REC	1	8/11/2015 12:07:31 PM	20686
Surr: Dibromofluoromethane	119	70-130		%REC	1	8/11/2015 12:07:31 PM	20686
Surr: Toluene-d8	95.0	70-130		%REC	1	8/11/2015 12:07:31 PM	20686

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-5

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:20:00 PM

Lab ID: 1508405-005

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	8/11/2015 12:35:04 PM	R28109
Surr: BFB	108	70-130		%REC	1	8/11/2015 12:35:04 PM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/11/2015 2:21:17 PM	20702
Surr: DNOP	86.2	57.9-140		%REC	1	8/11/2015 2:21:17 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.044		mg/Kg	1	8/11/2015 12:35:04 PM	20686
Toluene	ND	0.044		mg/Kg	1	8/11/2015 12:35:04 PM	20686
Ethylbenzene	ND	0.044		mg/Kg	1	8/11/2015 12:35:04 PM	20686
Xylenes, Total	ND	0.089		mg/Kg	1	8/11/2015 12:35:04 PM	20686
Surr: 1,2-Dichloroethane-d4	110	70-130		%REC	1	8/11/2015 12:35:04 PM	20686
Surr: 4-Bromofluorobenzene	99.8	70-130		%REC	1	8/11/2015 12:35:04 PM	20686
Surr: Dibromofluoromethane	124	70-130		%REC	1	8/11/2015 12:35:04 PM	20686
Surr: Toluene-d8	95.3	70-130		%REC	1	8/11/2015 12:35:04 PM	20686

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-6

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:25:00 PM

Lab ID: 1508405-006

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	8/11/2015 1:02:40 PM	R28109
Surr: BFB	104	70-130		%REC	1	8/11/2015 1:02:40 PM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/11/2015 2:44:22 PM	20702
Surr: DNOP	90.0	57.9-140		%REC	1	8/11/2015 2:44:22 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.042		mg/Kg	1	8/11/2015 1:02:40 PM	20686
Toluene	ND	0.042		mg/Kg	1	8/11/2015 1:02:40 PM	20686
Ethylbenzene	ND	0.042		mg/Kg	1	8/11/2015 1:02:40 PM	20686
Xylenes, Total	ND	0.084		mg/Kg	1	8/11/2015 1:02:40 PM	20686
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	8/11/2015 1:02:40 PM	20686
Surr: 4-Bromofluorobenzene	97.8	70-130		%REC	1	8/11/2015 1:02:40 PM	20686
Surr: Dibromofluoromethane	127	70-130		%REC	1	8/11/2015 1:02:40 PM	20686
Surr: Toluene-d8	95.2	70-130		%REC	1	8/11/2015 1:02:40 PM	20686

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-7

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:30:00 PM

Lab ID: 1508405-007

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	8/11/2015 1:30:15 PM	R28109
Surr: BFB	107	70-130		%REC	1	8/11/2015 1:30:15 PM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	8/11/2015 3:05:40 PM	20702
Surr: DNOP	82.8	57.9-140		%REC	1	8/11/2015 3:05:40 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.047		mg/Kg	1	8/11/2015 1:30:15 PM	20686
Toluene	ND	0.047		mg/Kg	1	8/11/2015 1:30:15 PM	20686
Ethylbenzene	ND	0.047		mg/Kg	1	8/11/2015 1:30:15 PM	20686
Xylenes, Total	ND	0.093		mg/Kg	1	8/11/2015 1:30:15 PM	20686
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	8/11/2015 1:30:15 PM	20686
Surr: 4-Bromofluorobenzene	99.4	70-130		%REC	1	8/11/2015 1:30:15 PM	20686
Surr: Dibromofluoromethane	124	70-130		%REC	1	8/11/2015 1:30:15 PM	20686
Surr: Toluene-d8	95.1	70-130		%REC	1	8/11/2015 1:30:15 PM	20686

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1508405

Date Reported: 8/12/2015

CLIENT: APEX TITAN

Client Sample ID: C-8

Project: Lateral 2A-4

Collection Date: 8/10/2015 2:35:00 PM

Lab ID: 1508405-008

Matrix: MEOH (SOIL)

Received Date: 8/11/2015 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							
Analyst: DJF							
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	8/11/2015 1:57:52 PM	R28109
Surr: BFB	105	70-130		%REC	1	8/11/2015 1:57:52 PM	R28109
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: KJH							
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	8/11/2015 3:27:11 PM	20702
Surr: DNOP	82.5	57.9-140		%REC	1	8/11/2015 3:27:11 PM	20702
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							
Analyst: DJF							
Benzene	ND	0.042		mg/Kg	1	8/11/2015 1:57:52 PM	20686
Toluene	ND	0.042		mg/Kg	1	8/11/2015 1:57:52 PM	20686
Ethylbenzene	ND	0.042		mg/Kg	1	8/11/2015 1:57:52 PM	20686
Xylenes, Total	ND	0.083		mg/Kg	1	8/11/2015 1:57:52 PM	20686
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	8/11/2015 1:57:52 PM	20686
Surr: 4-Bromofluorobenzene	100	70-130		%REC	1	8/11/2015 1:57:52 PM	20686
Surr: Dibromofluoromethane	128	70-130		%REC	1	8/11/2015 1:57:52 PM	20686
Surr: Toluene-d8	93.8	70-130		%REC	1	8/11/2015 1:57:52 PM	20686

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

<b>Qualifiers:</b>	* 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	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508405

12-Aug-15

**Client:** APEX TITAN

**Project:** Lateral 2A-4

Sample ID	<b>MB-20689</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>20689</b>	RunNo:	<b>28093</b>					
Prep Date:	<b>8/10/2015</b>	Analysis Date:	<b>8/12/2015</b>	SeqNo:	<b>846969</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	7.7		10.00		76.6	57.9	140			

Sample ID	<b>LCS-20689</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>20689</b>	RunNo:	<b>28093</b>					
Prep Date:	<b>8/10/2015</b>	Analysis Date:	<b>8/12/2015</b>	SeqNo:	<b>846970</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	3.9		5.000		77.6	57.9	140			

**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 |   |

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508405

12-Aug-15

Client: APEX TITAN

Project: Lateral 2A-4

Sample ID	mb-20686	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	20686	RunNo:	28109					
Prep Date:	8/10/2015	Analysis Date:	8/11/2015	SeqNo:	847203	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		97.0	70	130			
Surr: Dibromofluoromethane	0.61		0.5000		122	70	130			
Surr: Toluene-d8	0.45		0.5000		90.2	70	130			

Sample ID	ics-20686	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS	Batch ID:	20686	RunNo:	28109					
Prep Date:	8/10/2015	Analysis Date:	8/11/2015	SeqNo:	847204	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	100	70	130			
Toluene	1.0	0.050	1.000	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		105	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		94.6	70	130			
Surr: Dibromofluoromethane	0.63		0.5000		127	70	130			
Surr: Toluene-d8	0.48		0.5000		95.9	70	130			

**Qualifiers:**

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

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1508405

12-Aug-15

Client: APEX TITAN

Project: Lateral 2A-4

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	R28109	RunNo:	28109					
Prep Date:		Analysis Date:	8/11/2015	SeqNo:	847211	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	490		500.0		98.3	70	130			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	R28109	RunNo:	28109					
Prep Date:		Analysis Date:	8/11/2015	SeqNo:	847212	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.1	70	123			
Surr: BFB	510		500.0		102	70	130			

Sample ID	1508405-001ams	SampType:	MS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	C-1	Batch ID:	R28109	RunNo:	28109					
Prep Date:		Analysis Date:	8/11/2015	SeqNo:	847213	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.3	21.66	0	95.0	54.9	131			
Surr: BFB	480		433.3		110	70	130			

Sample ID	1508405-001amsd	SampType:	MSD	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	C-1	Batch ID:	R28109	RunNo:	28109					
Prep Date:		Analysis Date:	8/11/2015	SeqNo:	847214	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	4.3	21.66	0	95.5	54.9	131	0.546	20	
Surr: BFB	460		433.3		107	70	130	0	0	

**Qualifiers:**

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



Hall Environmental Analysis Laboratory  
 4901 Hawkins NE  
 Albuquerque, NM 87109  
 TEL: 505-345-3973 FAX: 505-345-4107  
 Website: www.halleenvironmental.com

# Sample Log-In Check List

Client Name: APEX Titan

Work Order Number: 1508405

RcptNo: 1

Received by/date:

*AG*

08/11/15

Logged By: Ashley Gallegos

8/11/2015 7:40:00 AM

*AG*

Completed By: Ashley Gallegos

8/11/2015 8:12:49 AM

*AG*

Reviewed By:

*AG*

08/11/15

### Chain of Custody

1. Custody seals intact on sample bottles? Yes  No  Not Present
2. Is Chain of Custody complete? Yes  No  Not Present
3. How was the sample delivered? 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	Yes			



Office Location Aztec, NM

Laboratory: Hall Environmental I  
 Address: Albuquerque, NM  
 Contact: Andy Freeman  
 Phone: \_\_\_\_\_  
 Project Manager K. Summers  
 PO/ISO #: 7250415014

ANALYSIS REQUESTED

8021 BTEX  
8015 TPH C-PO/DRO

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

Sampler's Name Ranee Deechilly Sampler's Signature R. Deechilly

Proj. No. 7250415014 Project Name Lateral 2A-4 No/Type of Containers \_\_\_\_\_

Matrix	Date	Time	COED	G	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	8/10/15	1400			C-1								1508405-001
S		1405			C-2								-002
S		1410			C-3								-003
S		1415			C-4								-004
S		1420			C-5								-005
S		1425			C-6								-006
S		1430			C-7								-007
S		1435			C-8								-008
<del>NES</del>													

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

Relinquished by (Signature) <u>R. Deechilly</u>	Date: <u>8/10/15</u>	Time: <u>1750</u>	Received by: (Signature) <u>Christ Libet</u>	Date: <u>8/10/15</u>	Time: <u>1750</u>
Relinquished by (Signature) <u>Marta Waeber</u>	Date: <u>8/10/15</u>	Time: <u>2030</u>	Received by: (Signature) <u>AM Gallagos</u>	Date: <u>8/11/15</u>	Time: <u>0740</u>
Relinquished by (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Date: _____	Time: _____
Relinquished by (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Date: _____	Time: _____

NOTES:  
 Bill to Enterprise Tom Long  
 Non AFE# N 22101  
 Rush

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, AG - Amber / Or Glass 1 Liter, 250 ml - Glass wide mouth, P/O - Plastic or other

District I  
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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

OCT 26 2015

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: Navajo C#2M	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: Navajo Nation	Mineral Owner: Navajo Nation	API No.
------------------------------	------------------------------	---------

**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
L	31	27N	8W	2492	South	874	West	San Juan

Latitude 36.530553 Longitude -107.728279

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 9/30/15 @ 12:25 p.m.	Date and Hour of Discovery: 9/30/15 @ 1:30 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Cory Smith - NMOCD; Steve Austin - NNEPA	
By Whom? Thomas Long	Date and Time 10/14/2015 7:45 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On September 30, 2015, a third party reported a gas leak within the Navajo C#2M right-of-way. Enterprise dispatched a technician and confirmed the leak. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation was initiated on October 13, 2015. It was determined the release was reportable on October 14, 2015 due the volume of impacted subsurface soils.

Describe Area Affected and Cleanup Action: Repairs and additional remediation were completed on October 15, 2015. A third party environmental contractor is oversaw excavation activities and collected confirmation samples. A third party corrective action report will be submitted 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:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 12/7/15	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 10/21/2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

NCS 1534126354

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

NOV 30 2015  
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-6	Facility Type: Natural Gas Gathering Pipeline
Surface Owner: BLM	Mineral Owner: BLM
API No.	

**LOCATION OF RELEASE**

Unit Letter <b>L</b>	Section <b>12</b>	Township <b>25N</b>	Range <b>8W</b>	Feet from the <b>2522</b>	North/South Line <b>South</b>	Feet from the <b>935</b>	East/West Line <b>West</b>	County <b>San Juan</b>
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Latitude 36.41415 Longitude -107.63967

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release <b>Unknown</b>	Volume Recovered: <b>None</b>
Source of Release: Suspected Internal Corrosion	Date and Hour of Occurrence: <b>10/28/15 @ 10:15 a.m.</b>	Date and Hour of Discovery: <b>10/28/15 @ 11:40 a.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification to Cory Smith - NMOCD; Katherina Diemer - BLM	
By Whom? Thomas Long	Date and Time 11/13/2015 @ 8:01 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 October 28, 2015, Enterprise technicians discovered a gas leak on the Lateral 2C-6 pipeline. No fluids were observed on the ground surface. The pipeline was isolated, blown down, locked out and tagged out for safety and environmental concerns. Repairs and remediation began on November 12, 2015. It was determined that the release met reporting criteria due to the volume of impacted subsurface soil.

Describe Area Affected and Cleanup Action: Repairs and additional remediation are in progress. A third party environmental contractor is overseeing excavation activities and will collect samples for determination of impacted soils. A third party corrective action report will be submitted 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>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <u>12/7/2015</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>11-23-2015</u> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

*NCS 1534128687*

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  
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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

NOV 30 2015

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: <b>Bruington #15E</b>	Facility Type: <b>Natural Gas Gathering Pipeline</b>

Surface Owner: <b>Private</b>	Mineral Owner: <b>Private</b>	API No.
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#### LOCATION OF RELEASE

Unit Letter <b>F</b>	Section <b>15</b>	Township <b>30N</b>	Range <b>11W</b>	Feet from the 1877	<del>North</del> South Line	Feet from the 2168	East <del>West</del> Line	County <b>San Juan</b>
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Latitude 36.814070 Longitude -107.98030

#### NATURE OF RELEASE

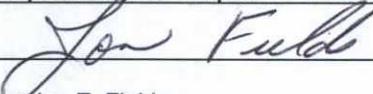
Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release <b>Unknown</b>	Volume Recovered: <b>None</b>
Source of Release: Suspected Internal Corrosion	Date and Hour of Occurrence: <b>11/12/15 @ 10:34 a.m.</b>	Date and Hour of Discovery: <b>11/12/15 @ 11:20 a.m.</b>
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification to Cory Smith – NMOCD;	
By Whom? <b>Thomas Long</b>	Date and Time <b>11/21/2015 @ 1:57 p.m.</b>	
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 November 12, 2015, Enterprise technicians discovered a gas leak on the Bruington #15E pipeline. A small amount of fluids ground surface. The pipeline was isolated, blown down, locked out and tagged out for safety and environmental concerns. Repairs and remediation began on November 19, 2015. It was determined that the release met reporting criteria due to the volume of impacted subsurface soil.

Describe Area Affected and Cleanup Action: Repairs and additional remediation are in progress. A third party environmental contractor is overseeing excavation activities and will collect samples for determination of impacted soils. A third party corrective action report will be submitted 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: <b>12/7/2015</b>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>11-23-2014</b> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

NCS1534129032

①

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
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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	Facility Type: Natural Gas Gathering Pipeline

Surface Owner: BLM	Mineral Owner: BLM	API No.
--------------------	--------------------	---------

**LOCATION OF RELEASE**

Unit Letter <b>D</b>	Section <b>1</b>	Township <b>25N</b>	Range <b>8W</b>	Feet from the <b>988</b>	North/South Line <b>North</b>	Feet from the <b>485</b>	East/West Line <b>West</b>	County <b>San Juan</b>
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Latitude 36.43331 Longitude 107.64040

OIL CONS. DIV DIST. 3

**NATURE OF RELEASE**

OCT 09 2015

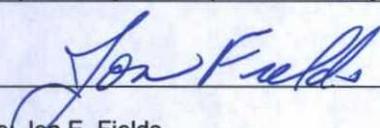
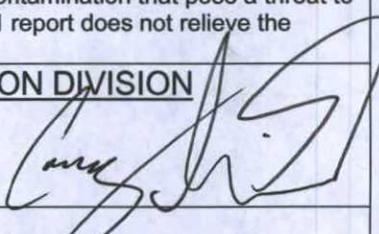
Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: <b>5.68 MCF Gas Estimated 5-10 bbls Fluids</b>	Volume Recovered: <b>None</b>
Source of Release: Internal corrosion	Date and Hour of Occurrence: <b>6/16/2015 @ 4:00 p.m.</b>	Date and Hour of Discovery: <b>6/16/2015 @ 5:45 p.m.</b>
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? <b>Thomas Long</b>	Date and Hour <b>6/17/2015 @ 1:31 p.m.</b>	
Was a Watercourse Reached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\* Fluids released from the pipeline entered a small ephemeral wash and flowed for approximately 60 feet.

Describe Cause of Problem and Remedial Action: \* On July 16, 2015, during routine operations a field technician identified a natural gas release on the Lateral 2C pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation were completed on July 16, 2015.

Describe Area Affected and Cleanup Action Taken:\* Fluids released from the pipeline ran down hill approximately 75 feet and entered a small ephemeral wash and flowed for approximately 60 feet. The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 24 feet long by 31 feet wide ranging from 6 to 7 seven feet deep. Approximately 260 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: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: <u>12/7/15</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <u>10-6-2015</u> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary NCS 1518950799

36



**OIL CONS. DIV DIST. 3**

**OCT 09 2015**

**CORRECTIVE ACTION REPORT**

Property:

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

September 1, 2015  
Apex Project No. 7250415013

Prepared for:

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

Prepared by:

A handwritten signature in cursive script, appearing to read 'Rane Deechilly', written over a horizontal line.

Rane Deechilly  
Environmental Scientist

A handwritten signature in cursive script, appearing to read 'Kyle Summers', written over a horizontal line.

Kyle Summers, CPG  
Branch Manager/Senior Geologist

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<b>3.0 RESPONSE ACTIONS</b> .....	2
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### LIST OF APPENDICES

<b>Appendix A:</b>	Figure 1 – Topographic Map Figure 2 – Site Vicinity Map Figure 3 – Site Map with Soil Analytical Results
<b>Appendix B:</b>	Executed C-138 Solid Waste Acceptance Form
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<b>Appendix D:</b>	Table
<b>Appendix E:</b>	Laboratory Analytical Reports & Chain of Custody Documentation



---

## CORRECTIVE ACTION REPORT

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

**Apex Project No. 7250415013**

### 1.0 INTRODUCTION

#### 1.1 Site Description & Background

The Lateral 2C pipeline release site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way (ROW) in the northwest (NW) ¼ of Section 1 in Township 25 North and Range 8 West in rural San Juan County, New Mexico (36.43331N, 107.64040W), referred to hereinafter as the "Site" or "subject Site". The Site is located on land managed by the United States Bureau of Land Management (BLM). The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

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

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

#### 1.2 Project Objective

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

### 2.0 SITE RANKING

In accordance with the EMNRD OCD's *Guidelines for Remediation of Leaks, Spills and Releases*, Apex TITAN, Inc. (Apex) utilized the general site characteristics obtained during the completion of corrective action activities and information available from the Office of the New Mexico Office of the State Engineer (OSE) to determine the appropriate "ranking" for the Site. The ranking criteria and associated scoring are provided in the following table:



Ranking 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	
<b>Total Ranking Score</b>			<b>40</b>

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

- Depth to groundwater is anticipated to be less than 50 feet below grade surface (bgs) based on proximity to the nearby wash that supports tamarisk and other riparian vegetation, resulting in a ranking of "20" for depth to groundwater.
- No water source wells (municipal/community wells) were identified within 1,000 feet of the Site. No private domestic water sources were identified within 200 feet of the Site. These proximities result in a wellhead protection area ranking of "0".
- The release point is located approximately 50 feet from an ephemeral wash, resulting in a distance to surface water ranking of "20".

### 3.0 RESPONSE ACTIONS

#### 3.1 Soil Excavation Activities

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

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

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

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

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

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

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

### 3.2 Soil Sampling Program

Apex screened head-space samples of Site soils with a 10.6 eV PID to evaluate VOCs and aid in determining the excavation limits.

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

Apex's soil sampling program included the collection of eight (8) confirmation samples (C-1 through C-8) from the resulting excavation and one (1) confirmation sample (C-9) from the wash located east of the excavation for laboratory analysis. Figure 3 depicts the approximate location of the excavated area and shows the final confirmation sample locations in relation to the final excavation dimensions (Appendix A).

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

### 3.3 Laboratory Analytical Methods

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

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

## 4.0 DATA EVALUATION

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

#### 4.1 Confirmation Soil Samples

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

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

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

#### 5.0 FINDINGS AND RECOMMENDATIONS

The Lateral 2C pipeline release site is located within the Enterprise ROW in the NW  $\frac{1}{4}$  of Section 1 in Township 25 North and Range 8 West in rural San Juan County, New Mexico. The Site is located on land managed by the BLM. The Site is surrounded by native vegetation rangeland periodically interrupted by oil and gas production and gathering facilities, including the Enterprise natural gas gathering pipeline which traverses the area from approximately east to west.

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

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



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

- A total of approximately 260 cubic yards of hydrocarbon affected soils were transported to the Envirotech landfarm near Hilltop, New Mexico for disposal/remediation. The excavation was backfilled with and clean fill and contoured to surrounding grade.

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

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

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

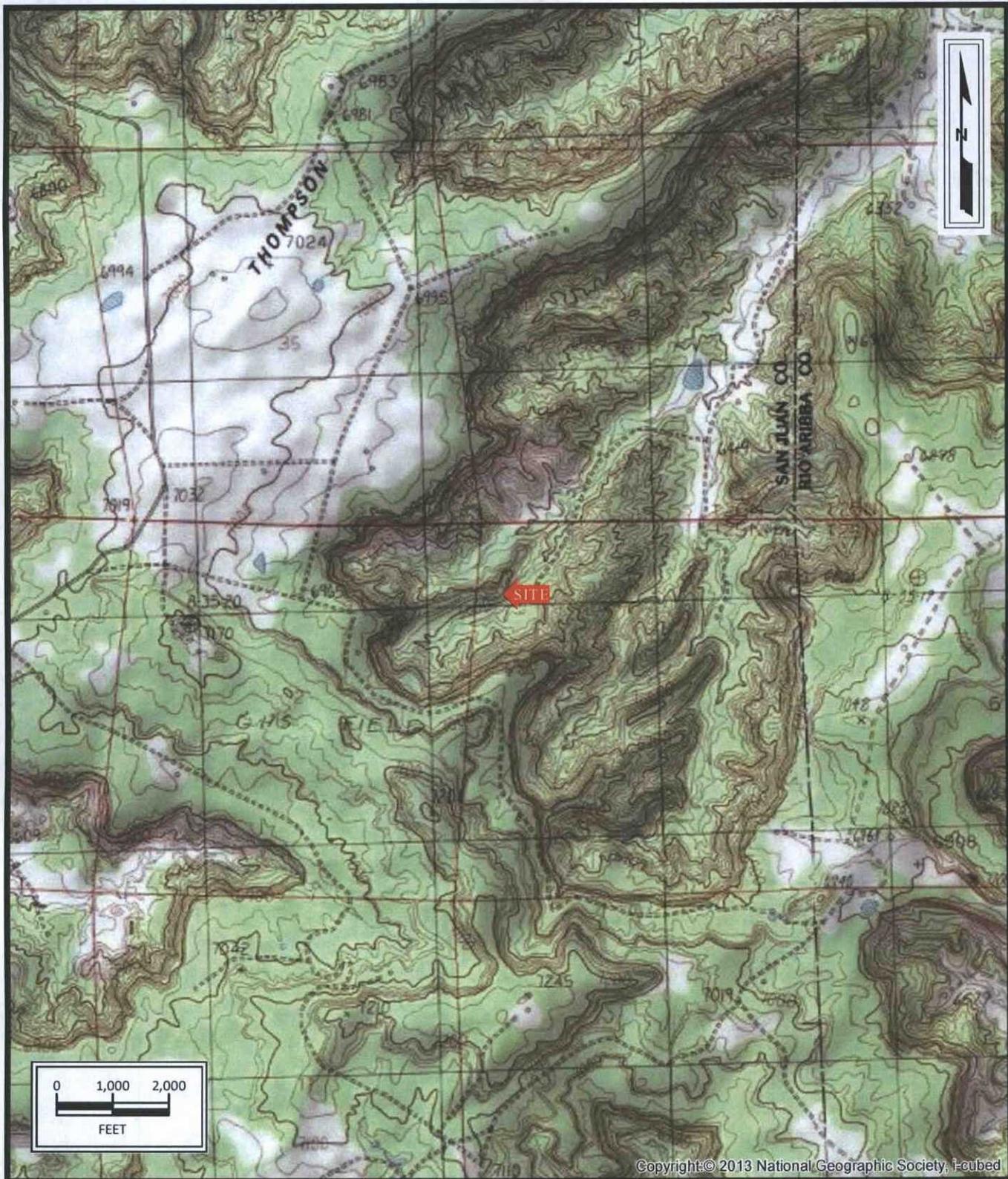
Findings, conclusions and recommendations resulting from these services are based upon information derived from the on-Site activities and other services performed under this scope of work and it should be noted that this information is subject to change over time. Certain indicators of the presence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

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

APPENDIX A

Figures

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Lateral 2C Pipeline Release  
 NW1/4 Sec1 T25N R8W  
 San Juan County, New Mexico  
 36.43331N, 107.64040W



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

**FIGURE 1**  
**Topographic Map**  
 Thompson Mesa, NM Quadrangle  
 1985

Project No. 7250415013



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

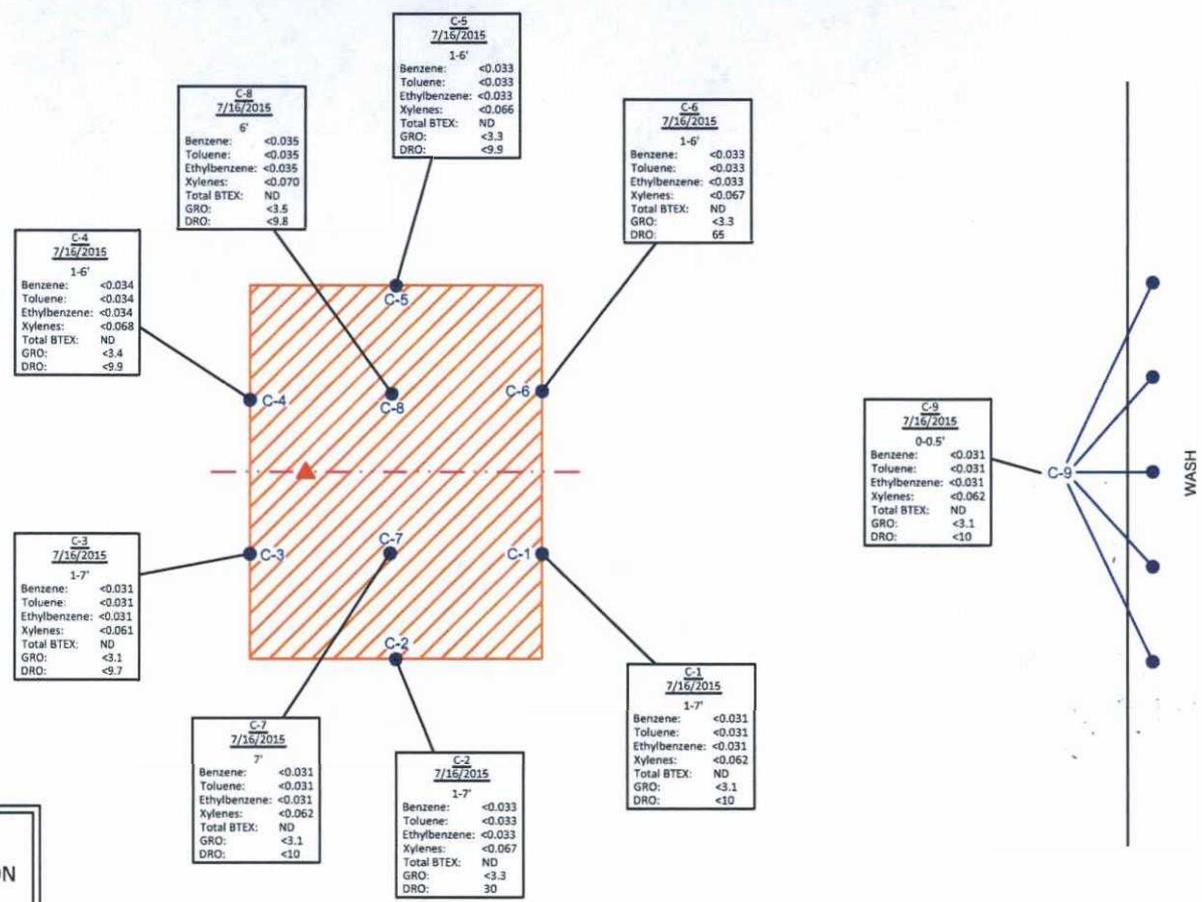
**Lateral 2C Pipeline Release**  
 NW1/4 Sec1 T25N R8W  
 San Juan County, New Mexico  
 36.43331N, 107.64040W

Project No. 7250415013



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

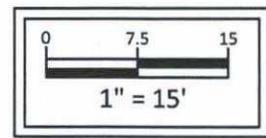
**FIGURE 2**  
**Site Vicinity Map**



**LEGEND:**

- APPROXIMATE PIPELINE LOCATION
- SAMPLE LOCATION
- RELEASE POINT
- EXTENT OF SOIL REMOVAL DUE TO IMPACT

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



**Lateral 2C Pipeline Release**  
 NW1/4 Sec1 T25N R8W  
 San Juan County, New Mexico  
 36.43331N, 107.64040W

Project No. 7250415013



**Apex TITAN, Inc.**  
 606 S. Rio Grande, Suite A  
 Aztec, New Mexico 87410  
 Phone: (505) 334-5200  
[www.apexcos.com](http://www.apexcos.com)  
 A Subsidiary of Apex Companies, LLC

**FIGURE 3**  
**Site Map with**  
**Soil Analytical Results**



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APPENDIX B

Executed C-138 Solid Waste Acceptance Form

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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

917057-0719

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:**  
Lateral 2C Pipeline

3. **Location of Material (Street Address, City, State or ULSTR):**  
Unit Letter D Section 1 Township 25 North Range 5 West; 36.43331, -107.64040

4. **Source and Description of Waste:** Hydro-excavated soil impacted with hydrocarbons associated with a pipeline release.

5. **Estimated Volume** 50 yd<sup>3</sup> bbls **Known Volume** (to be entered by the operator at the end of the haul) 200 yd<sup>3</sup> / bbls

July 2015

#### 5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long representative or authorized agent for Enterprise Field Services, LLC do hereby  
PRINT & SIGN NAME COMPANY NAME  
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 7-13-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to  
Generator Signature  
complete the required testing/sign the Generator Waste Testing Certification.

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

6. **Transporter:** Halo I Barra, Dash, Riehl, Lobato

#### OCD Permitted Surface Waste Management Facility

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

Address of Facility: Hilltop, NM #43 Road 7175 south of Bloomfield, 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: Kendra Riving

TITLE: waste coordinator DATE: 7-20-15

SIGNATURE: Kendra Riving  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

APPENDIX C

Photographic Documentation

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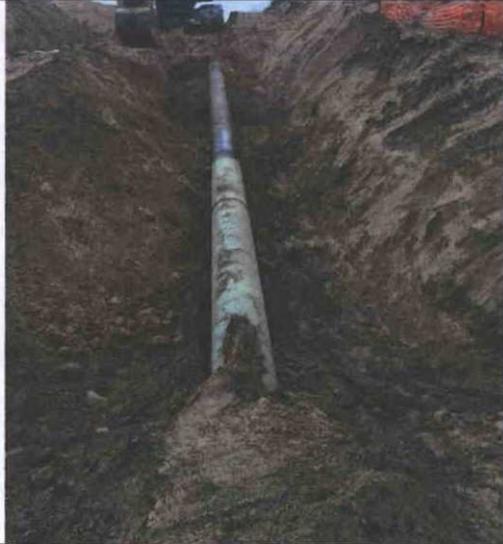
**Photograph 1**

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



**Photograph 2**

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



**Photograph 3**

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



**Photograph 4**

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



**Photograph 5**

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



**Photograph 5**

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



**Photograph 5**

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



APPENDIX D

Table

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**TABLE 1**  
**Lateral 2C 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	
Excavation Confirmation Samples									
C-1	7/16/2015	1 to 7	<0.031	<0.031	<0.031	<0.062	ND	<3.1	<10
C-2	7/16/2015	1 to 7	<0.033	<0.033	<0.033	<0.067	ND	<3.3	30
C-3	7/16/2015	1 to 7	<0.031	<0.031	<0.031	<0.061	ND	<3.1	<9.7
C-4	7/16/2015	1 to 6	<0.034	<0.034	<0.034	<0.068	ND	<3.4	<9.9
C-5	7/16/2015	1 to 6	<0.033	<0.033	<0.033	<0.066	ND	<3.3	<9.9
C-6	7/16/2015	1 to 6	<0.033	<0.033	<0.033	<0.067	ND	<3.3	65
C-7	7/16/2015	7	<0.031	<0.031	<0.031	<0.062	ND	<3.1	<10
C-8	7/16/2015	6	<0.035	<0.035	<0.035	<0.070	ND	<3.5	<9.8
C-9	7/16/2015	0 to 0.5	<0.031	<0.031	<0.031	<0.062	ND	<3.1	<10

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

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established

APPENDIX E

Laboratory Analytical Reports &  
Chain of Custody Documentation

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

July 20, 2015

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

RE: Lateral 2C

OrderNo.: 1507769

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 9 sample(s) on 7/17/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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".

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-1

Project: Lateral 2C

Collection Date: 7/16/2015 2:15:00 PM

Lab ID: 1507769-001

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	7/17/2015 11:17:16 AM	R27576
Surr: BFB	100	70-130		%REC	1	7/17/2015 11:17:16 AM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/17/2015 1:54:25 PM	20300
Surr: DNOP	107	57.9-140		%REC	1	7/17/2015 1:54:25 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.031		mg/Kg	1	7/17/2015 11:17:16 AM	R27576
Toluene	ND	0.031		mg/Kg	1	7/17/2015 11:17:16 AM	R27576
Ethylbenzene	ND	0.031		mg/Kg	1	7/17/2015 11:17:16 AM	R27576
Xylenes, Total	ND	0.062		mg/Kg	1	7/17/2015 11:17:16 AM	R27576
Surr: 1,2-Dichloroethane-d4	104	70-130		%REC	1	7/17/2015 11:17:16 AM	R27576
Surr: 4-Bromofluorobenzene	96.5	70-130		%REC	1	7/17/2015 11:17:16 AM	R27576
Surr: Dibromofluoromethane	107	70-130		%REC	1	7/17/2015 11:17:16 AM	R27576
Surr: Toluene-d8	96.5	70-130		%REC	1	7/17/2015 11:17:16 AM	R27576

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: APEX TITAN

Client Sample ID: C-2

Project: Lateral 2C

Collection Date: 7/16/2015 2:20:00 PM

Lab ID: 1507769-002

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							
Analyst: DJF							
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Surr: BFB	96.8	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: JME							
Diesel Range Organics (DRO)	30	10		mg/Kg	1	7/17/2015 2:21:32 PM	20300
Surr: DNOP	106	57.9-140		%REC	1	7/17/2015 2:21:32 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							
Analyst: DJF							
Benzene	ND	0.033		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Toluene	ND	0.033		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Ethylbenzene	ND	0.033		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Xylenes, Total	ND	0.067		mg/Kg	1	7/17/2015 11:44:41 AM	R27576
Surr: 1,2-Dichloroethane-d4	105	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
Surr: 4-Bromofluorobenzene	98.7	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
Surr: Dibromofluoromethane	104	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576
Surr: Toluene-d8	96.9	70-130		%REC	1	7/17/2015 11:44:41 AM	R27576

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-3

Project: Lateral 2C

Collection Date: 7/16/2015 2:25:00 PM

Lab ID: 1507769-003

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	7/17/2015 12:12:10 PM	R27576
Surr: BFB	98.9	70-130		%REC	1	7/17/2015 12:12:10 PM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	7/17/2015 2:48:30 PM	20300
Surr: DNOP	106	57.9-140		%REC	1	7/17/2015 2:48:30 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.031		mg/Kg	1	7/17/2015 12:12:10 PM	R27576
Toluene	ND	0.031		mg/Kg	1	7/17/2015 12:12:10 PM	R27576
Ethylbenzene	ND	0.031		mg/Kg	1	7/17/2015 12:12:10 PM	R27576
Xylenes, Total	ND	0.061		mg/Kg	1	7/17/2015 12:12:10 PM	R27576
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%REC	1	7/17/2015 12:12:10 PM	R27576
Surr: 4-Bromofluorobenzene	104	70-130		%REC	1	7/17/2015 12:12:10 PM	R27576
Surr: Dibromofluoromethane	105	70-130		%REC	1	7/17/2015 12:12:10 PM	R27576
Surr: Toluene-d8	94.9	70-130		%REC	1	7/17/2015 12:12:10 PM	R27576

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 3 of 13
	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	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-4

Project: Lateral 2C

Collection Date: 7/16/2015 2:30:00 PM

Lab ID: 1507769-004

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	3.4		mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Surr: BFB	102	70-130		%REC	1	7/17/2015 12:39:42 PM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/17/2015 12:38:13 PM	20300
Surr: DNOP	114	57.9-140		%REC	1	7/17/2015 12:38:13 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.034		mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Toluene	ND	0.034		mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Ethylbenzene	ND	0.034		mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Xylenes, Total	ND	0.068		mg/Kg	1	7/17/2015 12:39:42 PM	R27576
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	7/17/2015 12:39:42 PM	R27576
Surr: 4-Bromofluorobenzene	97.6	70-130		%REC	1	7/17/2015 12:39:42 PM	R27576
Surr: Dibromofluoromethane	110	70-130		%REC	1	7/17/2015 12:39:42 PM	R27576
Surr: Toluene-d8	96.7	70-130		%REC	1	7/17/2015 12:39:42 PM	R27576

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-5

Project: Lateral 2C

Collection Date: 7/16/2015 2:35:00 PM

Lab ID: 1507769-005

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: DJF
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	7/17/2015 1:07:10 PM	R27576
Surr: BFB	103	70-130		%REC	1	7/17/2015 1:07:10 PM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: JME
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/17/2015 3:15:16 PM	20300
Surr: DNOP	111	57.9-140		%REC	1	7/17/2015 3:15:16 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: DJF
Benzene	ND	0.033		mg/Kg	1	7/17/2015 1:07:10 PM	R27576
Toluene	ND	0.033		mg/Kg	1	7/17/2015 1:07:10 PM	R27576
Ethylbenzene	ND	0.033		mg/Kg	1	7/17/2015 1:07:10 PM	R27576
Xylenes, Total	ND	0.066		mg/Kg	1	7/17/2015 1:07:10 PM	R27576
Surr: 1,2-Dichloroethane-d4	99.1	70-130		%REC	1	7/17/2015 1:07:10 PM	R27576
Surr: 4-Bromofluorobenzene	94.8	70-130		%REC	1	7/17/2015 1:07:10 PM	R27576
Surr: Dibromofluoromethane	102	70-130		%REC	1	7/17/2015 1:07:10 PM	R27576
Surr: Toluene-d8	97.9	70-130		%REC	1	7/17/2015 1:07:10 PM	R27576

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-6

Project: Lateral 2C

Collection Date: 7/16/2015 2:40:00 PM

Lab ID: 1507769-006

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							
Analyst: DJF							
Gasoline Range Organics (GRO)	ND	3.3		mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Surr: BFB	98.6	70-130		%REC	1	7/17/2015 10:49:47 AM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: JME							
Diesel Range Organics (DRO)	65	9.8		mg/Kg	1	7/17/2015 11:40:10 AM	20300
Surr: DNOP	106	57.9-140		%REC	1	7/17/2015 11:40:10 AM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							
Analyst: DJF							
Benzene	ND	0.033		mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Toluene	ND	0.033		mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Ethylbenzene	ND	0.033		mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Xylenes, Total	ND	0.067		mg/Kg	1	7/17/2015 10:49:47 AM	R27576
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	7/17/2015 10:49:47 AM	R27576
Surr: 4-Bromofluorobenzene	99.5	70-130		%REC	1	7/17/2015 10:49:47 AM	R27576
Surr: Dibromofluoromethane	101	70-130		%REC	1	7/17/2015 10:49:47 AM	R27576
Surr: Toluene-d8	93.9	70-130		%REC	1	7/17/2015 10:49:47 AM	R27576

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank	Page 6 of 13
	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	
	O RSD is greater than RSDlimit	P Sample pH Not In Range	
	R RPD outside accepted recovery limits	RL Reporting Detection Limit	
	S Spike Recovery outside accepted recovery limits		

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-7

Project: Lateral 2C

Collection Date: 7/16/2015 2:45:00 PM

Lab ID: 1507769-007

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							
Analyst: DJF							
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Surr: BFB	103	70-130		%REC	1	7/17/2015 1:34:36 PM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: JME							
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/17/2015 12:06:59 PM	20300
Surr: DNOP	108	57.9-140		%REC	1	7/17/2015 12:06:59 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							
Analyst: DJF							
Benzene	ND	0.031		mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Toluene	ND	0.031		mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Ethylbenzene	ND	0.031		mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Xylenes, Total	ND	0.062		mg/Kg	1	7/17/2015 1:34:36 PM	R27576
Surr: 1,2-Dichloroethane-d4	95.9	70-130		%REC	1	7/17/2015 1:34:36 PM	R27576
Surr: 4-Bromofluorobenzene	94.1	70-130		%REC	1	7/17/2015 1:34:36 PM	R27576
Surr: Dibromofluoromethane	101	70-130		%REC	1	7/17/2015 1:34:36 PM	R27576
Surr: Toluene-d8	99.4	70-130		%REC	1	7/17/2015 1:34:36 PM	R27576

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

<b>Qualifiers:</b>	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	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
	O RSD is greater than RSDlimit	P Sample pH Not In Range
	R RPD outside accepted recovery limits	RL Reporting Detection Limit
	S Spike Recovery outside accepted recovery limits	

**Analytical Report**

Lab Order 1507769

Date Reported: 7/20/2015

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** APEX TITAN**Client Sample ID:** C-8**Project:** Lateral 2C**Collection Date:** 7/16/2015 2:50:00 PM**Lab ID:** 1507769-008**Matrix:** SOIL**Received Date:** 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							Analyst: <b>DJF</b>
Gasoline Range Organics (GRO)	ND	3.5		mg/Kg	1	7/17/2015 2:02:10 PM	R27576
Surr: BFB	100	70-130		%REC	1	7/17/2015 2:02:10 PM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>JME</b>
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	7/17/2015 12:33:31 PM	20300
Surr: DNOP	105	57.9-140		%REC	1	7/17/2015 12:33:31 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							Analyst: <b>DJF</b>
Benzene	ND	0.035		mg/Kg	1	7/17/2015 2:02:10 PM	R27576
Toluene	ND	0.035		mg/Kg	1	7/17/2015 2:02:10 PM	R27576
Ethylbenzene	ND	0.035		mg/Kg	1	7/17/2015 2:02:10 PM	R27576
Xylenes, Total	ND	0.070		mg/Kg	1	7/17/2015 2:02:10 PM	R27576
Surr: 1,2-Dichloroethane-d4	96.8	70-130		%REC	1	7/17/2015 2:02:10 PM	R27576
Surr: 4-Bromofluorobenzene	96.0	70-130		%REC	1	7/17/2015 2:02:10 PM	R27576
Surr: Dibromofluoromethane	104	70-130		%REC	1	7/17/2015 2:02:10 PM	R27576
Surr: Toluene-d8	96.2	70-130		%REC	1	7/17/2015 2:02:10 PM	R27576

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

Qualifiers:		
*	Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
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
O	RSD is greater than RSDlimit	P Sample pH Not In Range
R	RPD outside accepted recovery limits	RL Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	

Analytical Report

Lab Order 1507769

Date Reported: 7/20/2015

Hall Environmental Analysis Laboratory, Inc.

CLIENT: APEX TITAN

Client Sample ID: C-9

Project: Lateral 2C

Collection Date: 7/16/2015 3:10:00 PM

Lab ID: 1507769-009

Matrix: SOIL

Received Date: 7/17/2015 6:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015D MOD: GASOLINE RANGE</b>							
Analyst: DJF							
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	7/17/2015 2:29:44 PM	R27576
Surr: BFB	101	70-130		%REC	1	7/17/2015 2:29:44 PM	R27576
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							
Analyst: JME							
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	7/17/2015 1:00:36 PM	20300
Surr: DNOP	106	57.9-140		%REC	1	7/17/2015 1:00:36 PM	20300
<b>EPA METHOD 8260B: VOLATILES SHORT LIST</b>							
Analyst: DJF							
Benzene	ND	0.031		mg/Kg	1	7/17/2015 2:29:44 PM	R27576
Toluene	ND	0.031		mg/Kg	1	7/17/2015 2:29:44 PM	R27576
Ethylbenzene	ND	0.031		mg/Kg	1	7/17/2015 2:29:44 PM	R27576
Xylenes, Total	ND	0.062		mg/Kg	1	7/17/2015 2:29:44 PM	R27576
Surr: 1,2-Dichloroethane-d4	101	70-130		%REC	1	7/17/2015 2:29:44 PM	R27576
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	7/17/2015 2:29:44 PM	R27576
Surr: Dibromofluoromethane	105	70-130		%REC	1	7/17/2015 2:29:44 PM	R27576
Surr: Toluene-d8	95.5	70-130		%REC	1	7/17/2015 2:29:44 PM	R27576

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

- Qualifiers:**
- \* Value exceeds Maximum Contaminant Level.
  - E Value above quantitation range
  - J Analyte detected below quantitation limits
  - O RSD is greater than RSDlimit
  - R RPD outside accepted recovery limits
  - S Spike Recovery outside accepted recovery limits

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507769

20-Jul-15

Client: APEX TITAN  
Project: Lateral 2C

Sample ID	MB-20300	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20300	RunNo:	27562					
Prep Date:	7/17/2015	Analysis Date:	7/17/2015	SeqNo:	827775	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		110	57.9	140			

Sample ID	LCS-20300	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20300	RunNo:	27562					
Prep Date:	7/17/2015	Analysis Date:	7/17/2015	SeqNo:	827776	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	107	57.4	139			
Surr: DNOP	5.1		5.000		102	57.9	140			

Sample ID	1507769-001AMS	SampType:	MS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-1	Batch ID:	20300	RunNo:	27562					
Prep Date:	7/17/2015	Analysis Date:	7/17/2015	SeqNo:	827820	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	10	49.80	0	101	42.3	146			
Surr: DNOP	5.5		4.980		110	57.9	140			

Sample ID	1507769-001AMSD	SampType:	MSD	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	C-1	Batch ID:	20300	RunNo:	27562					
Prep Date:	7/17/2015	Analysis Date:	7/17/2015	SeqNo:	827821	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	9.8	48.92	0	113	42.3	146	9.55	28.9	
Surr: DNOP	5.5		4.892		112	57.9	140	0	0	

Sample ID	MB-20285	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20285	RunNo:	27574					
Prep Date:	7/16/2015	Analysis Date:	7/18/2015	SeqNo:	828348	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	11		10.00		113	57.9	140			

Sample ID	LCS-20285	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20285	RunNo:	27574					
Prep Date:	7/16/2015	Analysis Date:	7/18/2015	SeqNo:	828353	Units:	%REC			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	5.6		5.000		112	57.9	140			

**Qualifiers:**

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507769

20-Jul-15

Client: APEX TITAN

Project: Lateral 2C

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	PBS	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828444	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.53		0.5000		105	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.49		0.5000		98.6	70	130			

Sample ID	100NG LCS	SampType:	LCS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	LCSS	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828445	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.99	0.050	1.000	0	98.9	70	130			
Toluene	0.99	0.050	1.000	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.54		0.5000		108	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		103	70	130			
Surr: Toluene-d8	0.50		0.5000		99.5	70	130			

Sample ID	1507769-002ams	SampType:	MS	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	C-2	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828446	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.64	0.033	0.6676	0	95.6	70	130			
Toluene	0.67	0.033	0.6676	0	100	70	130			
Surr: 1,2-Dichloroethane-d4	0.33		0.3338		99.1	70	130			
Surr: 4-Bromofluorobenzene	0.32		0.3338		97.0	70	130			
Surr: Dibromofluoromethane	0.35		0.3338		105	70	130			
Surr: Toluene-d8	0.32		0.3338		96.0	70	130			

Sample ID	1507769-002amsd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	C-2	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828447	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.66	0.033	0.6676	0	98.5	70	130	2.98	20	
Toluene	0.69	0.033	0.6676	0	104	70	130	3.31	20	

**Qualifiers:**

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507769

20-Jul-15

Client: APEX TITAN

Project: Lateral 2C

Sample ID	1507769-002amsd	SampType:	MSD	TestCode:	EPA Method 8260B: Volatiles Short List					
Client ID:	C-2	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828447	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.34		0.3338		101	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.34		0.3338		102	70	130	0	0	
Surr: Dibromofluoromethane	0.36		0.3338		107	70	130	0	0	
Surr: Toluene-d8	0.33		0.3338		99.1	70	130	0	0	

### Qualifiers:

- \* Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- O RSD is greater than RSDlimit
- R RPD outside accepted recovery limits
- S Spike Recovery outside accepted recovery limits

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1507769

20-Jul-15

Client: APEX TITAN

Project: Lateral 2C

Sample ID	rb	SampType:	MBLK	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	PBS	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828452	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	500		500.0		99.3	70	130			

Sample ID	2.5ug gro lcs	SampType:	LCS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	LCSS	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828453	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	101	70	123			
Surr: BFB	500		500.0		101	70	130			

Sample ID	1507769-001ams	SampType:	MS	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	C-1	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828454	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.1	15.61	0	99.5	54.9	131			
Surr: BFB	310		312.1		99.7	70	130			

Sample ID	1507769-001amsd	SampType:	MSD	TestCode:	EPA Method 8015D Mod: Gasoline Range					
Client ID:	C-1	Batch ID:	R27576	RunNo:	27576					
Prep Date:		Analysis Date:	7/17/2015	SeqNo:	828455	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	16	3.1	15.61	0	101	54.9	131	1.08	20	
Surr: BFB	310		312.1		99.0	70	130	0	0	

**Qualifiers:**

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

**Sample Log-In Check List**

Client Name: **APEX AZTEC**

Work Order Number: **1507769**

RcptNo: **1**

Received by/date: AT 07/17/15

Logged By: **Anne Thorne** 7/17/2015 6:45:00 AM *Anne Thorne*

Completed By: **Anne Thorne** 7/17/2015 *Anne Thorne*

Reviewed By: mg 07/17/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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, NM  
  
Project Manager Heather Woods

Laboratory: Hall Environmental  
Address: Albuquerque, NM  
  
Contact: Andy Freeman  
Phone: \_\_\_\_\_  
PO/SO #: Direct Bill to Enterprise

ANALYSIS REQUESTED  
  
0021 BTEX  
0015 TPH (GRO/DRO)

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

Sampler's Name: Ranee Deuchilly / Heather Woods  
Sampler's Signature: Heather Woods

Proj. No.: 7250415013  
Project Name: Lateral 2C  
No/Type of Containers: \_\_\_\_\_

Matrix	Date	Time	COED	Grnd	Identifying Marks of Sample(s)	Start Depth	End Depth	VOA	A/G 1L	250 ml	Glass Jar	P/O	Lab Sample ID (Lab Use Only)		
S	7/16/15	1415			C-1						1	1	X	X	1507769 -001
S	7/16/15	1420			C-2						1	1	X	X	-002
S	7/16/15	1425			C-3						1	1	X	X	-003
S	7/16/15	1430			C-4						1	1	X	X	-004
S	7/16/15	1435			C-5						1	1	X	X	-005
S	7/16/15	1440			C-6						1	1	X	X	-006
S	7/16/15	1445			C-7						1	1	X	X	-007
S	7/16/15	1450			C-8						1	1	X	X	-008
S	7/16/15	1510			C-9						1	1	X	X	-009
<u>NFS HW</u>															

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

Relinquished by (Signature): <u>Heather M Woods</u>	Date: <u>7/16/15</u>	Time: <u>1340</u>	Received by (Signature): <u>[Signature]</u>	Date: <u>07/17/15</u>	Time: <u>0645</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:  
Direct bill to Enterprise  
Attn: Tom Long / Johnny Sandoval  
Non-AFE: N21790

Matrix Container: WW - Wastewater VOA - 40 ml vial  
W - Water S - Soil SD - Solid L - Liquid A - Air Bag C - Charcoal tube SL - sludge O - Oil  
A/G - Amber / Or Glass 1 Liter 250 ml - Glass wide mouth P/O - Plastic or other M204 Kit

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.

OIL CONS. DIV DIST. 3

DEC 08 2015

**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: Navajo C#2M	Facility Type: Natural Gas Gathering Pipeline
Surface Owner: Navajo Nation	Mineral Owner: Navajo Nation
API No.	

**LOCATION OF RELEASE**

Unit Letter L	Section 31	Township 27N	Range 8W	Feet from the 2492	North <u>South</u> Line	Feet from the 874	East <u>West</u> Line	County San Juan
------------------	---------------	-----------------	-------------	-----------------------	----------------------------	----------------------	--------------------------	--------------------

Latitude 36.530553 Longitude -107.728279

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release 5-7 BBLs Liquids	Volume Recovered: None
Source of Release: Internal Corrosion	Date and Hour of Occurrence: 9/30/15 @ 12:25 p.m.	Date and Hour of Discovery: 9/30/15 @ 1:30 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Cory Smith – NMOCD; Steve Austin - NNEPA	
By Whom? Thomas Long	Date and Time 10/14/2015 7:45 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On September 30, 2015, a third party reported a gas leak within the Navajo C#2M right-of-way. Enterprise dispatched a technician and confirmed the leak. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation were completed on October 13, 2015.

Describe Area Affected and Cleanup Action: The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 26.5 feet long by 15 feet wide by 12 feet deep. Approximately 180 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:	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist:	
Title: Director, Environmental	Approval Date: 12/30/2015	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 12-1-2015	Phone: (713)381-6684	

\* Attach Additional Sheets If Necessary

NMF1536436176

OIL CONS. DIV DIST. 3

DEC 08 2015

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

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

November 17, 2015

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

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

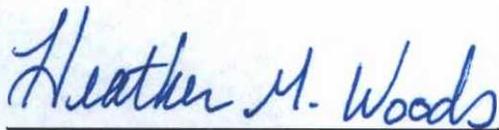
**Enterprise Field Services, LLC  
Navajo C #2M Well Tie Pipeline  
Release (9/30/15) Report**

Prepared for:

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

Prepared by:

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



---

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

Reviewed by:



---

**Russell Knight, PG, Principal Hydrogeologist**

November 17, 2015

## Table of Contents

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3.0	NNEPA/NMOCD Site Ranking.....	2
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### Figures

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

### Appendices

Appendix A	Executed C-138 Soil Waste Acceptance Form
Appendix B	Photograph Log
Appendix C	Analytical Laboratory Reports

## 1.0 Introduction

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

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

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

## 2.0 Release Summary

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

### 3.0 NNEPA/NMOCD Site Ranking

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

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

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

### 4.0 Field Activity

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

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

### 5.0 Soil Sampling

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

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

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

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

## 6.0 Laboratory Analytical Results

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

## 7.0 Conclusions

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

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

## 8.0 Closure and Limitations

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

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

Table

**Table 1. Excavation Closure Laboratory Analytical Results  
Navajo C #2M Well Tie Pipeline (9/30/15) Release  
San Juan County, New Mexico  
Enterprise Field Services, LLC**

Sample ID	Date	Sample Type	Location	Sample Depth (ft)	Laboratory Analytical Results						
					Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
<b>NNEPA/NMOCOD Action Levels*</b>					<b>10</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>50</b>	<b>100</b>	
SC-1	10/13/15	Composite	South Wall	1 to 12	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<10
SC-2	10/13/15	Composite	West Wall (South)	1 to 12	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<9.7
SC-3	10/13/15	Composite	East Wall (South)	1 to 12	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<10
SC-4	10/13/15	Composite	Base (South)	12	0.055	0.13	<0.047	0.20	0.39	<4.7	<9.9
SC-5	10/13/15	Composite	Base (North)	12	0.16	0.070	<0.050	0.25	0.48	<5.0	<9.9
SC-6	10/13/15	Composite	East Wall (North)	1 to 12	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<9.9
SC-7	10/13/15	Composite	North Wall	1 to 12	<0.049	<0.049	<0.049	<0.099	ND	<4.9	<9.7
SC-8	10/13/15	Composite	West Wall (North)	1 to 12	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<9.7
SP-1	10/13/15	Composite	Stockpile	--	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10

Notes: mg/kg - milligrams/kilograms

BTEX - benzene, toluene, ethylbenzene, and total xylenes

TPH - total petroleum hydrocarbons

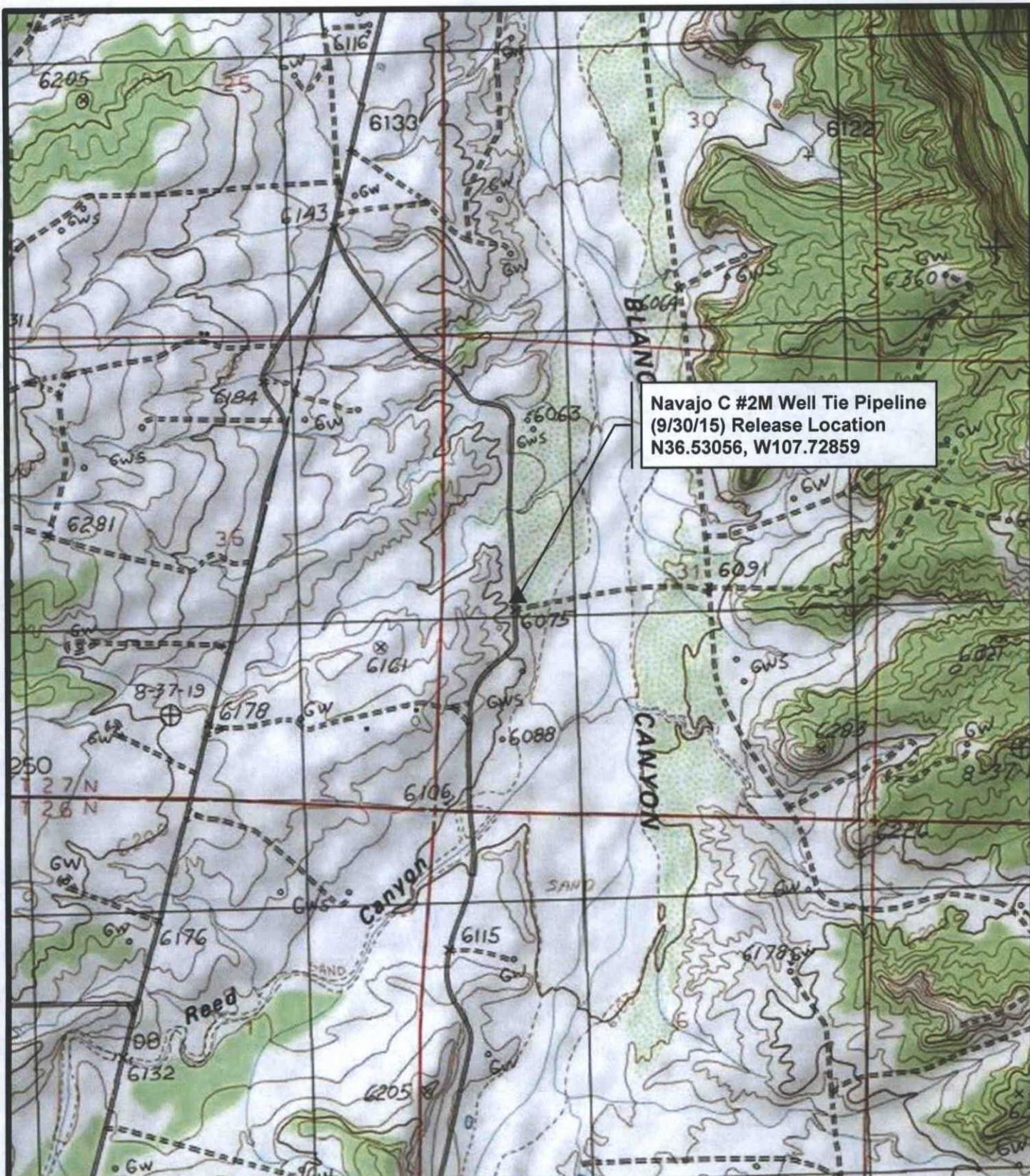
GRO - gasoline range organics

DRO - diesel range organics

ND - not detected above the laboratory reporting limits

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

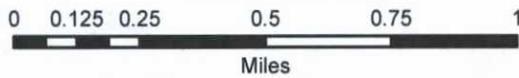
## Figures



Navajo C #2M Well Tie Pipeline  
 (9/30/15) Release Location  
 N36.53056, W107.72859



**Enterprise Products**  
 Enterprise Products Partners L.P.



**Rule Engineering, LLC**  
 Solutions to Regulations for Industry

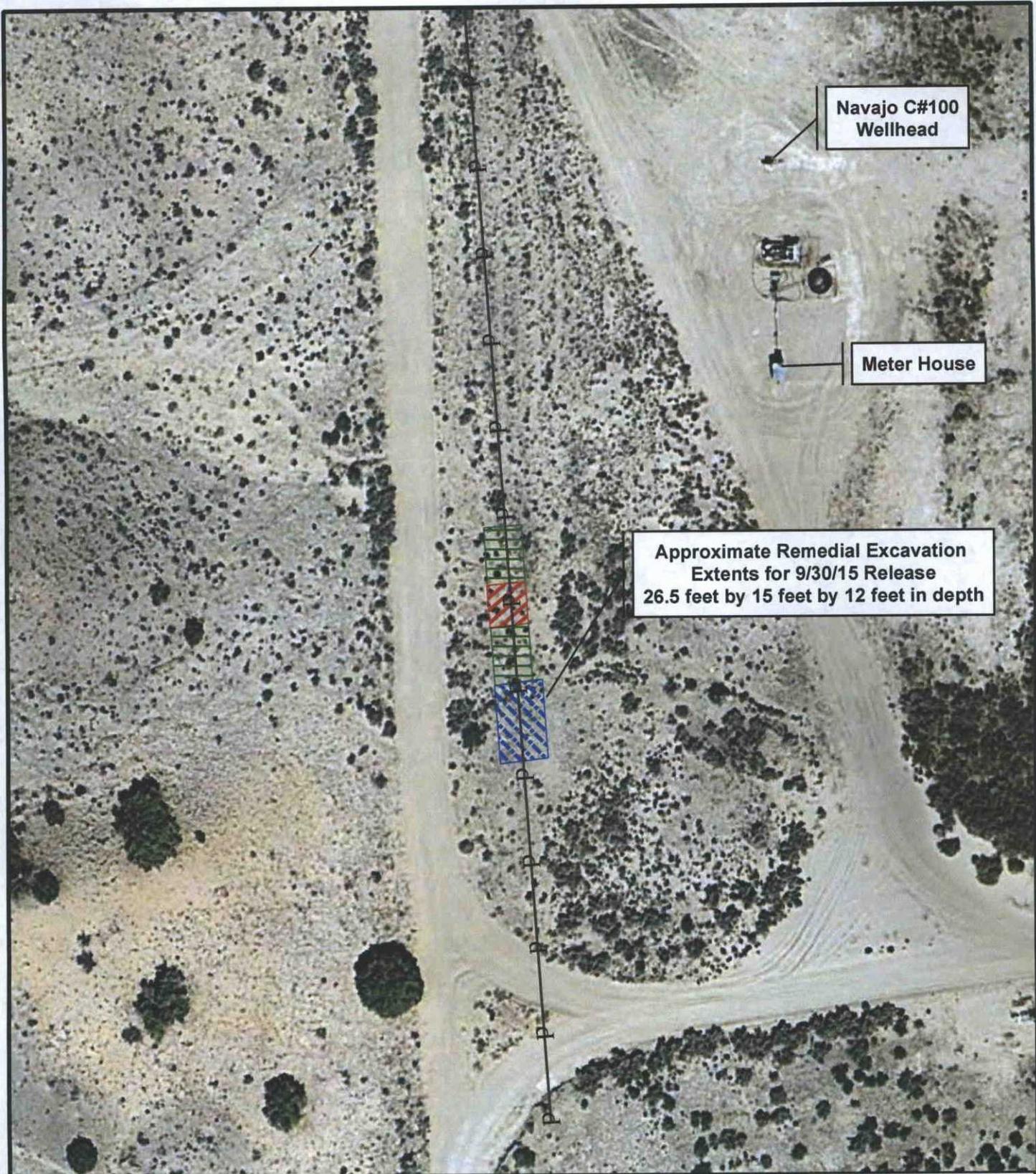
11/16/2015



1:24,000

**Topographic Site Map**  
 Enterprise  
 Navajo C #2M  
 Well Tie Pipeline  
 (9/30/15) Release  
**Figure 1**

L-31-T27N-R08W  
 N36.53056, W107.72825  
 Fresno Canyon Quadrangle  
 San Juan County, New Mexico



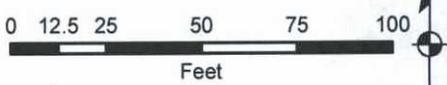
Navajo C#100 Wellhead

Meter House

Approximate Remedial Excavation Extents for 9/30/15 Release  
26.5 feet by 15 feet by 12 feet in depth

- Pipeline
- Approximate Remedial Excavation Extents for 7/10/15 Release
- Approximate Remedial Excavation Extents for 9/30/15 Release
- Pipeline Repair Excavations

**Enterprise Products**  
Enterprise Products Partners L.P.



**Rule Engineering, LLC**  
Solutions to Regulations for Industry



**Aerial Site Map**

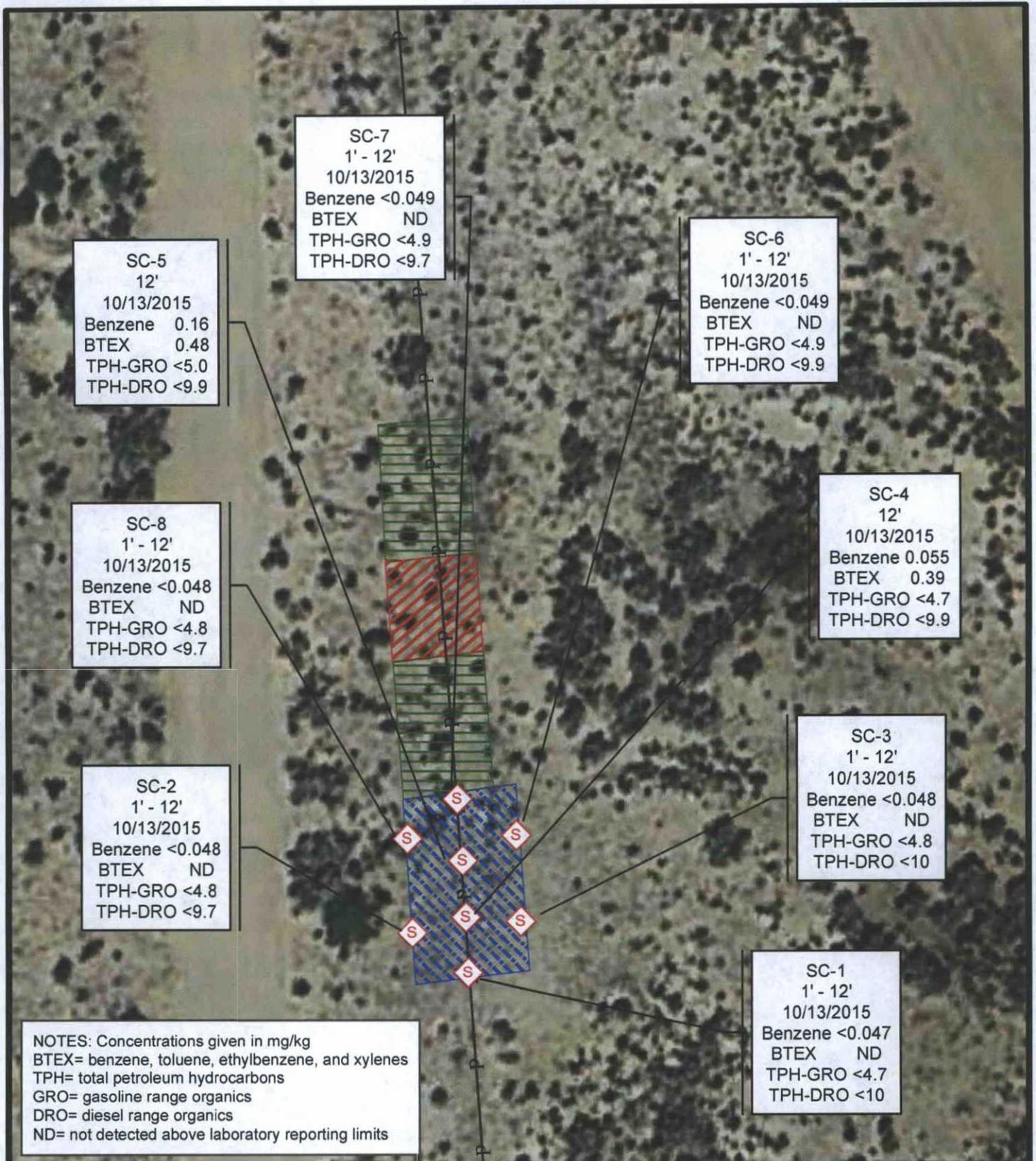
Enterprise Navajo C #2M Well Tie Pipeline (9/30/15) Release

**Figure 2**

L-31-T27N-R08W  
N36.53056, W107.72825  
San Juan County, New Mexico

1:600

11/16/2015



SC-5  
12'  
10/13/2015  
Benzene 0.16  
BTEX 0.48  
TPH-GRO <5.0  
TPH-DRO <9.9

SC-7  
1' - 12'  
10/13/2015  
Benzene <0.049  
BTEX ND  
TPH-GRO <4.9  
TPH-DRO <9.7

SC-6  
1' - 12'  
10/13/2015  
Benzene <0.049  
BTEX ND  
TPH-GRO <4.9  
TPH-DRO <9.9

SC-8  
1' - 12'  
10/13/2015  
Benzene <0.048  
BTEX ND  
TPH-GRO <4.8  
TPH-DRO <9.7

SC-4  
12'  
10/13/2015  
Benzene 0.055  
BTEX 0.39  
TPH-GRO <4.7  
TPH-DRO <9.9

SC-2  
1' - 12'  
10/13/2015  
Benzene <0.048  
BTEX ND  
TPH-GRO <4.8  
TPH-DRO <9.7

SC-3  
1' - 12'  
10/13/2015  
Benzene <0.048  
BTEX ND  
TPH-GRO <4.8  
TPH-DRO <10

SC-1  
1' - 12'  
10/13/2015  
Benzene <0.047  
BTEX ND  
TPH-GRO <4.7  
TPH-DRO <10

NOTES: Concentrations given in mg/kg  
BTEX= benzene, toluene, ethylbenzene, and xylenes  
TPH= total petroleum hydrocarbons  
GRO= gasoline range organics  
DRO= diesel range organics  
ND= not detected above laboratory reporting limits

-  Sample Location
-  Pipeline
-  Approximate Remedial Excavation Extents for 9/30/15 Release
-  Approximate Remedial Excavation Extents for 7/10/15 Release
-  Pipeline Repair Excavations

**Enterprise Products**  
Enterprise Products Partners L.P.

0 5 10 20 30 40  
Feet

**Rule Engineering, LLC**  
Solutions to Regulations for Industry

**Excavation Soil Analytical Map**  
Enterprise Navajo C #2M Well Tie Pipeline (9/30/15) Release  
**Figure 3**

L-31-T27N-R08W  
N36.53056, W107.72825  
San Juan County, New Mexico

Appendix A

Executed C-138 Solid Waste Acceptance Form

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

97057-0748

Form C-138  
Revised August 1, 2011

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

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. Originating Site: Navajo C#2M Lateral Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Section 31 Township 27 North Range 8 West; 36 .53083, -107.72794
4. Source and Description of Waste: Hydro-excavated soil impacted with hydrocarbons associated with a pipeline release
5. Estimated Volume <u>50</u> (yd <sup>3</sup> ) bbls Known Volume (to be entered by the operator at the end of the haul) <u>368</u> (yd <sup>3</sup> ) bbls

Oct. 2015

#### 5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long* representative or authorized agent for Enterprise Field Services, LLC 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)

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 *Thomas Long* 10-14-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to  
Generator Signature  
complete the required testing/sign the Generator Waste Testing Certification.

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

6. Transporter: ~~Halo~~ Cotant, Envirotech, O+E Trading, BET, 3E Energy

#### 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: Eric Liese

TITLE: Land Farm Administrator DATE: 10/15/15

SIGNATURE: E. Liese  
Surface Waste Management Facility Authorized Agent

TELEPHONE NO.: 505-632-0615

Appendix B  
Photograph Log

Photograph #1	
Client: Enterprise	
Site Name:  Navajo C #2M Well Tie Pipeline (9/30/15) Release	
Date Photo Taken: October 14, 2015	
Release Location: N36.53056, W107.72825  L-21-27N-4W San Juan County, NM	
Photo Taken by: Heather Woods	

Photograph #2	
Client: Enterprise	
Site Name:  Navajo C #2M Well Tie Pipeline (9/30/15) Release	
Date Photo Taken: October 14, 2015	
Release Location: N36.53056, W107.72825  L-21-27N-4W San Juan County, NM	
Photo Taken by: Heather Woods	

Appendix C  
Analytical Laboratory Reports



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

October 23, 2015

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

RE: Enterprise Navajo C #2M

OrderNo.: 1510720

Dear Heather Woods:

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

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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

**Analytical Report**

Lab Order 1510720

Date Reported: 10/23/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Rule Engineering LLC

**Client Sample ID:** SC-1

**Project:** Enterprise Navajo C #2M

**Collection Date:** 10/13/2015 4:00:00 PM

**Lab ID:** 1510720-001

**Matrix:** SOIL

**Received Date:** 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/16/2015 6:20:35 PM	21874
Surr: DNOP	171	70-130	S	%REC	1	10/16/2015 6:20:35 PM	21874
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	10/21/2015 2:05:35 PM	21873
Surr: BFB	85.2	75.4-113		%REC	1	10/21/2015 2:05:35 PM	21873
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.047		mg/Kg	1	10/21/2015 2:05:35 PM	21873
Toluene	ND	0.047		mg/Kg	1	10/21/2015 2:05:35 PM	21873
Ethylbenzene	ND	0.047		mg/Kg	1	10/21/2015 2:05:35 PM	21873
Xylenes, Total	ND	0.095		mg/Kg	1	10/21/2015 2:05:35 PM	21873
Surr: 4-Bromofluorobenzene	100	80-120		%REC	1	10/21/2015 2:05:35 PM	21873

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

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

**CLIENT:** Rule Engineering LLC **Client Sample ID:** SC-2  
**Project:** Enterprise Navajo C #2M **Collection Date:** 10/13/2015 3:45:00 PM  
**Lab ID:** 1510720-002 **Matrix:** SOIL **Received Date:** 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/16/2015 7:24:34 PM	21874
Surr: DNOP	147	70-130	S	%REC	1	10/16/2015 7:24:34 PM	21874
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/21/2015 3:15:30 PM	21873
Surr: BFB	86.5	75.4-113		%REC	1	10/21/2015 3:15:30 PM	21873
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	10/21/2015 3:15:30 PM	21873
Toluene	ND	0.048		mg/Kg	1	10/21/2015 3:15:30 PM	21873
Ethylbenzene	ND	0.048		mg/Kg	1	10/21/2015 3:15:30 PM	21873
Xylenes, Total	ND	0.097		mg/Kg	1	10/21/2015 3:15:30 PM	21873
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	10/21/2015 3:15:30 PM	21873

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: Enterprise Navajo C #2M

Collection Date: 10/13/2015 4:30:00 PM

Lab ID: 1510720-003

Matrix: SOIL

Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/16/2015 7:45:59 PM	21874
Surr: DNOP	188	70-130	S	%REC	1	10/16/2015 7:45:59 PM	21874
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Surr: BFB	87.0	75.4-113		%REC	1	10/21/2015 4:25:35 PM	21873
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Toluene	ND	0.048		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Ethylbenzene	ND	0.048		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Xylenes, Total	ND	0.097		mg/Kg	1	10/21/2015 4:25:35 PM	21873
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	10/21/2015 4:25:35 PM	21873

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

<b>Qualifiers:</b>	*	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		

# Hall Environmental Analysis Laboratory, Inc.

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

**CLIENT:** Rule Engineering LLC  
**Project:** Enterprise Navajo C #2M  
**Lab ID:** 1510720-004

**Matrix:** SOIL

**Client Sample ID:** SC-4  
**Collection Date:** 10/13/2015 3:00:00 PM  
**Received Date:** 10/15/2015 7:00:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1510720

Date Reported: 10/23/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: Enterprise Navajo C #2M

Collection Date: 10/14/2015 9:30:00 AM

Lab ID: 1510720-005

Matrix: SOIL

Received Date: 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/16/2015 8:29:00 PM	21874
Surr: DNOP	125	70-130		%REC	1	10/16/2015 8:29:00 PM	21874
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/21/2015 5:12:06 PM	21873
Surr: BFB	87.8	75.4-113		%REC	1	10/21/2015 5:12:06 PM	21873
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	0.16	0.050		mg/Kg	1	10/21/2015 5:12:06 PM	21873
Toluene	0.070	0.050		mg/Kg	1	10/21/2015 5:12:06 PM	21873
Ethylbenzene	ND	0.050		mg/Kg	1	10/21/2015 5:12:06 PM	21873
Xylenes, Total	0.25	0.10		mg/Kg	1	10/21/2015 5:12:06 PM	21873
Surr: 4-Bromofluorobenzene	103	80-120		%REC	1	10/21/2015 5:12:06 PM	21873

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

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

**CLIENT:** Rule Engineering LLC **Client Sample ID:** SC-6  
**Project:** Enterprise Navajo C #2M **Collection Date:** 10/14/2015 10:13:00 AM  
**Lab ID:** 1510720-006 **Matrix:** SOIL **Received Date:** 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	10/16/2015 8:50:19 PM	21874
Surr: DNOP	128	70-130		%REC	1	10/16/2015 8:50:19 PM	21874
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/21/2015 5:35:24 PM	21873
Surr: BFB	86.2	75.4-113		%REC	1	10/21/2015 5:35:24 PM	21873
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	10/21/2015 5:35:24 PM	21873
Toluene	ND	0.049		mg/Kg	1	10/21/2015 5:35:24 PM	21873
Ethylbenzene	ND	0.049		mg/Kg	1	10/21/2015 5:35:24 PM	21873
Xylenes, Total	ND	0.098		mg/Kg	1	10/21/2015 5:35:24 PM	21873
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	10/21/2015 5:35:24 PM	21873

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Rule Engineering LLC

**Client Sample ID:** SC-7

**Project:** Enterprise Navajo C #2M

**Collection Date:** 10/14/2015 10:18:00 AM

**Lab ID:** 1510720-007

**Matrix:** SOIL

**Received Date:** 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	10/16/2015 9:11:41 PM	21874
Surr: DNOP	128	70-130		%REC	1	10/16/2015 9:11:41 PM	21874
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	10/21/2015 5:58:36 PM	21873
Surr: BFB	85.8	75.4-113		%REC	1	10/21/2015 5:58:36 PM	21873
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	10/21/2015 5:58:36 PM	21873
Toluene	ND	0.049		mg/Kg	1	10/21/2015 5:58:36 PM	21873
Ethylbenzene	ND	0.049		mg/Kg	1	10/21/2015 5:58:36 PM	21873
Xylenes, Total	ND	0.099		mg/Kg	1	10/21/2015 5:58:36 PM	21873
Surr: 4-Bromofluorobenzene	99.9	80-120		%REC	1	10/21/2015 5:58:36 PM	21873

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

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

**CLIENT:** Rule Engineering LLC  
**Project:** Enterprise Navajo C #2M  
**Lab ID:** 1510720-008

**Matrix:** SOIL

**Client Sample ID:** SC-8  
**Collection Date:** 10/14/2015 10:15:00 AM  
**Received Date:** 10/15/2015 7:00:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1510720

23-Oct-15

Client: Rule Engineering LLC  
Project: Enterprise Navajo C #2M

Sample ID	<b>MB-21874</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>21874</b>	RunNo:	<b>29559</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/16/2015</b>	SeqNo:	<b>900607</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		124	70	130			

Sample ID	<b>LCS-21874</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>21874</b>	RunNo:	<b>29559</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/16/2015</b>	SeqNo:	<b>900608</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	109	57.4	139			
Surr: DNOP	6.6		5.000		131	70	130			S

Sample ID	<b>1510720-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>21874</b>	RunNo:	<b>29559</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/16/2015</b>	SeqNo:	<b>902219</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	70	9.8	48.92	0	143	42.3	146			
Surr: DNOP	9.5		4.892		193	70	130			S

Sample ID	<b>1510720-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>21874</b>	RunNo:	<b>29559</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/16/2015</b>	SeqNo:	<b>902220</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	75	10	50.45	0	148	42.3	146	6.76	28.9	S
Surr: DNOP	9.8		5.045		195	70	130	0	0	S

Sample ID	<b>MB-21912</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>21912</b>	RunNo:	<b>29662</b>					
Prep Date:	<b>10/19/2015</b>	Analysis Date:	<b>10/20/2015</b>	SeqNo:	<b>903701</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	70	130			

Sample ID	<b>LCS-21912</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015M/D: Diesel Range Organics</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>21912</b>	RunNo:	<b>29662</b>					
Prep Date:	<b>10/19/2015</b>	Analysis Date:	<b>10/20/2015</b>	SeqNo:	<b>903702</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.7	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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510720  
23-Oct-15

**Client:** Rule Engineering LLC  
**Project:** Enterprise Navajo C #2M

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R29711</b>	RunNo:	<b>29711</b>					
Prep Date:		Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904700</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	870		1000		86.9	75.4	113			

Sample ID	<b>2.5UG GRO STD</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R29711</b>	RunNo:	<b>29711</b>					
Prep Date:		Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904701</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.9	75.4	113			

Sample ID	<b>MB-21873</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>21873</b>	RunNo:	<b>29711</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904723</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		84.4	75.4	113			

Sample ID	<b>LCS-21873</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>21873</b>	RunNo:	<b>29711</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904724</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	79.6	122			
Surr: BFB	930		1000		92.9	75.4	113			

Sample ID	<b>1510720-001AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>21873</b>	RunNo:	<b>29711</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904726</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	22	5.0	24.83	0	89.4	62.5	151			
Surr: BFB	920		993.0		92.7	75.4	113			

Sample ID	<b>1510720-001AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>SC-1</b>	Batch ID:	<b>21873</b>	RunNo:	<b>29711</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904727</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	21	5.0	24.78	0	84.6	62.5	151	5.62	22.1	
Surr: BFB	920		991.1		93.2	75.4	113	0	0	

**Qualifiers:**

- \* 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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510720

23-Oct-15

**Client:** Rule Engineering LLC  
**Project:** Enterprise Navajo C #2M

Sample ID <b>MB-21873</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>PBS</b>	Batch ID: <b>21873</b>	RunNo: <b>29711</b>								
Prep Date: <b>10/15/2015</b>	Analysis Date: <b>10/21/2015</b>	SeqNo: <b>904747</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.0		1.000		100	80	120			

Sample ID <b>LCS-21873</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>21873</b>	RunNo: <b>29711</b>								
Prep Date: <b>10/15/2015</b>	Analysis Date: <b>10/21/2015</b>	SeqNo: <b>904748</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID <b>1510720-002AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SC-2</b>	Batch ID: <b>21873</b>	RunNo: <b>29711</b>								
Prep Date: <b>10/15/2015</b>	Analysis Date: <b>10/21/2015</b>	SeqNo: <b>904751</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.75	0.048	0.9625	0	78.4	69.6	136			
Toluene	0.78	0.048	0.9625	0.02095	78.9	76.2	134			
Ethylbenzene	0.80	0.048	0.9625	0	82.6	75.8	137			
Xylenes, Total	2.5	0.096	2.887	0.06142	84.2	78.9	133			
Surr: 4-Bromofluorobenzene	1.0		0.9625		105	80	120			

Sample ID <b>1510720-002AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8021B: Volatiles</b>								
Client ID: <b>SC-2</b>	Batch ID: <b>21873</b>	RunNo: <b>29711</b>								
Prep Date: <b>10/15/2015</b>	Analysis Date: <b>10/21/2015</b>	SeqNo: <b>904752</b>	Units: <b>mg/Kg</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.047	0.9425	0	88.4	69.6	136	9.92	20	
Toluene	0.82	0.047	0.9425	0.02095	84.6	76.2	134	4.74	20	
Ethylbenzene	0.82	0.047	0.9425	0	87.4	75.8	137	3.58	20	
Xylenes, Total	2.5	0.094	2.828	0.06142	87.8	78.9	133	1.98	20	
Surr: 4-Bromofluorobenzene	1.0		0.9425		107	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

**Sample Log-In Check List**

Client Name: **RULE ENGINEERING LL** Work Order Number: **1510720** RcptNo: **1**

Received by/date: *[Signature]* 10/15/15

Logged By: **Lindsay Mangin** 10/15/2015 7:00:00 AM *[Signature]*

Completed By: **Lindsay Mangin** 10/15/2015 7:52:29 AM *[Signature]*

Reviewed By: OS 10/15/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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:

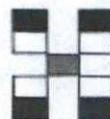
**18. Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.6	Good	Yes			

# Chain-of-Custody Record

Turn-Around Time:

Standard  Rush



## HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Client: Rule Engineering, LLC

Project Name:

Mailing Address: 501 Airport Dr, Suite 205

Enterprise Navajo C #2M

Farmington, N.M. 87401

Project #:

Phone #: (505) 716-2787

Project Manager:

email or Fax#: woods@ruleengineering.com

QA/QC Package:

Standard  Level 4 (Full Validation)

Heather Woods

Accreditation

NELAP  Other \_\_\_\_\_

Sampler: Heather Woods

EDD (Type) \_\_\_\_\_

Sample Temperature: 3.6

### Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + <del>MTBE</del> + <del>TPH</del> 's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / <del>MSO</del> )	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
1/13/15	1100	Soil	SC-1	(1) 4oz Glass	Cold	-001	X	X											
1/13/15	1545	Soil	SC-2	(1) 4oz Glass	Cold	-002	X	X											
2/13/15	1630	Soil	SC-3	(1) 4oz Glass	Cold	-003	X	X											
2/13/15	1500	Soil	SC-4	(1) 4oz Glass	Cold	-004	X	X											
1/14/15	0930	Soil	SC-5	(1) 4oz Glass	Cold	-005	X	X											
2/14/15	1013	Soil	SC-6	(1) 4oz Glass	Cold	-006	X	X											
2/14/15	1018	Soil	SC-7	(1) 4oz Glass	Cold	-007	X	X											
2/14/15	1015	Soil	SC-8	(1) 4oz Glass	Cold	-008	X	X											
<del>NFS Hold</del>																			

Date: 1/14/15 Time: 1635 Relinquished by: Heather M. Woods

Received by: Christine Walters Date: 1/14/15 Time: 1635

Remarks: Bill to Enterprise

Date: 2/14/15 Time: 1847 Relinquished by: Christine Walters

Received by: [Signature] Date: 10/15/15 Time: 0700

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



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

October 23, 2015

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

RE: Enterprise Navajo C #2M

OrderNo.: 1510722

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/15/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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

**Analytical Report**

Lab Order 1510722

Date Reported: 10/23/2015

**Hall Environmental Analysis Laboratory, Inc.****CLIENT:** Rule Engineering LLC**Client Sample ID:** SP-1**Project:** Enterprise Navajo C #2M**Collection Date:** 10/14/2015 12:40:00 PM**Lab ID:** 1510722-001**Matrix:** SOIL**Received Date:** 10/15/2015 7:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: KJH
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	10/16/2015 10:15:26 PM	21874
Surr: DNOP	132	70-130	S	%REC	1	10/16/2015 10:15:26 PM	21874
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/21/2015 10:37:23 PM	21873
Surr: BFB	89.3	75.4-113		%REC	1	10/21/2015 10:37:23 PM	21873
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: NSB
Benzene	ND	0.050		mg/Kg	1	10/21/2015 10:37:23 PM	21873
Toluene	ND	0.050		mg/Kg	1	10/21/2015 10:37:23 PM	21873
Ethylbenzene	ND	0.050		mg/Kg	1	10/21/2015 10:37:23 PM	21873
Xylenes, Total	ND	0.10		mg/Kg	1	10/21/2015 10:37:23 PM	21873
Surr: 4-Bromofluorobenzene	102	80-120		%REC	1	10/21/2015 10:37:23 PM	21873

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

<b>Qualifiers:</b>	*	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		

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1510722  
23-Oct-15

**Client:** Rule Engineering LLC  
**Project:** Enterprise Navajo C #2M

Sample ID <b>MB-21874</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>21874</b>		RunNo: <b>29559</b>							
Prep Date: <b>10/15/2015</b>	Analysis Date: <b>10/16/2015</b>		SeqNo: <b>900607</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	12		10.00		124	70	130			

Sample ID <b>LCS-21874</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>21874</b>		RunNo: <b>29559</b>							
Prep Date: <b>10/15/2015</b>	Analysis Date: <b>10/16/2015</b>		SeqNo: <b>900608</b>				Units: <b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	55	10	50.00	0	109	57.4	139			
Surr: DNOP	6.6		5.000		131	70	130			S

Sample ID <b>MB-21912</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>PBS</b>	Batch ID: <b>21912</b>		RunNo: <b>29662</b>							
Prep Date: <b>10/19/2015</b>	Analysis Date: <b>10/20/2015</b>		SeqNo: <b>903701</b>				Units: <b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		101	70	130			

Sample ID <b>LCS-21912</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015M/D: Diesel Range Organics</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>21912</b>		RunNo: <b>29662</b>							
Prep Date: <b>10/19/2015</b>	Analysis Date: <b>10/20/2015</b>		SeqNo: <b>903702</b>				Units: <b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.9		5.000		97.7	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

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

WO#: 1510722  
 23-Oct-15

**Client:** Rule Engineering LLC  
**Project:** Enterprise Navajo C #2M

Sample ID	<b>5ML RB</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>R29711</b>	RunNo:	<b>29711</b>					
Prep Date:		Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904700</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	870		1000		86.9	75.4	113			

Sample ID	<b>2.5UG GRO STD</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>R29711</b>	RunNo:	<b>29711</b>					
Prep Date:		Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904701</b>	Units:	<b>%REC</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	940		1000		93.9	75.4	113			

Sample ID	<b>MB-21873</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>21873</b>	RunNo:	<b>29711</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904723</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	840		1000		84.4	75.4	113			

Sample ID	<b>LCS-21873</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8015D: Gasoline Range</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>21873</b>	RunNo:	<b>29711</b>					
Prep Date:	<b>10/15/2015</b>	Analysis Date:	<b>10/21/2015</b>	SeqNo:	<b>904724</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	5.0	25.00	0	105	79.6	122			
Surr: BFB	930		1000		92.9	75.4	113			

**Qualifiers:**

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

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1510722  
23-Oct-15

Client: Rule Engineering LLC  
Project: Enterprise Navajo C #2M

Sample ID	MB-21873	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	21873	RunNo:	29711					
Prep Date:	10/15/2015	Analysis Date:	10/21/2015	SeqNo:	904747	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	1.0		1.000		100	80	120			

Sample ID	LCS-21873	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	21873	RunNo:	29711					
Prep Date:	10/15/2015	Analysis Date:	10/21/2015	SeqNo:	904748	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	80	120			
Toluene	0.96	0.050	1.000	0	96.2	80	120			
Ethylbenzene	0.96	0.050	1.000	0	96.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	96.6	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

**Qualifiers:**

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

# Sample Log-In Check List

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1510722**

RcptNo: **1**

Received by/date: [Signature] 10/15/15

Logged By: **Lindsay Mangin** 10/15/2015 7:00:00 AM [Signature]

Completed By: **Lindsay Mangin** 10/15/2015 7:55:41 AM [Signature]

Reviewed By: CS 10/15/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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	3.6	Good	Yes			

# Chain-of-Custody Record

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Dr. Suite 205  
Farmington, NM 87401

Phone #: (505) 716-2787

email or Fax#: hwoods@ruleengineering.com

QA/QC Package:  
 Standard       Level 4 (Full Validation)

Accreditation  
 NELAP       Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard       Rush \_\_\_\_\_

Project Name: Enterprise Navajo C #2M

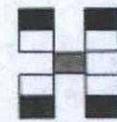
Project #: \_\_\_\_\_

Project Manager: Heather Woods

Sampler: Heather Woods

On Ice:  Yes       No

Sample Temperature: 36



## 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	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TPHs (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
10/14/15	1246	Soil	SP-1	(1) 4oz Glass	Cold	1510722 -001	X	X											
<del>_____</del>																			

Date: 10/14/15 Time: 1635 Relinquished by: Heather M. Woods

Date: 10/14/15 Time: 1635 Received by: Christi Wark

Date: 10/15/15 Time: 0700 Relinquished by: Christi Wark

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by: \_\_\_\_\_

Remarks: Bill to Enterprise

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

Form C-141  
Revised August 8, 2011

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

DEC 08 2015

**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: Navajo C#2M	Facility Type: Natural Gas Gathering Pipeline
Surface Owner: Navajo Nation	Mineral Owner: Navajo Nation
API No.	

**LOCATION OF RELEASE**

Unit Letter <b>L</b>	Section <b>31</b>	Township <b>27N</b>	Range <b>8W</b>	Feet from the <b>2492</b>	North <del>South</del> Line	Feet from the <b>874</b>	East <del>West</del> Line	County <b>San Juan</b>
-------------------------	----------------------	------------------------	--------------------	------------------------------	--------------------------------	-----------------------------	------------------------------	---------------------------

Latitude **36.530553** Longitude **-107.728279**

**NATURE OF RELEASE**

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release <b>3.9 MSF Gas; 5-7 BBLs Liquids</b>	Volume Recovered: <b>None</b>
Source of Release: Internal Corrosion	Date and Hour of Occurrence: <b>7/10/15 @ 10:20 a.m.</b>	Date and Hour of Discovery: <b>7/10/15 @ 11:50 a.m.</b>
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; Steve Austin - NNEPA	
By Whom? <b>Thomas Long</b>	Date and Time <b>8/3/2015 8:52 a.m.</b>	<b>OIL CONS. DIV DIST. 3</b> <b>DEC 08 2015</b>
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	

If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action: On July 11, 2015, a third party reported a gas leak within the Navajo C#2M right-of-way. Enterprise dispatched a technician and confirmed the leak. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation were completed on July 24, 2015.

Describe Area Affected and Cleanup Action: \* The contaminant mass was removed by mechanical excavation. The final excavation measured approximately 15 feet long by 15 feet wide ranging from 4 to 6 feet deep. Approximately 188 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico 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: <i>Jon Fields</i>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: <i>[Signature]</i>	
Title: Director, Environmental	Approval Date: <b>12/30/2015</b>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: <b>12-1-2015</b> Phone: (713)381-6684		

\* Attach Additional Sheets If Necessary

**NOF1536436422**

**Navajo C #2M Well Tie  
Pipeline Release (07/10/15)  
Report**

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

November 17, 2015

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

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

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

Prepared for:

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

Prepared by:

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



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

Reviewed by:



Russell Knight, PG, Principal Hydrogeologist

November 17, 2015

## Table of Contents

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3.0	NNEPA/NMOCD Site Ranking.....	2
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6.0	Laboratory Analytical Results.....	3
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8.0	Closure and Limitations.....	4

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Table 1	Excavation Closure Laboratory Analytical Results
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### Figures

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

### Appendices

Appendix A	Executed C-138 Soil Waste Acceptance Form
Appendix B	Photograph Log
Appendix C	Analytical Laboratory Reports

## 1.0 Introduction

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

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

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

## 2.0 Release Summary

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

### **3.0 NNEPA/NMOCD Site Ranking**

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

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

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

### **4.0 Field Activity**

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

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

### **5.0 Soil Sampling**

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

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

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

## 6.0 Laboratory Analytical Results

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

## 7.0 Conclusions

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

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

## 8.0 Closure and Limitations

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

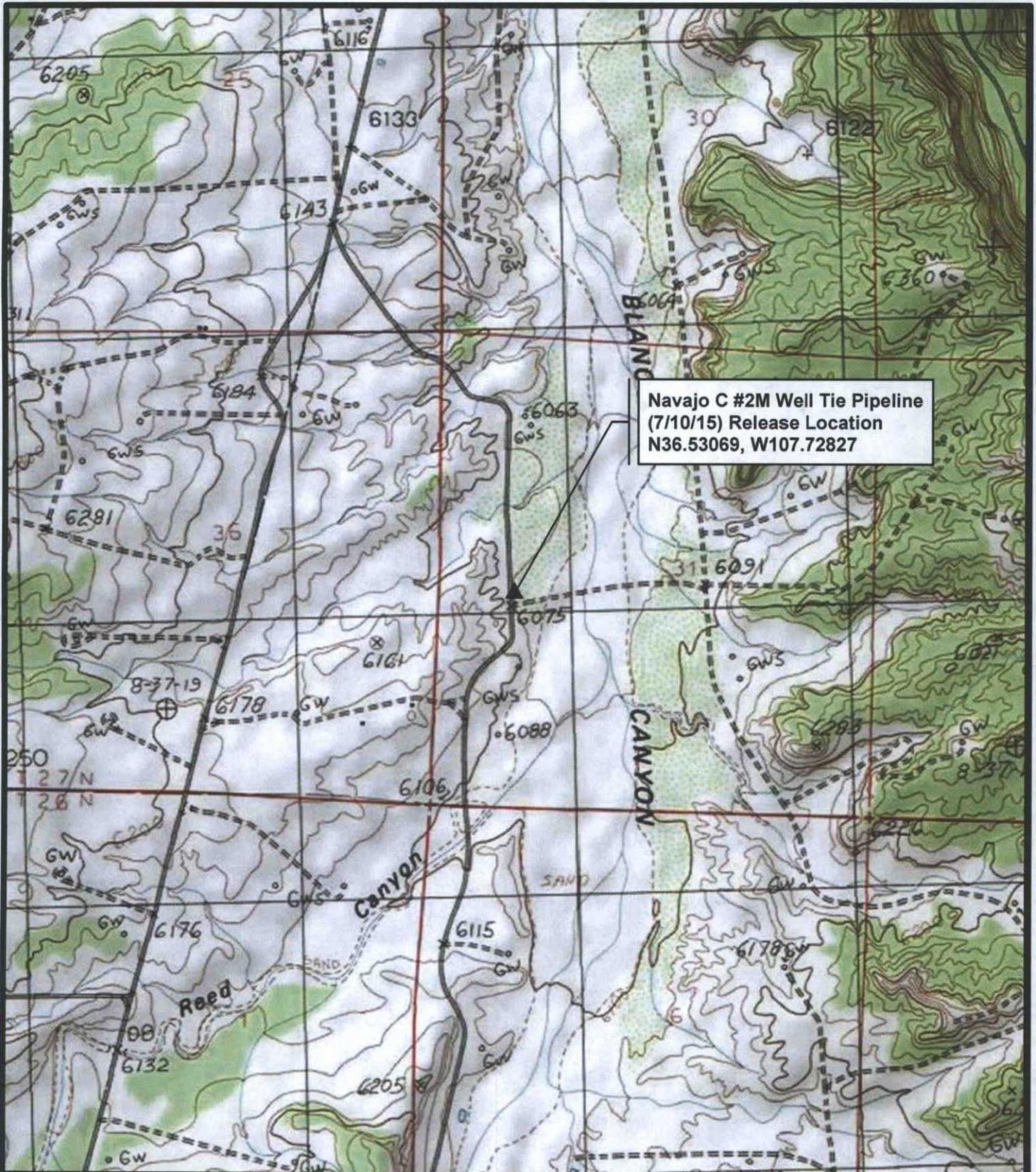
Table

**Table 1. Excavation Closure Laboratory Analytical Results  
Navajo C #2M (7/10/2015) Release  
San Juan County, New Mexico  
Enterprise Field Services, LLC**

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

Notes: VOCs - volatile organic compounds  
 PID - photo-ionization detector  
 mg/kg - milligrams/kilograms  
 TPH - total petroleum hydrocarbons  
 BTEX - benzene, toluene, ethylbenzene, and total xylenes  
 TPH - total petroleum hydrocarbons  
 GRO - gasoline range organics  
 DRO - diesel range organics  
 ND - not detected above the laboratory reporting limits  
 NA - not analyzed  
 \*NMOCOD Guidelines for Remediation of Leaks, Spills, and Releases (1993) for site rank of 30  
 \*\*Re-sampled as SC-6

## Figures



Navajo C #2M Well Tie Pipeline  
 (7/10/15) Release Location  
 N36.53069, W107.72827




**Enterprise Products**  
 Enterprise Products Partners L.P.

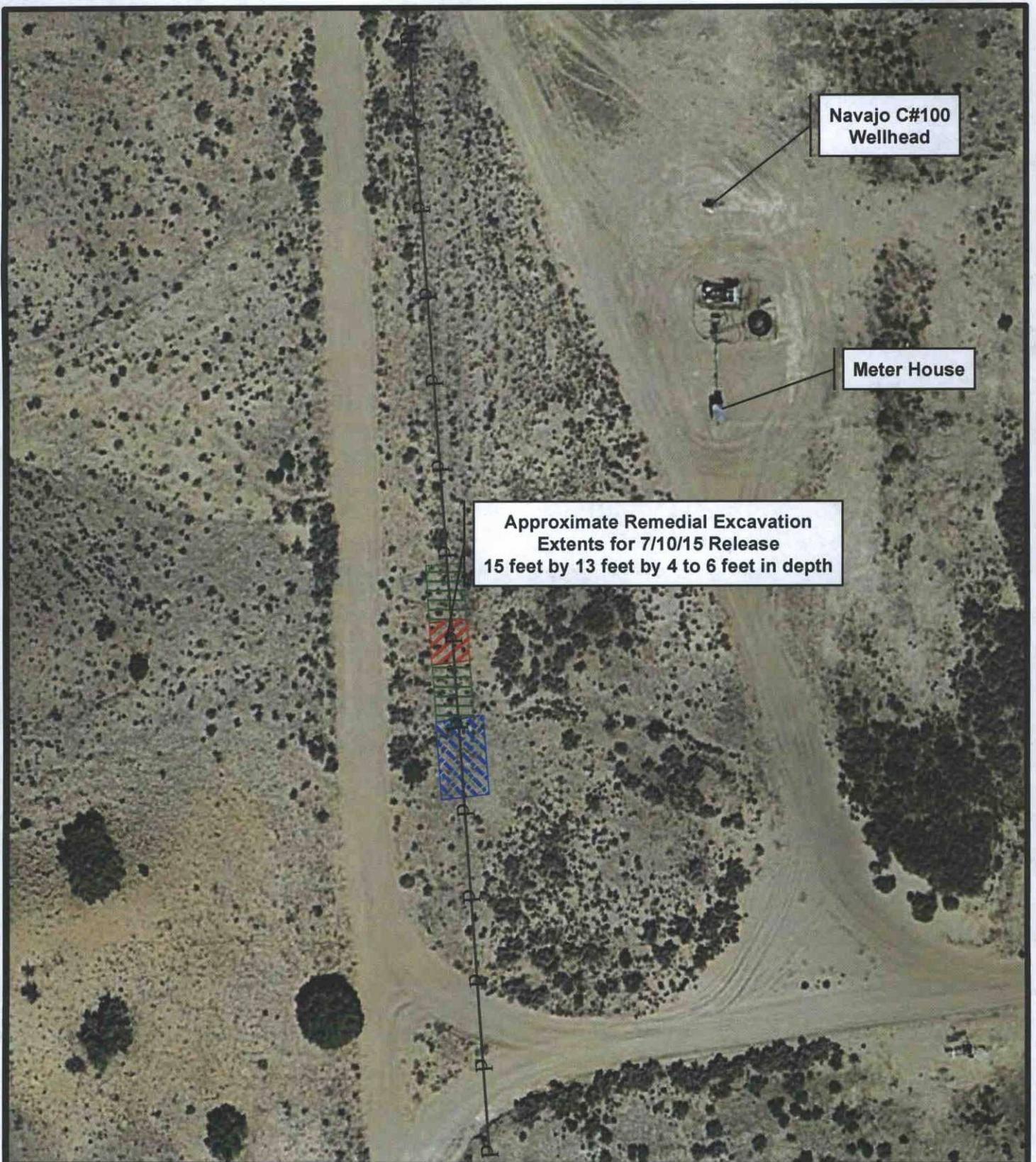

  
 0 0.125 0.25 0.5 0.75 1  
 Miles



**Rule Engineering, LLC**  
 Solutions to Regulations for Industry

11/9/2015 1:24,000

**Topographic Site Map**  
 Enterprise Navajo C  
 #2M Well Tie Pipeline  
 (7/10/15) Release  
**Figure 1**  
 L-31-T27N-R08W  
 N36.53067, W107.72825  
 Fresno Canyon Quadrangle  
 San Juan County, New Mexico



Navajo C#100 Wellhead

Meter House

Approximate Remedial Excavation Extents for 7/10/15 Release  
15 feet by 13 feet by 4 to 6 feet in depth

-  Pipeline
-  Approximate Remedial Excavation Extents for 7/10/15 Release
-  Approximate Remedial Excavation Extents for 9/30/15 Release
-  Pipeline Repair Excavations

 **Enterprise Products**  
 Enterprise Products Partners L.P.

0 12.5 25 50 75 100  
 Feet

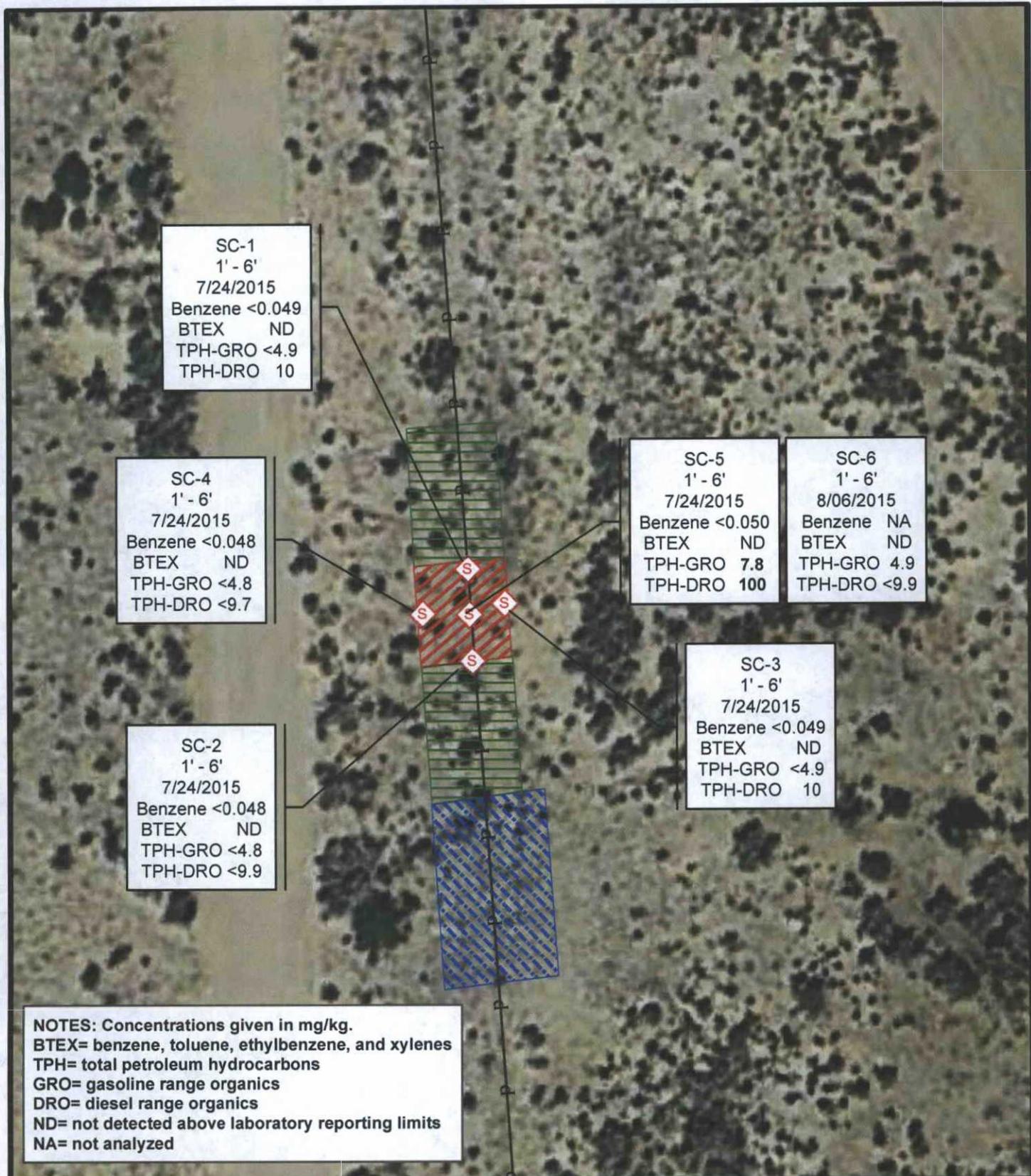


 **Rule Engineering, LLC**  
 Solutions to Regulations for Industry

**Aerial Site Map**  
 Enterprise Navajo C #2M Well Tie Pipeline (7/10/15) Release  
**Figure 2**  
 L-31-T27N-R08W  
 N36.53067, W107.72825  
 San Juan County, New Mexico

1:600

11/16/2015



SC-1  
1' - 6'  
7/24/2015  
Benzene <0.049  
BTEX ND  
TPH-GRO <4.9  
TPH-DRO 10

SC-4  
1' - 6'  
7/24/2015  
Benzene <0.048  
BTEX ND  
TPH-GRO <4.8  
TPH-DRO <9.7

SC-2  
1' - 6'  
7/24/2015  
Benzene <0.048  
BTEX ND  
TPH-GRO <4.8  
TPH-DRO <9.9

SC-5  
1' - 6'  
7/24/2015  
Benzene <0.050  
BTEX ND  
TPH-GRO 7.8  
TPH-DRO 100

SC-6  
1' - 6'  
8/06/2015  
Benzene NA  
BTEX ND  
TPH-GRO 4.9  
TPH-DRO <9.9

SC-3  
1' - 6'  
7/24/2015  
Benzene <0.049  
BTEX ND  
TPH-GRO <4.9  
TPH-DRO 10

NOTES: Concentrations given in mg/kg.  
BTEX= benzene, toluene, ethylbenzene, and xylenes  
TPH= total petroleum hydrocarbons  
GRO= gasoline range organics  
DRO= diesel range organics  
ND= not detected above laboratory reporting limits  
NA= not analyzed

Sample Location

Pipeline

Approximate Remedial Excavation Extents for 7/10/15 Release

Approximate Remedial Excavation Extents for 9/30/15 Release

Pipeline Repair Excavations

1:250

11/16/2015

Enterprise Products  
Enterprise Products Partners L.P.

0 5 10 20 30 40  
Feet

Rule Engineering, LLC  
Solutions to Regulations for Industry

**Excavation Soil Analytical Map**  
Enterprise Navajo C  
#2M Well Tie Pipeline  
(7/10/15) Release  
**Figure 3**  
L-31-T27N-R08W  
N36.53067, W107.72825  
San Juan County, New Mexico

## Appendix A

### Executed C-138 Solid Waste Acceptance Form

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

97057-0748

Form C-138  
Revised August 1, 2011

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

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

### REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address: Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401
2. Originating Site: Navajo C#2M Lateral Pipeline
3. Location of Material (Street Address, City, State or ULSTR): Section 31 Township 27 North Range 8 West; 36 .53083, -107.72794
4. Source and Description of Waste: Hydro-excavated soil impacted with hydrocarbons associated with a pipeline release.
5. Estimated Volume <u>50</u> <u>yd<sup>3</sup></u> bbls Known Volume (to be entered by the operator at the end of the haul) <u>368</u> <u>yd<sup>3</sup></u> bbls

Oct. 2015

5. GENERATOR CERTIFICATION STATEMENT OF WASTE STATUS

I, Thomas Long *Thomas Long* representative or authorized agent for Enterprise Field Services, LLC 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)

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 *Thomas Long* 10-14-15, representative for Enterprise Field Services, LLC authorize Envirotech, Inc. to  
Generator Signature  
complete the required testing/sign the Generator Waste Testing Certification.

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

6. Transporter: Enviro Cotant, Envirotech, OTE Trucking, BET, 3E Energy

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: Eric Liese TITLE: Land Farm Administrator DATE: 10/15/15

SIGNATURE: [Signature] TELEPHONE NO.: 505-632-0615  
Surface Waste Management Facility Authorized Agent

Appendix B  
Photograph Log

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



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

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

Photograph #3	
Client: Enterprise	
Site Name:  Navajo C #2M Well Tie Pipeline (7/10/15) Release	
Date Photo Taken: October 1, 2015	
Release Location: N36.53067, W107.72828  L-21-27N-4W San Juan County, NM	
Photo Taken by: Heather Woods	
Description: Facing south, general view of the final excavation.	

Appendix C  
Analytical Laboratory Reports



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

July 31, 2015

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

RE: Navajo C #2M Lateral

OrderNo.: 1507B85

Dear Deborah Watson:

Hall Environmental Analysis Laboratory received 5 sample(s) on 7/25/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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

**Analytical Report**

Lab Order 1507B85

Date Reported: 7/31/2015

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Rule Engineering LLC

**Client Sample ID:** SC-1

**Project:** Navajo C #2M Lateral

**Collection Date:** 7/24/2015 12:00:00 PM

**Lab ID:** 1507B85-001

**Matrix:** SOIL

**Received Date:** 7/25/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	10	9.8		mg/Kg	1	7/28/2015 3:41:06 PM	20457
Surr: DNOP	131	57.9-140		%REC	1	7/28/2015 3:41:06 PM	20457
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/28/2015 12:25:56 PM	20460
Surr: BFB	86.2	75.4-113		%REC	1	7/28/2015 12:25:56 PM	20460
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	7/28/2015 12:25:56 PM	20460
Toluene	ND	0.049		mg/Kg	1	7/28/2015 12:25:56 PM	20460
Ethylbenzene	ND	0.049		mg/Kg	1	7/28/2015 12:25:56 PM	20460
Xylenes, Total	ND	0.097		mg/Kg	1	7/28/2015 12:25:56 PM	20460
Surr: 4-Bromofluorobenzene	87.7	80-120		%REC	1	7/28/2015 12:25:56 PM	20460

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1507B85

Date Reported: 7/31/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-2

Project: Navajo C #2M Lateral

Collection Date: 7/24/2015 11:55:00 AM

Lab ID: 1507B85-002

Matrix: SOIL

Received Date: 7/25/2015 9:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	7/28/2015 4:08:24 PM	20457
Surr: DNOP	115	57.9-140		%REC	1	7/28/2015 4:08:24 PM	20457
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	7/28/2015 1:52:12 PM	20460
Surr: BFB	86.5	75.4-113		%REC	1	7/28/2015 1:52:12 PM	20460
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.048		mg/Kg	1	7/28/2015 1:52:12 PM	20460
Toluene	ND	0.048		mg/Kg	1	7/28/2015 1:52:12 PM	20460
Ethylbenzene	ND	0.048		mg/Kg	1	7/28/2015 1:52:12 PM	20460
Xylenes, Total	ND	0.095		mg/Kg	1	7/28/2015 1:52:12 PM	20460
Surr: 4-Bromofluorobenzene	89.1	80-120		%REC	1	7/28/2015 1:52:12 PM	20460

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

<b>Qualifiers:</b>	* 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	

**Hall Environmental Analysis Laboratory, Inc.**

**CLIENT:** Rule Engineering LLC  
**Project:** Navajo C #2M Lateral  
**Lab ID:** 1507B85-003

**Client Sample ID:** SC-3  
**Collection Date:** 7/22/2015 11:52:00 AM  
**Received Date:** 7/25/2015 9:10:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>TOM</b>
Diesel Range Organics (DRO)	10	9.7		mg/Kg	1	7/28/2015 4:35:41 PM	20457
Surr: DNOP	126	57.9-140		%REC	1	7/28/2015 4:35:41 PM	20457
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	7/28/2015 3:18:23 PM	20460
Surr: BFB	86.5	75.4-113		%REC	1	7/28/2015 3:18:23 PM	20460
<b>EPA METHOD 8021B: VOLATILES</b>							Analyst: <b>NSB</b>
Benzene	ND	0.049		mg/Kg	1	7/28/2015 3:18:23 PM	20460
Toluene	ND	0.049		mg/Kg	1	7/28/2015 3:18:23 PM	20460
Ethylbenzene	ND	0.049		mg/Kg	1	7/28/2015 3:18:23 PM	20460
Xylenes, Total	ND	0.099		mg/Kg	1	7/28/2015 3:18:23 PM	20460
Surr: 4-Bromofluorobenzene	89.6	80-120		%REC	1	7/28/2015 3:18:23 PM	20460

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1507B85

Date Reported: 7/31/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-4

Project: Navajo C #2M Lateral

Collection Date: 7/24/2015 11:50:00 AM

Lab ID: 1507B85-004

Matrix: SOIL

Received Date: 7/25/2015 9:10:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1507B85

Date Reported: 7/31/2015

CLIENT: Rule Engineering LLC

Client Sample ID: SC-5

Project: Navajo C #2M Lateral

Collection Date: 7/24/2015 11:45:00 AM

Lab ID: 1507B85-005

Matrix: SOIL

Received Date: 7/25/2015 9:10:00 AM

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

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

<b>Qualifiers:</b>	* 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	

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1507B85

31-Jul-15

**Client:** Rule Engineering LLC

**Project:** Navajo C #2M Lateral

Sample ID **MB-20457**      SampType: **MBLK**      TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS**      Batch ID: **20457**      RunNo: **27807**

Prep Date: **7/27/2015**      Analysis Date: **7/28/2015**      SeqNo: **836144**      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	13		10.00		127	57.9	140			

Sample ID **LCS-20457**      SampType: **LCS**      TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS**      Batch ID: **20457**      RunNo: **27807**

Prep Date: **7/27/2015**      Analysis Date: **7/28/2015**      SeqNo: **836145**      Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	57.4	139			
Surr: DNOP	6.6		5.000		132	57.9	140			

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1507B85  
31-Jul-15

**Client:** Rule Engineering LLC  
**Project:** Navajo C #2M Lateral

Sample ID: <b>MB-20460</b>	SampType: <b>MBLK</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>PBS</b>	Batch ID: <b>20460</b>	RunNo: <b>27801</b>								
Prep Date: <b>7/27/2015</b>	Analysis Date: <b>7/28/2015</b>	SeqNo: <b>836259</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	860		1000		86.5	75.4	113			

Sample ID: <b>LCS-20460</b>	SampType: <b>LCS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>LCSS</b>	Batch ID: <b>20460</b>	RunNo: <b>27801</b>								
Prep Date: <b>7/27/2015</b>	Analysis Date: <b>7/28/2015</b>	SeqNo: <b>836260</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	99.2	79.6	122			
Surr: BFB	940		1000		94.4	75.4	113			

Sample ID: <b>1507B85-001AMS</b>	SampType: <b>MS</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SC-1</b>	Batch ID: <b>20460</b>	RunNo: <b>27801</b>								
Prep Date: <b>7/27/2015</b>	Analysis Date: <b>7/28/2015</b>	SeqNo: <b>836262</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	4.8	23.99	0	112	62.5	151			
Surr: BFB	910		959.7		95.2	75.4	113			

Sample ID: <b>1507B85-001AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>EPA Method 8015D: Gasoline Range</b>								
Client ID: <b>SC-1</b>	Batch ID: <b>20460</b>	RunNo: <b>27801</b>								
Prep Date: <b>7/27/2015</b>	Analysis Date: <b>7/28/2015</b>	SeqNo: <b>836263</b>			Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.8	23.81	0	110	62.5	151	2.67	22.1	
Surr: BFB	900		952.4		94.2	75.4	113	0	0	

**Qualifiers:**

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

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: 1507B85

31-Jul-15

**Client:** Rule Engineering LLC  
**Project:** Navajo C #2M Lateral

Sample ID	<b>MB-20460</b>	SampType:	<b>MBLK</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>PBS</b>	Batch ID:	<b>20460</b>	RunNo:	<b>27801</b>					
Prep Date:	<b>7/27/2015</b>	Analysis Date:	<b>7/28/2015</b>	SeqNo:	<b>836278</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.050								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		90.2	80	120			

Sample ID	<b>LCS-20460</b>	SampType:	<b>LCS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>LCSS</b>	Batch ID:	<b>20460</b>	RunNo:	<b>27801</b>					
Prep Date:	<b>7/27/2015</b>	Analysis Date:	<b>7/28/2015</b>	SeqNo:	<b>836279</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.050	1.000	0	104	76.6	128			
Toluene	1.0	0.050	1.000	0	101	75	124			
Ethylbenzene	1.0	0.050	1.000	0	101	79.5	126			
Xylenes, Total	3.0	0.10	3.000	0	101	78.8	124			
Surr: 4-Bromofluorobenzene	0.94		1.000		94.1	80	120			

Sample ID	<b>1507B85-002AMS</b>	SampType:	<b>MS</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-2</b>	Batch ID:	<b>20460</b>	RunNo:	<b>27801</b>					
Prep Date:	<b>7/27/2015</b>	Analysis Date:	<b>7/28/2015</b>	SeqNo:	<b>836282</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.048	0.9681	0	116	69.6	136			
Toluene	1.1	0.048	0.9681	0.01051	111	76.2	134			
Ethylbenzene	1.1	0.048	0.9681	0	116	75.8	137			
Xylenes, Total	3.3	0.097	2.904	0.02618	114	78.9	133			
Surr: 4-Bromofluorobenzene	0.93		0.9681		96.2	80	120			

Sample ID	<b>1507B85-002AMSD</b>	SampType:	<b>MSD</b>	TestCode:	<b>EPA Method 8021B: Volatiles</b>					
Client ID:	<b>SC-2</b>	Batch ID:	<b>20460</b>	RunNo:	<b>27801</b>					
Prep Date:	<b>7/27/2015</b>	Analysis Date:	<b>7/28/2015</b>	SeqNo:	<b>836283</b>	Units:	<b>mg/Kg</b>			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.048	0.9662	0	119	69.6	136	2.06	20	
Toluene	1.1	0.048	0.9662	0.01051	116	76.2	134	3.73	20	
Ethylbenzene	1.1	0.048	0.9662	0	117	75.8	137	0.565	20	
Xylenes, Total	3.4	0.097	2.899	0.02618	115	78.9	133	0.820	20	
Surr: 4-Bromofluorobenzene	0.94		0.9662		96.8	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

**Sample Log-In Check List**

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1507B85**

RcptNo: **1**

Received by/date:

*JK* 07/25/15

Logged By: **Lindsay Mangin**

7/25/2015 9:10:00 AM

*Lindsay Mangin*

Completed By: **Lindsay Mangin**

7/27/2015 7:34:36 AM

*Lindsay Mangin*

Reviewed By:

*JK* 07/27/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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	2.7	Good	Yes			

# Chain-of-Custody Record

Client: Rule Engineering

Mailing Address: 501 Airport Drive  
Farmington NM 87401

Phone #: 505 860 2112

email or Fax#:

QA/QC Package:  
 Standard       Level 4 (Full Validation)

Accreditation  
 NELAP       Other \_\_\_\_\_

EDD (Type) \_\_\_\_\_

Turn-Around Time:  
 Standard       Rush

Project Name:  
Navajo C#2 M Lateral

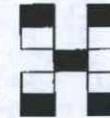
Project #:

Project Manager:  
D Watson

Sampler: D Watson

On Ice:  Yes       No

Sample Temperature: 2.7



## 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	Container Type and #	Preservative Type	HEAL No.	BTEX + <del>MTBE</del> (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO/DRO / <del>8021</del> )	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F, Cl, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> )	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)	
7-24-15	1200	Soil	SC-1	1-4oz	Cold	1507B885 -001	X		X										
	1155		SC-2			-002	X		X										
	1152		SC-3			-003	X		X										
	1150		SC-4			-004	X		X										
	1145		SC-5			-005	X		X										

Date: 7/24/15 Time: 1547 Relinquished by: Deborah Watson

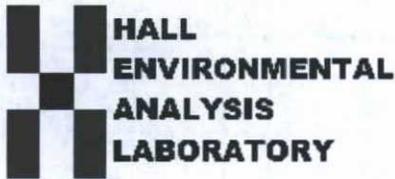
Date: 7/24/15 Time: 1737 Relinquished by: Chris Waltz

Received by: Christin White Date: 7/24/15 Time: 1547

Received by: [Signature] Date: 07/25/15 Time: 0910

Remarks:  
 Bill to Enterprise RBZ1200  
 Attn: Tom Long  
 Work order: N21944 Area: 300C

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.



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

August 13, 2015

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

RE: Enterprise Navajo #2M

OrderNo.: 1508324

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/7/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to [www.hallenvironmental.com](http://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.

Analytical Report  
 Lab Order 1508324  
 Date Reported: 8/13/2015

CLIENT: Rule Engineering LLC  
 Project: Enterprise Navajo #2M  
 Lab ID: 1508324-001

Matrix: SOIL

Client Sample ID: SC-6  
 Collection Date: 8/6/2015 7:00:00 PM  
 Received Date: 8/7/2015 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8015M/D: DIESEL RANGE ORGANICS</b>							Analyst: <b>KJH</b>
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	8/10/2015 4:52:51 PM	20683
Surr: DNOP	77.5	57.9-140		%REC	1	8/10/2015 4:52:51 PM	20683
<b>EPA METHOD 8015D: GASOLINE RANGE</b>							Analyst: <b>NSB</b>
Gasoline Range Organics (GRO)	4.9	4.7		mg/Kg	1	8/11/2015 9:45:31 AM	20686
Surr: BFB	102	75.4-113		%REC	1	8/11/2015 9:45:31 AM	20686

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

<b>Qualifiers:</b>	* 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	

# QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1508324

13-Aug-15

Client: Rule Engineering LLC  
Project: Enterprise Navajo #2M

Sample ID	MB-20683	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	20683	RunNo:	28064					
Prep Date:	8/10/2015	Analysis Date:	8/10/2015	SeqNo:	845328	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Surr: DNOP	9.2		10.00		91.8	57.9	140			

Sample ID	LCS-20683	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	20683	RunNo:	28064					
Prep Date:	8/10/2015	Analysis Date:	8/10/2015	SeqNo:	845329	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	62	10	50.00	0	124	57.4	139			
Surr: DNOP	5.7		5.000		115	57.9	140			

### Qualifiers:

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

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

WO#: 1508324  
 13-Aug-15

**Client:** Rule Engineering LLC  
**Project:** Enterprise Navajo #2M

Sample ID <b>MB-20686</b>	SampType: <b>MBLK</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>PBS</b>	Batch ID: <b>20686</b>		RunNo: <b>28106</b>							
Prep Date: <b>8/10/2015</b>	Analysis Date: <b>8/11/2015</b>		SeqNo: <b>846886</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	900		1000		89.6	75.4	113			

Sample ID <b>LCS-20686</b>	SampType: <b>LCS</b>		TestCode: <b>EPA Method 8015D: Gasoline Range</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>20686</b>		RunNo: <b>28106</b>							
Prep Date: <b>8/10/2015</b>	Analysis Date: <b>8/11/2015</b>		SeqNo: <b>846887</b>		Units: <b>mg/Kg</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	97.8	79.6	122			
Surr: BFB	1000		1000		99.7	75.4	113			

**Qualifiers:**

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

**Sample Log-In Check List**

Client Name: **RULE ENGINEERING LL**

Work Order Number: **1508324**

RcptNo: **1**

Received by/date: ACJ 08/07/15

Logged By: **Ashley Gallegos** 8/7/2015 8:00:00 AM AG

Completed By: **Ashley Gallegos** 8/7/2015 4:54:15 PM AG

Reviewed By: [Signature] 08/07/15

**Chain of Custody**

- 1. Custody seals intact on sample bottles? Yes  No  Not Present
- 2. Is Chain of Custody complete? Yes  No  Not Present
- 3. How was the sample delivered? 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	2.7	Good	Not Present			

