



AE Order Number Banner

Report Description

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App Number: pJK1424832159

3RP - 1011

ENTERPRISE PRODUCTS OPERATING, LLC

1/19/2017

3R-1011

**Release Report/ General
Correspondence**

Enterprise SJ

Date: Jan-Mar 2017

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

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: Enterprise Field Services LLC	Contact: Thomas Long	
Address: 614 Reilly Ave, Farmington, NM 87401	Telephone No. 505-599-2286	
Facility Name: Payne #221	Facility Type: Natural Gas Gathering Pipeline	
Surface Owner: Private	Mineral Owner: BLM	API No.

LOCATION OF RELEASE

Unit Letter D	Section 22	Township 31N	Range 10W	Feet from the 1759	<u>North</u> /South Line	Feet from the 1127	East/ <u>West</u> Line	County San Juan
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OIL CONS. DIV DIST. 3

Latitude **36.974646** Longitude **107.874562**

MAR 24 2017

NATURE OF RELEASE

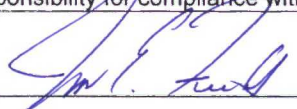

Type of Release: Natural Gas and Natural Gas Liquids	Volume of Release: Unknown	Volume Recovered: None
Source of Release: Suspected internal corrosion	Date and Hour of Occurrence: 3/8/2017 @ 11:15 a.m.	Date and Hour of Discovery: 3/8/2017 @ 11:15 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification: Vanessa Fields – NMOCD	
By Whom? Thomas Long	Date and Hour March 15, 2017 @ 11:17 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 March 8, 2017, during routine operations a field operation technician identified a natural gas release on Payne #221 pipeline. The pipeline was isolated, depressurized, locked out and tagged out. Repairs and remediation are currently in progress and Enterprise has determined this release is reportable per NMOCD regulation on March 8, 2017, due to the volume of subsurface impacts.

Describe Area Affected and Cleanup Action Taken.* Repairs and remediation are currently in progress. Enterprise will remove the contaminant mass by mechanical excavation. A third party corrective action report will be included with the "Final." C-141.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 3/27/2017 Expiration Date:	
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input checked="" type="checkbox"/>
Date: 3-21-2017 Phone: (713)381-6684	NVF1707656452	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number **nVF1707656452** has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District III office in 30 days_ on or before 4/8/2017. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold

OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

District I
1625 N. French Dr., Hobbs, NM 88240
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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: Val Verde Plant	Facility Type: Natural Gas Processing Plant

Surface Owner: Private	Mineral Owner: Federal	Serial Number: N/A
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LOCATION OF RELEASE

Unit Letter A	Section 14	Township 29N	Range 11W	Feet from the 823 North/South Line	Feet from the 1193 East/West Line	County San Juan
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Latitude 36.730730

Longitude -107.955961

NATURE OF RELEASE

Type of Release: 50% Water, 50% Amine Solution	Volume of Release 5-7 BBLs	Volume Recovered: None
Source of Release: Cracked Expansion Joint on a Booster Pump	Date and Hour of Occurrence: 1/18/2017 @ 4:00 a.m.	Date and Hour of Discovery: 1/18/2017 @ 4:30 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Courtesy Notification: Vanessa Fields - NMOCD on 1/19/2017	
By Whom?	Date and Time.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume	

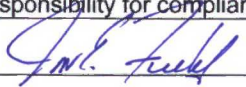
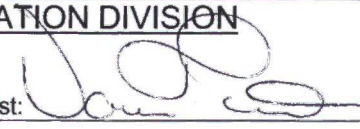
OIL CONS. DIV DIST. 3
MAR 13 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action: On January 18, 2017, Enterprise technicians discovered a release of a 50% Water, 50% Amine solution from a cracked expansion joint of a booster pump. Approximately 5-7 barrels or a 50% Water, 50% Amine solution was released and flowed approximately 170 feet south with in the facility. The pumped was isolated and removed from surface while repairs were completed.

Describe Area Affected and Cleanup Action: Enterprise excavated the impacted soil utilizing hand tools guided by olfactory and visual senses. Approximately 12 cubic yards of impacted soil was excavated as much as practical from around the operating equipment and properly disposed of at an NMOCD approved land farm facility. The bill of lading is attached.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: 3/14/2017	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 3-7-17	Phone: (713)381-6684	NVF1703233142

* Attach Additional Sheets If Necessary

Envirotech Inc.
5796 Hwy 64
Farmington, NM 87401
Phone: 505-632-0615
Fax: 505-632-1865

envirotech

Invoice

To:

Enterprise Products
Attn: Tom Long
614 Reilly Ave.
Farmington, NM 87401

Invoice Number: 41948

Project/Job: 97057-0821-2 LF

DATE: 1/31/2017

Project Manager: EWL

Val Verde Plant - amine release
Accept contaminated soil
Ordered by Tom Long

RECEIVED

FEB 06 2017

BY: *Approved TSL* 2-7-17

Service Date	Units	U/M	Description	Rate	Total
1/27/2017	12	CY	Soil Remediation at Permitted Facility - BOL 55994	18.00	216.00T
1/27/2017	1	Ea	Paint Filter Test	10.00	10.00T
1/27/2017	1	Ea	Chloride Test	15.00	15.00T

This may not be the final bill - if charges are received after this invoice has been mailed, you will receive a separate invoice for those costs.

TERMS: Net 30 Days from Invoice Date. Interest Charged at the Rate of 1.5% PER MONTH or 18% PER ANNUM on Accounts Not Paid Within 30 Days. PLEASE PAY FROM THIS INVOICE.

Subtotal \$241.00

Sales Tax (6.5625%) \$15.82

Amount due this Invoice **\$256.82**

**envirotech**

Bill of Lading

PHONE: (505) 632-0615 • 5796 U.S. HIGHWAY 64 • FARMINGTON, NEW MEXICO 87401

MANIFEST # 55394

MANUFACTURER Enterprise

POINT OF ORIGIN Val Verde Plant

TRANSPORTER West States

DATE 1-27-17 JOB # 97057-0821

LOAD NO.	COMPLETE DESCRIPTION OF SHIPMENT					TRANSPORTING COMPANY			
	DESTINATION	MATERIAL	GRID	YDS	BBLS	TKT#	TRK#	TIME	DRIVER SIGNATURE
1	LFI-5	CONT SOIL	L-19	3			188	1008	Craig T
2	LFI-5	" "	L-19	3			188	1118	Craig T
3	LFI-5	" "	L-19	3			188	1324	Craig T
4	" "	" "	M-19	<u>3</u>			188	15:15	Craig T
				12					
RESULTS			LANDFARM EMPLOYEE			NOTES			
< 303	CHLORIDE TEST	1	Gary Robinson EL Certification of above receipt & placement			ENTERED FEB 9 2017			
	PAINT FILTER TEST	1							

By signing as the driver/transporter, I certify the material hauled from the above location has not been added to or tampered with. I certify the material is from the above mentioned Generator/Point of Origin and that no additional material has been added or mixed into the load.

Generator Onsite Contact

Phone

Signatures required prior to distribution of the legal document.

DISTRIBUTION:

White - Company Records,

Yellow - Billing.

Pink - Customer,

Goldenrod - LF Copy

District I
1625 N. French Dr., Hobbs, NM 88240
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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: Blanco Plant D-Turbine	Facility Type: Natural Gas Processing Plant

Surface Owner: BLM	Mineral Owner: BLM	Serial Number: NM 0 014706
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LOCATION OF RELEASE

Unit Letter O	Section 11	Township 29N	Range 11W	Feet from the 620	North/South Line North	Feet from the 152	East/West Line West	County San Juan
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Latitude 36.734617 Longitude -107.960433

NATURE OF RELEASE

Type of Release: Lubrication Oil	Volume of Release Approximately 15 barrels	Volume Recovered: None
Source of Release: Facility Blowdown Vent Pipe	Date and Hour of Occurrence: 11/7/2016 @ 1:40 p.m.	Date and Hour of Discovery: 11/7/2016 @ 1:40 p.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom? Vanessa Fields - NMOCD and Whitney Thomas - BLM	
By Whom? Thomas Long	Date and Time November 8, 2016 @ 2:27 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume	

OIL CONS. DIV DIST. 3

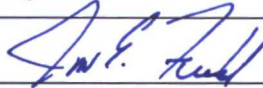

FEB 06 2017

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action: On November 7, 2016, a release of lubrication oil from facility blowdown vent pipe occurred. The release was a result of residual lubrication seal oil being ejected from the blowdown vent pipe during an Emergency Shutdown event. The Emergency Shutdown event occurred during equipment maintenance activities at the Blanco Plant facility. The blowdown vent pipe is used when the station is being depressurized due to either an emergency event or during maintenance activities

Describe Area Affected and Cleanup Action: An area of approximately 310 feet long by 90 feet wide was saturated with lubrication oil. An area of approximately 0.75 miles long was misted with the lubrication oil. The Conoco Phillips San Juan Gas Plant and residents located to west of the facility were impacted. Vehicles were impacted with a mist of lubrication oil. Enterprise provided cleaning services for impacted property owner's vehicles. Approximately 595 cubic yards of hydrocarbon impacted soil were excavated and transported to a New Mexico Oil Conservation Division approved land farm facility. A third party corrective action report is included with this "Final" C-141. This C-141 submittal is associated with Incident # **nVF1631952275**.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Jon E. Fields	Approved by Environmental Specialist: 	
Title: Director, Environmental	Approval Date: <u>2/8/2017</u>	Expiration Date:
E-mail Address: jefields@eprod.com	Conditions of Approval: NVF1631952275	Attached <input type="checkbox"/>
Date: <u>2/5/2017</u>	Phone: (713)381-6684	

* Attach Additional Sheets If Necessary

** provide re-veg time frame*
** Submit quarterly re-veg reports in 2017*

59

OIL CONS. DIV DIST. 3
FEB 06 2017

**Blanco Plant D-Turbine
Lubrication Oil Release
(11/7/2016) Report**

UL N & O, Sec 11, T29N, R11W
San Juan County, New Mexico

January 12, 2017

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 Blanco Plant D-Turbine Lubrication Oil Release (11/7/2016) 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

January 12, 2017

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Tables

Table 1	Waste Characterization Laboratory Analytical Results
Table 2	Confirmation Soil Sampling Laboratory Analytical Results – Metals
Table 3	Confirmation Soil Sampling Laboratory Analytical Results – BTEX & TPH

Figures

Figure 1	Topographic Map
Figure 2	Aerial Site Map

Appendices

Appendix A	Waste Characterization Analytical Laboratory Report
Appendix B	Archaeological Report
Appendix C	Executed C-138 Soil Waste Acceptance Form
Appendix D	Confirmation Soil Sampling Analytical Laboratory Reports

1.0 Introduction

The Enterprise Field Services, LLC (Enterprise) Blanco Plant D-Turbine Lubrication Oil release site is located in Unit Letters N & O, Section 11, Township 29 North, Range 11 West, in San Juan County, New Mexico. The release occurred on November 7, 2016, as the result of ejection of lubrication seal oil from the blowdown vent pipe during an emergency shutdown event at the Blanco Plant facility. Lubrication seal oil accumulated in the gas compressor and associated piping and was emitted through the blowdown vent stack during the depressurization event.

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

2.0 Release Summary

Site Name	Blanco Plant D-Turbine Lubrication Oil Release		
Site Location Description	Unit Letters N & O, Section 11, Township 29 North, Range 11 West (N36.73462, W107.96039)		
Land Jurisdiction	Bureau of Land Management (BLM) and Private		
Release Date	November 7, 2016	Reported by	Thomas Long
Agency Notification	New Mexico Oil Conservation Division (NMOCD) and BLM		
NMOCD Site Rank	30	Release Source	Blowdown Vent
Substance Released	Lubrication seal oil		
Distance to Nearest Surface Water	Unnamed, ephemeral wash approximately 140 feet east of release location		
Estimated Depth to Groundwater	Between 50 to 100 feet below grade surface (bgs)	Distance to Nearest Water Well or Spring	Greater than 1,000 feet
Approx. Excavation Dimensions	Irregularly shaped, maximum dimensions of approximately 310 feet by 90 feet by 0.5 to 1.0 feet in depth		
Contractor	West States Energy Contractor, Inc. (West States)		
Volume of Soil Transported for Disposal Remediation	Approximately 595 cubic yards	Disposal Facility	Envirotech Landfarm (Permit #NM-01-0011)

3.0 NMED Soil Screening Levels/Site Specific Remediation Standards

The release included Resource Conservation and Recovery Act (RCRA) non-exempt oil field waste shown to be non-hazardous via laboratory analysis (see Table 1 and Waste Characterization Laboratory Analytical Report in Appendix A). Based on the nature of the released material, the composite sample collected from saturated soils in the release area

was analyzed for constituents of concern. Soil screening levels for industrial use per the New Mexico Environment Department (NMED) Risk Assessment Guidance for Site Investigations and Remediation (July 2015) for these constituents of concern are provided in Table 1.

Depth to groundwater at the site is estimated to be between 50 and 100 feet bgs based on the elevation differential between the release location and the wash in Bloomfield Canyon and Citizens Ditch, as well as depth to groundwater information available for nearby water wells registered on the New Mexico Office of the State Engineer online New Mexico Water Rights Reporting System (NMWRRS). A review was completed of the NMWRRS and no water wells were identified within a 1,000 foot radius of the location. No water wells were observed within a 1,000 foot radius of the location during a visual inspection. An unnamed, ephemeral wash traverses the area approximately 140 feet east of the release location.

Site specific remediation standards based on the NMOCD Guidelines for Remediation of Leaks, Spills, and Releases (August 1993), were accepted by the BLM and NMOCD. Site specific remediation standards 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), diesel range organics (DRO), and motor oil range organics (MRO).

4.0 Field Activities

On November 7, 2016, Enterprise provided cleaning services for impacted property owner's vehicles. Forty-one vehicles were cleaned by Donny's Power Wash Company. Property owners declined cleaning of the exterior of their homes. Impacted bales of hay for feeding livestock were replaced. The waste characterization sample was collected from saturated soils near the release location by Enterprise personnel on November 8, 2016.

Prior to surface disturbance at the site, an archaeological survey was completed which found no cultural material in the work area. On November 17 and 18, 2016, Enterprise performed remedial excavation activities of the surface soils in the impacted area. West States provided heavy equipment operation and repair support. Rule Engineering, LLC (Rule) personnel provided excavation guidance and collected confirmation samples from the resultant excavation. Laboratory results for the two western most confirmation samples indicated TPH concentrations in excess of 100 mg/kg. Therefore, additional excavation was performed in the affected area and additional confirmation samples were collected on November 30, 2016. The final excavation was an irregular shape of which the maximum dimensions measured approximately 310 feet by 90 feet by 0.5 to 1.0 feet in depth. Approximately 595 cubic yards were transported to Envirotech Landfarm for disposal/remediation. The remedial excavation was backfilled with clean, imported soils.

A summary of the laboratory results for the waste characterization sample is presented in Table 1 and the analytical laboratory report is included in Appendix A. The

archaeological report is included as Appendix B. A depiction of the excavation with sample locations is included as Figure 2. A copy of the executed C-138 Solid Waste Acceptance Form is included in Appendix C.

5.0 Soil Sampling

Rule collected confirmation excavation soil samples SC-1 through SC-5 on November 18, 2016, from the excavated area. Laboratory results for samples SC-4 and SC-5 exceeded the site specific remediation standard for TPH and subsequent to additional excavation of the corresponding areas, were resampled as SC-6 and SC-7 on November 30, 2016. Each confirmation soil sample is a representative composite comprised of 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/MRO) per USEPA Method 8015M/D. Sample SC-1 was also analyzed for selected metals per USEPA Methods 6010B and 7471. Laboratory analytical results are summarized in Tables 2 and 3, and the analytical laboratory reports are included in Appendix D.

A portion of each sample was field screened for volatile organic compounds (VOCs) and TPH. Field screening for VOC vapors was conducted with a photoionization detector (PID). Prior to field screening, the PID was calibrated with 100 parts per million (ppm) isobutylene gas. Field analysis for TPH was conducted for selected samples per USEPA Method 418.1, utilizing a total hydrocarbon analyzer. Prior to field analysis, the machine was calibrated following the manufacturer's procedure which includes calculation of a calibration curve using known concentration standards. Rule's reporting limit for TPH using this method is 20 mg/kg.

6.0 Laboratory Analytical Results

Laboratory analytical results for the excavation confirmation samples (SC-1 through SC-7) reported benzene and total BTEX concentrations below the laboratory reporting limits, which are below the site specific remediation standards. Laboratory analytical results for the excavation confirmation samples SC-4 and SC-5 reported TPH (GRO/DRO/MRO) concentrations of 216 mg/kg and 159 mg/kg, respectively, which exceed the site specific remediation standard of 100 mg/kg. The areas associated with samples SC-4 and SC-5 were resampled as SC-6 and SC-7 subsequent to additional excavation and laboratory results for these samples reported TPH (GRO/DRO/MRO) concentrations of below the laboratory reporting limits, which are below site specific remediation standard. Laboratory analytical results for the remainder of the samples reported TPH (GRO/DRO/MRO) concentrations ranging from below the laboratory reporting limits to 79 mg/kg, which are below the site specific remediation standard. Laboratory analytical results for excavation confirmation sample SC-1 report arsenic, barium, cadmium, chromium, lead, selenium,

silver, and mercury concentrations below applicable NMED soil screening levels for industrial use.

Laboratory analytical results are summarized in Table 2 and 3. The analytical laboratory reports are included in Appendix D.

7.0 Conclusions

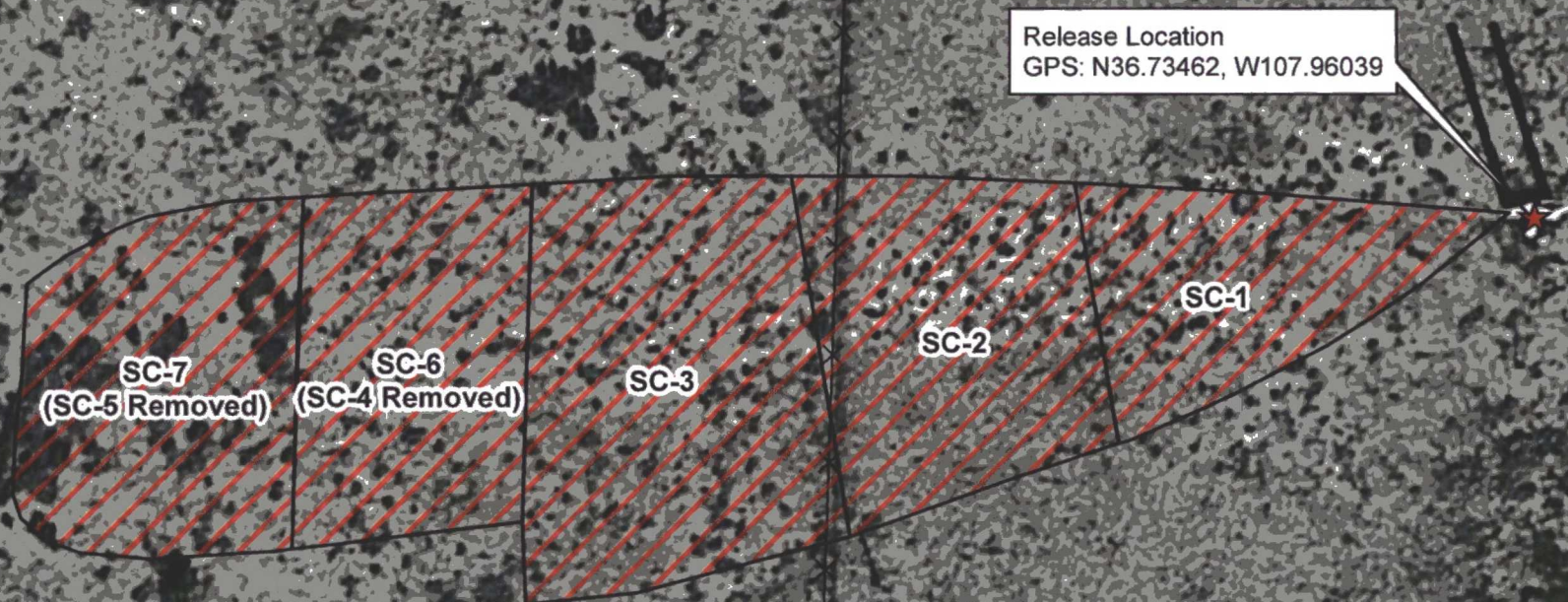
Hydrocarbon impacted soils associated with the November 7, 2016, release of lubrication seal oil at the Enterprise Blanco Plant release site have been excavated and transported to Envirotech Landfarm for disposal/remediation. Cleaning services have been provided for impacted property owner's vehicles and bales of hay for feeding livestock have been replaced. The excavated area has been backfilled with clean, imported soils and the area will be reseeded utilizing the BLM approved seed mixture. Laboratory analytical results for samples collected from the final excavation indicate that concentrations of benzene, total BTEX, TPH, and selected metals are below the site specific remediation standards and NMED soil screening levels for industrial use. Therefore, no further soil remediation work is recommended. Quarterly vegetation surveys will be conducted for the next six months.

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.

Legend

- ★ Release Location
- ▨ Release Sampling Areas
- X— Fence



Source: Google Earth

Rule Engineering, LLC
Solutions to Regulations for Industry

0 20 40 80 Feet
1 inch = 40 feet



UL N&O-S11-T29-R11W
N36.73462, W107.96039
San Juan County, NM

Figure 2
Sample Location Map
Blanco Plant D-Turbine Lubrication
Oil (11/7/2016) Release

Tables

Table 1. Waste Characterization Laboratory Analytical Results
Enterprise Field Services, LLC
Blanco Plant D-Turbine Lubrication Oil (11/7/2016) Release
San Juan County, New Mexico

Sample Name	Date	Sample Location	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)	TPH as MRO (mg/kg)
NMED Soil Screening Levels for Industrial Use*			87.2	61,300	368	4,280	--	5,000		
Site Specific Remediation Standards**			10	NE	NE	NE	50	100		
SC-1	11/8/2016	Saturated Soils	<0.017	0.084	<0.034	0.48	0.56	7.1	3,500	15,000

Sample Name	Date	Sample Location	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Mercury (mg/kg)
NMED Soil Screening Levels for Industrial Use*			21.5	25,500	1,110	505	800	6,490	6,490	112
SC-1	11/8/2016	Saturated Soils	<2.5	60	<0.10	2.4	2.0	<2.5	<0.25	0.036

Notes: ft bgs - feet below grade surface

mg/kg - milligrams per kilogram

NMED - New Mexico Environment Department

NMOCD - New Mexico Oil Conservation Division

BTEX - benzene, toluene, ethylbenzene, and xylenes

*Per New Mexico Environment Department Risk Assessment Guidance for Investigations and Remediation (July 2015)

**Site specific remediation standards based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases* (August 1993)

TPH - total petroleum hydrocarbons

GRO - gasoline range organics

DRO - diesel range organics

MRO - motor oil range organics

ND - not detected above laboratory reporting limits

Table 2. Confirmation Soil Sampling Laboratory Analytical Results - Metals
Enterprise Field Services, LLC
Blanco Plant D-Turbine Lubrication Oil (11/7/2016) Release
San Juan County, New Mexico

Sample Name	Date	Sample Location (ft bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Mercury (mg/kg)
NMED Soil Screening Levels for Industrial Use*			21.5	25,500	1,110	505	800	6,490	6,490	112
SC-1	11/18/2016	0.5 to 1	<2.4	93	<0.096	2.8	2.2	<2.4	<0.24	<0.033

Notes: ft bgs - feet below grade surface

mg/kg - milligrams per kilogram

NMED - New Mexico Environment Department

*Per New Mexico Environment Department Risk Assessment Guidance for Investigations and Remediation (July 2015)

**Site specific remediation standards based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases* (August 1993)

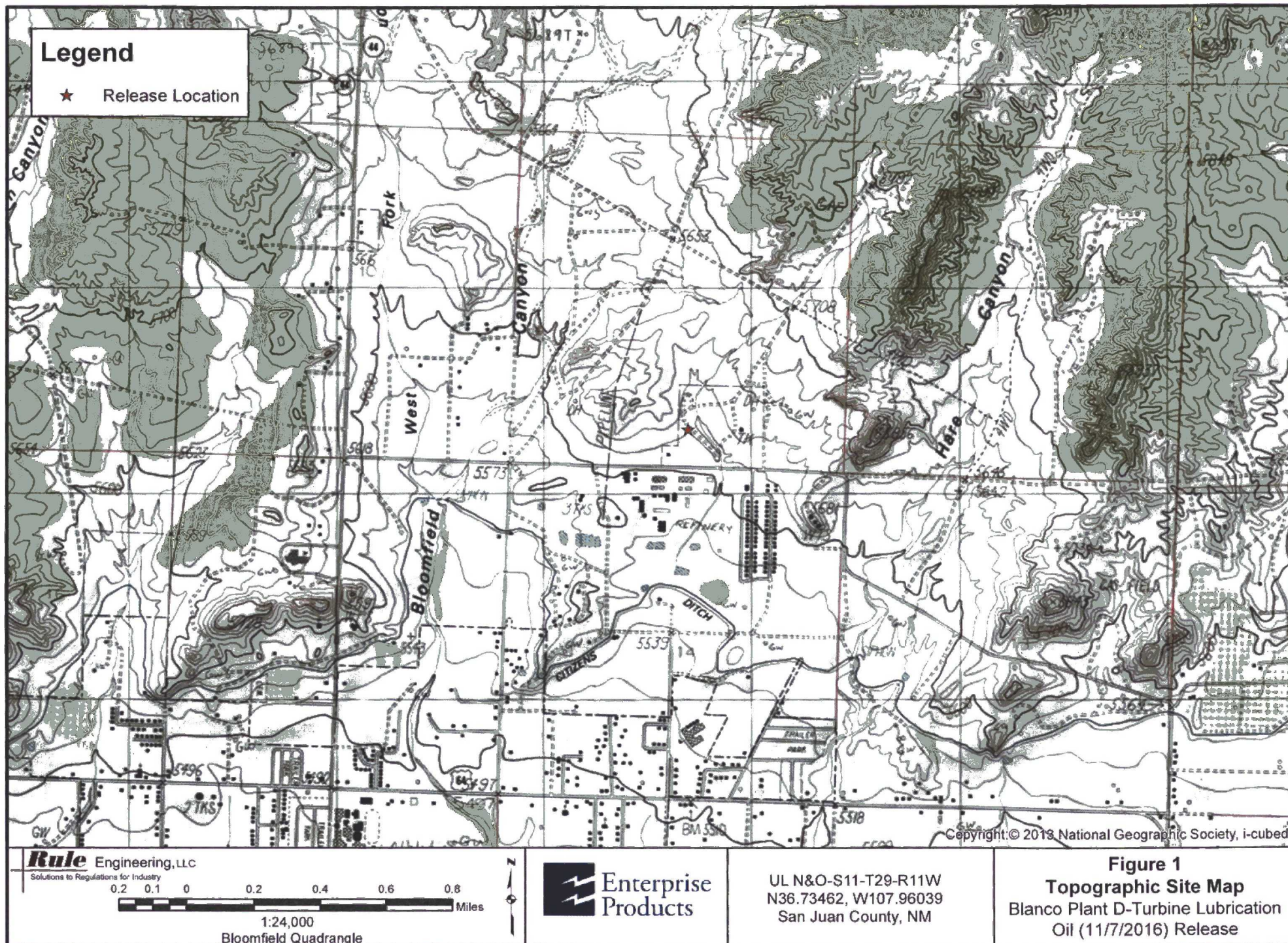
Table 3. Confirmation Soil Sampling Laboratory Analytical Results - BTEX and TPH
Enterprise Field Services, LLC
Blanco Plant D-Turbine Lubrication Oil (11/7/2016) Release
San Juan County, New Mexico

Sample Name	Date	Approximate Sample Depth (ft bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH as GRO (mg/kg)	TPH as DRO (mg/kg)	TPH as MRO (mg/kg)
NMED Soil Screening Levels for Industrial Use*			87.2	61,300	368	4,280	--	5,000		
Site Specific Remediation Standards**			10	NE	NE	NE	50	100		
Excavation Confirmation Samples										
SC-1	11/18/2016	0.5 to 1	<0.048	<0.048	<0.048	<0.097	ND	<4.8	16	63
SC-2	11/18/2016	0.5 to 1	<0.024	<0.049	<0.049	<0.098	ND	<4.9	<9.9	<49
SC-3	11/18/2016	0.5 to 1	<0.023	<0.046	<0.046	<0.092	ND	<4.6	<10	<50
SC-6	11/30/2016	0.5 to 1	<0.022	<0.044	<0.044	<0.088	ND	<4.4	<9.6	<48
SC-7	11/30/2016	0.5 to 1	<0.018	<0.037	<0.037	<0.073	ND	<3.7	<9.8	<49
Samples Removed by Excavation										
SC-4	11/18/2016	0.5 to 1	<0.024	<0.047	<0.047	<0.094	ND	<4.7	46	170
SC-5	11/18/2016	0.5 to 1	<0.025	<0.049	<0.049	<0.099	ND	<4.9	29	130

Notes: ft bgs - feet below grade surface
mg/kg - milligrams per kilogram
NMOCD - New Mexico Oil Conservation Division
NMED - New Mexico Environment Department
BTEX - benzene, toluene, ethylbenzene, and xylenes
*Per New Mexico Environmental Department Risk Assessment Guidance for Investigations and Remediation (July 2015)
**Site specific remediation standards based on the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases (August 1993)*

TPH - total petroleum hydrocarbons
GRO - gasoline range organics
DRO - diesel range organics
MRO - motor oil range organics
ND - not detected above laboratory reporting limits

Figures



Appendix A

Waste Characterization Analytical Laboratory Report



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

November 15, 2016

Thomas Long
Enterprise Field Services
614 Reilly Ave.
Farmington, NM 87401
TEL: (505) 599-2141
FAX

RE: Blanco Plant Blow Down Vent Stack

OrderNo.: 1611445

Dear Thomas Long:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/9/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611445

Date Reported: 11/15/2016

CLIENT: Enterprise Field Services

Client Sample ID: SC-1

Project: Blanco Plant Blow Down Vent Stack

Collection Date: 11/8/2016 2:40:00 PM

Lab ID: 1611445-001

Matrix: SOIL

Received Date: 11/9/2016 8:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7471: MERCURY							Analyst: JLF
Mercury	0.036	0.033		mg/Kg	1	11/11/2016 4:28:23 PM	28623
EPA METHOD 6010B: SOIL METALS							Analyst: MED
Arsenic	ND	2.5		mg/Kg	1	11/11/2016 1:46:17 PM	28592
Barium	60	0.10		mg/Kg	1	11/11/2016 1:46:17 PM	28592
Cadmium	ND	0.10		mg/Kg	1	11/11/2016 1:46:17 PM	28592
Chromium	2.4	0.30		mg/Kg	1	11/11/2016 1:46:17 PM	28592
Lead	2.0	0.25		mg/Kg	1	11/11/2016 1:46:17 PM	28592
Selenium	ND	2.5		mg/Kg	1	11/11/2016 1:46:17 PM	28592
Silver	ND	0.25		mg/Kg	1	11/11/2016 1:46:17 PM	28592
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	3500	940		mg/Kg	100	11/11/2016 12:25:02 PM	28604
Motor Oil Range Organics (MRO)	15000	4700		mg/Kg	100	11/11/2016 12:25:02 PM	28604
Surr: DNOP	0	70-130	S	%Rec	100	11/11/2016 12:25:02 PM	28604
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	7.1	3.4		mg/Kg	1	11/9/2016 11:04:38 AM	G38567
Surr: BFB	112	68.3-144		%Rec	1	11/9/2016 11:04:38 AM	G38567
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.017		mg/Kg	1	11/9/2016 11:04:38 AM	B38567
Toluene	0.084	0.034		mg/Kg	1	11/9/2016 11:04:38 AM	B38567
Ethylbenzene	ND	0.034		mg/Kg	1	11/9/2016 11:04:38 AM	B38567
Xylenes, Total	0.48	0.067		mg/Kg	1	11/9/2016 11:04:38 AM	B38567
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	11/9/2016 11:04:38 AM	B38567

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611445

15-Nov-16

Client: Enterprise Field Services

Project: Blanco Plant Blow Down Vent Stack

Sample ID	LCS-28604	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	28604	RunNo:	38641					
Prep Date:	11/10/2016	Analysis Date:	11/11/2016	SeqNo:	1207021	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.5	62.6	124			
Surr: DNOP	4.4		5.000		88.8	70	130			

Sample ID	MB-28604	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	28604	RunNo:	38641					
Prep Date:	11/10/2016	Analysis Date:	11/11/2016	SeqNo:	1207022	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.3		10.00		93.2	70	130			

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611445

15-Nov-16

Client: Enterprise Field Services
Project: Blanco Plant Blow Down Vent Stack

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	G38567	RunNo:	38567					
Prep Date:		Analysis Date:	11/9/2016	SeqNo:	1205218	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	840		1000		84.1	68.3	144			

Sample ID	2.5UG GRO LCS	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	G38567	RunNo:	38567					
Prep Date:		Analysis Date:	11/9/2016	SeqNo:	1205219	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	94.6	74.6	123			
Surr: BFB	910		1000		90.8	68.3	144			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611445

15-Nov-16

Client: Enterprise Field Services
Project: Blanco Plant Blow Down Vent Stack

Sample ID	RB	SampType:	MBLK	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	PBS	Batch ID:	B38567	RunNo:	38567					
Prep Date:		Analysis Date:	11/9/2016	SeqNo:	1205233	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.99		1.000		98.6	80	120			

Sample ID	100NG BTEX LCS	SampType:	LCS	TestCode:	EPA Method 8021B: Volatiles					
Client ID:	LCSS	Batch ID:	B38567	RunNo:	38567					
Prep Date:		Analysis Date:	11/9/2016	SeqNo:	1205234	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.2	0.025	1.000	0	118	75.2	115			S
Toluene	1.1	0.050	1.000	0	108	80.7	112			
Ethylbenzene	1.0	0.050	1.000	0	102	78.9	117			
Xylenes, Total	3.1	0.10	3.000	0	102	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		106	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 | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611445

15-Nov-16

Client: Enterprise Field Services

Project: Blanco Plant Blow Down Vent Stack

Sample ID	LCS-28623			SampType:	LCS		TestCode:	EPA Method 7471: Mercury			
Client ID:	LCSS			Batch ID:	28623		RunNo:	38656			
Prep Date:	11/11/2016			Analysis Date:	11/11/2016		SeqNo:	1207343		Units:	mg/Kg
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.17	0.033	0.1667	0	102	80	120				

Sample ID	MB-28623		SampType: MBLK		TestCode: EPA Method 7471: Mercury					
Client ID:	PBS		Batch ID: 28623		RunNo: 38656					
Prep Date:	11/11/2016		Analysis Date: 11/11/2016		SeqNo: 1207345		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611445

15-Nov-16

Client: Enterprise Field Services
Project: Blanco Plant Blow Down Vent Stack

Sample ID	MB-28592		SampType:	MBLK		TestCode:	EPA Method 6010B: Soil Metals				
Client ID:	PBS		Batch ID:	28592		RunNo:	38646				
Prep Date:	11/10/2016		Analysis Date:	11/11/2016		SeqNo:	1207115		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Arsenic	ND	2.5									
Barium	ND	0.10									
Cadmium	ND	0.10									
Chromium	ND	0.30									
Lead	ND	0.25									
Selenium	ND	2.5									
Silver	ND	0.25									

Sample ID	LCS-28592		SampType: LCS		TestCode: EPA Method 6010B: Soil Metals					
Client ID:	LCSS		Batch ID: 28592		RunNo: 38646					
Prep Date:	11/10/2016		Analysis Date: 11/11/2016		SeqNo: 1207116		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	2.5	25.00	0	90.9	80	120			
Barium	23	0.10	25.00	0	91.8	80	120			
Cadmium	23	0.10	25.00	0	91.3	80	120			
Chromium	23	0.30	25.00	0	92.6	80	120			
Lead	23	0.25	25.00	0	90.8	80	120			
Selenium	23	2.5	25.00	0	90.1	80	120			
Silver	4.8	0.25	5.000	0	96.0	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	W Sample container temperature is out of limit as specified

Sample Log-In Check List

Client Name: Enterprise

Work Order Number: 1611445

RcptNo: 1

Received by/date: LC 11/09/16

Logged By: Anne Thorne 11/9/2016 8:00:00 AM

Completed By: Anne Thorne 11/9/2016

Reviewed By: aj 11/09/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C Yes ☒ No ☐ NA ☐
6. Sample(s) in proper container(s)? Yes ☒ No ☐
7. Sufficient sample volume for indicated test(s)? Yes ☒ No ☐
8. Are samples (except VOA and ONG) properly preserved? Yes ☒ No ☐
9. Was preservative added to bottles? Yes ☐ No ☒ NA ☐
10. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☒
11. Were any sample containers received broken? Yes ☐ No ☒
12. Does paperwork match bottle labels?
(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:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

17. Additional remarks:

18. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good	Yes			

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.

Appendix B
Archeological Report

WCRM

Western Cultural Resource Management, Inc.

May 23, 2016

Mr. Thomas J. Long
Senior Environmental Scientist
Enterprise Production Company
614 Reilly Ave.
Farmington, NM 87401

Dear Thomas:

As requested, the client copy of our report on the archaeological survey of the proposed Blanco Plant-D Turbine Lube Oil Release project has been submitted electronically to you. During the survey, no cultural material was encountered.

Cultural resource clearance for this undertaking to proceed is recommended. The agency copies of the report have been submitted to the Bureau of Land Management, Farmington Field Office, who will review this report and make the final decision on archaeological approval for your project.

Please contact us if you have any questions concerning the report.

Sincerely,



Charles W. Wheeler, Ph.D., RPA
Vice President

enc.

cc: Jim Copeland, BLM
Heather Woods, Rule Engineering (electronic)
Tom Lennon, WCRM

COLORADO
NEW MEXICO
NEVADA
ARIZONA

P.O. Box 2326, Boulder, CO 80306 · Phone 303-449-1151 Fax 303-530-7716
2603 W. Main St., Suite B, Farmington, NM 87401 · Phone 505-326-7420 Fax 505-324-1107
50 Freeport Blvd., Suite 15, Sparks, NV 89431 · Phone 775-358-9003 Fax 775-358-1387
3014 N. Hayden Rd., Suite 118, Scottsdale, AZ 85251 · Phone 480-423-6837 Fax 480-874-4719

NMCRI INVESTIGATION ABSTRACT FORM (NIAF)

1. NMCRI Activity No.: 135794	2a. Lead (Sponsoring) Agency: Bureau of Land Management, Farmington Field Office	2b. Other Permitting Agency(ies):	3. Lead Agency Report No.:									
4. Title of Report: Cultural Resource Inventory of Enterprise Production Company Blanco Plant-D Turbine Lube Oil Release Project, San Juan County, New Mexico Author: Michael J. Proper			5. Type of Report <input checked="" type="checkbox"/> Negative <input type="checkbox"/> Positive									
6. Investigation Type <input type="checkbox"/> Research Design <input checked="" type="checkbox"/> Survey/Inventory <input type="checkbox"/> Test Excavation <input type="checkbox"/> Excavation <input type="checkbox"/> Collections/Non-Field Study <input type="checkbox"/> Overview/Lit Review <input type="checkbox"/> Monitoring <input type="checkbox"/> Ethnographic study <input type="checkbox"/> Site specific visit <input type="checkbox"/> Other												
7. Description of Undertaking (what does the project entail?): Enterprise Production Company proposes to remediate an area of approximately 250 x 450 ft. The area affected is enclosed by a T-post and snow fence barrier and will have an area of potential effect (APE) of 2.58 acres. The reclamation will involve mechanical equipment used during all phases of the restoration. Currently, the remediation plan is under development to determine a method to treat the area affected by the oil release.			8. Dates of Investigation: May 10, 2016 9. Report Date: May 23, 2016									
10. Performing Agency/Consultant: Western Cultural Resource Management, Inc. Principal Investigator: Thomas J. Lennon Field Supervisor: Michael J. Proper Field Personnel Names: Michael J. Proper			11. Performing Agency/Consultant Report No.: WCRM(F)1438 Project No.: 16F042 12. Applicable Cultural Resource Permit No(s): 25-2920-15-QQ									
13. Client/Customer (project proponent): Enterprise Production Company Contact: Thomas J. Long Address: 614 Reilly Ave., Farmington, New Mexico 87401 Phone: (505) 599-2286			14. Client/Customer Project No.: AFE No. A25492									
15. Land Ownership Status (<u>Must</u> be indicated on project map): <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 50%;">Land Owner</th> <th style="width: 25%;">Acres Surveyed*</th> <th style="width: 25%;">Acres in APE</th> </tr> </thead> <tbody> <tr> <td>Bureau of Land Management, Farmington Field Office</td> <td style="text-align: center;">4.14</td> <td style="text-align: center;">2.58</td> </tr> <tr> <td style="text-align: right;">TOTALS</td> <td style="text-align: center;">4.14</td> <td style="text-align: center;">2.58</td> </tr> </tbody> </table> <p style="font-size: small;">*as calculated in ArcGIS</p>				Land Owner	Acres Surveyed*	Acres in APE	Bureau of Land Management, Farmington Field Office	4.14	2.58	TOTALS	4.14	2.58
Land Owner	Acres Surveyed*	Acres in APE										
Bureau of Land Management, Farmington Field Office	4.14	2.58										
TOTALS	4.14	2.58										
16. Records Search(es): A literature review was conducted prior to the cultural resource inventory. Two previously recorded sites are located within 0.25 mi of the project area (Appendix B, for agency use only). No sites in the vicinity of the project area are listed on the National Register of Historic Places or State Register of Cultural Properties. According to Van Valkenburgh (1974) no place sacred to the Navajo is located in the vicinity of the project area. A search was conducted of the online GLO records which identified several historic features. On the 1878 GLO map a road was identified as "Road to Las Animas River" it passes 1.0 mi southwest of the project area. Citizens Ditch was illustrated 0.3 mi to the south and a cabin was identified 0.5 mi to the southwest on the 1910 GLO map. Two fences are also shown, running east-west and are over a 0.3 mi southeast of the project area. Van Valkenburgh, Richard F. 1974 <i>Navajo Sacred Places and A Short History of the Navajo People</i> . Garland American Indian Ethnohistory Series, Navajo Indians, 3 Vols. Garland Publishing, Inc., New York and London.												
Date of ARMS File Review: 5/9/2016 Date of NR/SR File Review: 5/11/2016 Date of Other Agency File Review: 5/9/2016		Name of Reviewer: Bob Estes Name of Reviewer: Michael J. Proper Name of Reviewer: Deborah V. Gibson Agency: Bureau of Land Management, Farmington Field Office										
17. Survey Data: a. Source Graphics <input type="checkbox"/> NAD 27 <input checked="" type="checkbox"/> NAD 83 <input checked="" type="checkbox"/> USGS 7.5' (1:24,000) topo map <input type="checkbox"/> Other topo map, Scale: <input checked="" type="checkbox"/> GPS Unit Accuracy <input type="checkbox"/> <1.0m <input checked="" type="checkbox"/> 1-10m <input type="checkbox"/> 10-100m <input type="checkbox"/> >100m b. USGS 7.5' Topographic Map Name USGS Quad Code <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 5px;"> <tr> <td style="width: 60%;">Bloomfield, NM 1985 (provisional edition)</td> <td style="width: 40%;">36107-F8</td> </tr> </table> c. County: San Juan				Bloomfield, NM 1985 (provisional edition)	36107-F8							
Bloomfield, NM 1985 (provisional edition)	36107-F8											

17. Survey Data (continued):**d. Nearest City or Town:** Bloomfield, New Mexico**e. Legal Description:**

Township (N/S)	Range (E/W)	Section	1/4 1/4 1/4
29N	11W	11*	E1/2, SE1/4, SW1/4.
			W1/2, SW1/4, SE1/4

* template anchored on SE corner and southern section line

Projected legal description? Yes [], No [X] Unplatted []

f. Other Description (e.g. well pad footages, mile markers, plats, land grant name, etc.):**18. Survey Field Methods:**Intensity: ☒ 100% coverage ☐ <100% coverageConfiguration: ☒ block survey units ☐ linear survey units (l x w): ☐ other survey units (specify):Scope: ☒ non-selective (all sites recorded) ☐ selective/thematic (selected sites recorded)Coverage Method: ☒ systematic pedestrian coverage ☐ other method (describe)

Survey Interval (m): 15 Crew Size: 1 Fieldwork Dates: May 10, 2016

Survey Person Hours: 6 Recording Person Hours: 0 Total Hours: 6

Additional Narrative: Survey of the project area was conducted on May 10, 2016, under partly cloudy skies with warm temperatures by WCRM archaeologist Michael J. Proper who walked parallel transects 50 ft apart. The area of inventory for the project area includes the 250 x 450 ft fenced area and a 100 ft cultural buffer zone, for a total surveyed area of 450 x 650 ft. Relevant waypoints were recorded in the field using a handheld GPS unit accurate to 1 to 10 m.

19. Environmental Setting (NRCS soil designation; vegetative community; elevation; etc.): The project area is located on south-facing slopes of a low mesa between West Fork of Bloomfield and Hare Canyons, approximately 0.42 mi north from Citizens Ditch. Elevation ranges from 5620 to 5660 ft. Sediment is sandy loam with gravel inclusions. Vegetation in the project area consists of an overstory of juniper with an understory of big sagebrush, four-wing saltbush, Indian ricegrass, cheat grass, ephedra, prickly pear cactus, snakeweed, Russian thistle, narrowleaf yucca, wolfberry, and cholla.

20.a. Percent Ground Visibility: 50 **b. Condition of Survey Area (grazed, bladed, undisturbed, etc.):** Energy development, livestock grazing, and recreation are activities currently taking place in the project area.

21. CULTURAL RESOURCE FINDINGS ☐ Yes, See Page 3 ☒ No, Discuss Why: No cultural resources were located.**22. Required Attachments (check all appropriate boxes):**

- ☒ USGS 7.5 Topographic Map with sites, isolates, and survey area clearly drawn
- ☒ Copy of NMCRIS Mapserver Map Check
- ☐ LA Site Forms - new sites (*with sketch map & topographic map*)
- ☐ LA Site Forms (update) - previously recorded & un-relocated sites (*first 2 pages minimum*)
- ☐ Historic Cultural Property Inventory Forms
- ☐ List and Description of isolates, if applicable (see p. 3)
- ☐ List and Description of Collections, if applicable

23. Other Attachments:

- ☐ Photographs and Log
- ☐ Other Attachments

(Describe):

24. I certify the information provided above is correct and accurate and meets all applicable agency standards.

Principal Investigator/Responsible Archaeologist: Charles W. Wheeler, Ph.D., RPA

Signature



Date

5/23/16

Title (if not PI):

25. Reviewing Agency:

Reviewer's Name/Date

Accepted () Rejected ()

Tribal Consultation (if applicable): ☐ Yes ☐ No**26. SHPO**

Reviewer's Name/Date:

HPD Log #:

SHPO File Location:

Date sent to ARMS:

CULTURAL RESOURCE FINDINGS

[fill in appropriate section(s)]

1. NMCRIS Activity No.: 135794	2. Lead (Sponsoring) Agency: Bureau of Land Management, Farmington Field Office	3. Lead Agency Report No.:
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SURVEY RESULTS: No cultural resources were located during the survey.

Sites discovered and registered: 0

Sites discovered and NOT registered: 0

Previously recorded sites revisited (site update form required): 0

Previously recorded sites not relocated (site update form required): 0

TOTAL SITES VISITED: 0

Total isolates recorded: 0 Non-selective isolate recording? ☐

Total structures recorded (new and previously recorded, including acequias): 0

MANAGEMENT SUMMARY: Cultural resource approval for this undertaking to proceed is recommended.

IF REPORT IS NEGATIVE YOU ARE DONE AT THIS POINT.

SURVEY LA NUMBER LOG

Sites Discovered:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

Previously recorded revisited sites:

LA No.	Field/Agency No.	Eligible? (Y/N, applicable criteria)

MONITORING LA NUMBER LOG (site form required)

Sites Discovered (site form required) :

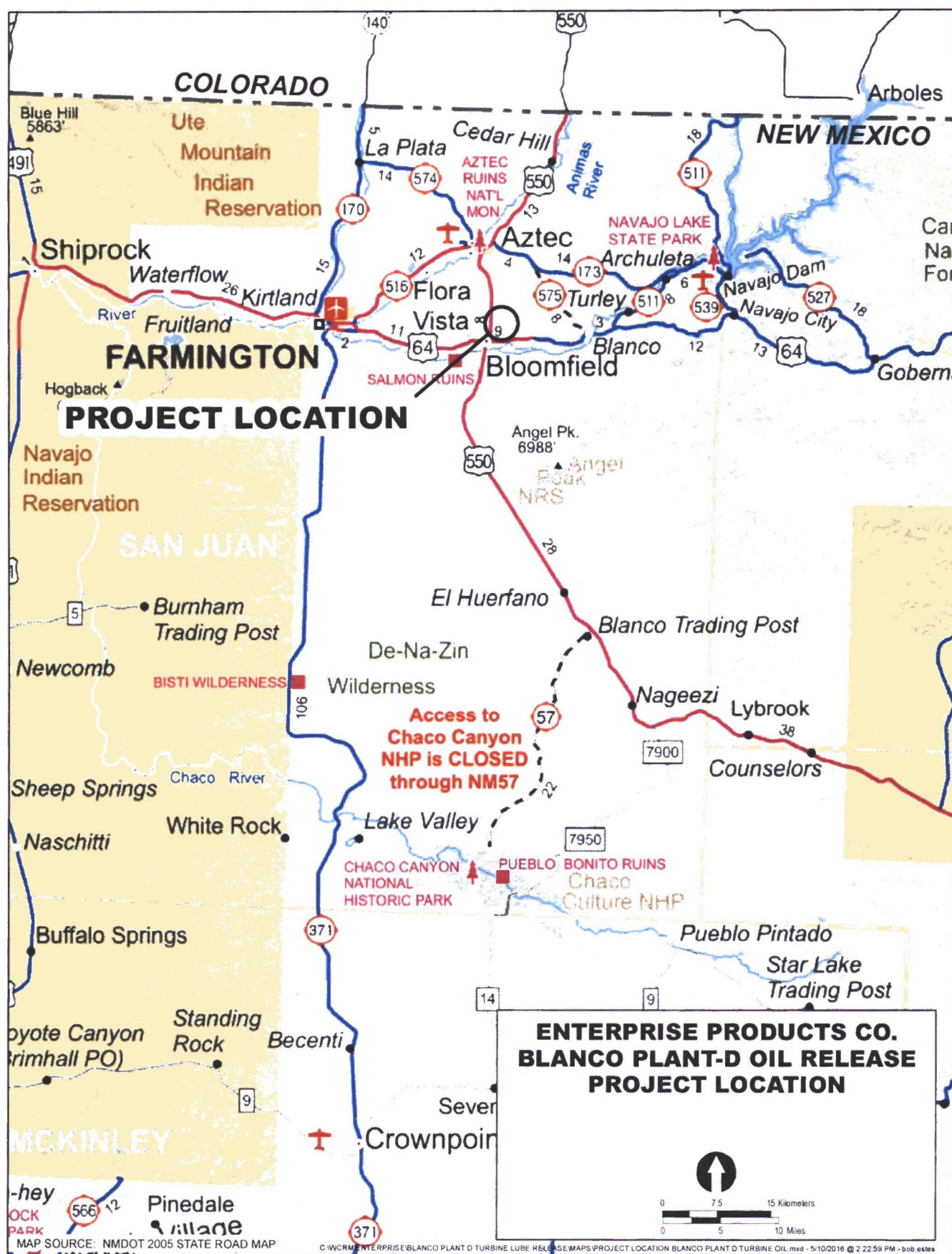
Previously recorded sites (Site update form required):

LA No.	Field/Agency No.	LA No.	Field/Agency No.

Areas outside known nearby site boundaries monitored? Yes ☐, No ☐ If no explain why:

TESTING & EXCAVATION LA NUMBER LOG (site form required)

Tested LA number(s)	Excavated LA number(s)



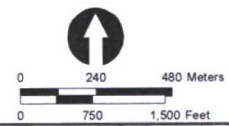
BLOOMFIELD QUADRANGLE
NEW MEXICO - SAN JUAN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
PROVISIONAL EDITION 1985
NAD83, ZONE 13

T29N - R11W

ENTERPRISE PRODUCTS CO. BLANCO PLANT-D OIL RELEASE PROJECT AREA

- BLM
- PRIVATE
- STATE TRUST

- SURVEYED AREA
- AREA OF EFFECT



Appendix A

No plats

Appendix B

Nearby Sites
(for agency use only)

Appendix C

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 97057-0776
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised August 1, 2011

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

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. Generator Name and Address:

Enterprise Field Services, LLC, 614 Reilly Avenue, Farmington, NM 87401

2. Originating Site:

Blanco Plant D-Turbine Lube Oil Release Site

3. Location of Material (Street Address, City, State or ULSTR):

Unit Letter O Section 11 Township 29 North Range 11 West; 36.734617, -107.960433

November 2016

4. Source and Description of Waste: Hydrocarbon impacted soil from a lubrication oil release.

5. Estimated Volume 50 yd³/bbls Known Volume (to be entered by the operator at the end of the haul) 595 yd³/bbls

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 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, 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 States Energy Contractors, Flying M, 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: Greg Crabtree

TITLE: Environmental Manager DATE: 11/13/16

SIGNATURE: [Signature]

TELEPHONE NO.: 505-632-0615

Surface Waste Management Facility Authorized Agent

Appendix D

Confirmation Soil Sampling 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

December 02, 2016

Heather Woods

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

RE: Enterprise Blanco D Turbine

OrderNo.: 1611A80

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 5 sample(s) on 11/19/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611A80

Date Reported: 12/2/2016

CLIENT: Rule Engineering LLC

Client Sample ID: SC-1

Project: Enterprise Blanco D Turbine

Collection Date: 11/18/2016 10:00:00 AM

Lab ID: 1611A80-001

Matrix: SOIL

Received Date: 11/19/2016 8:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 7471: MERCURY							Analyst: DBD
Mercury	ND	0.033		mg/Kg	1	11/23/2016 3:19:45 PM	28823
EPA METHOD 6010B: SOIL METALS							Analyst: MED
Arsenic	ND	2.4		mg/Kg	1	11/30/2016 9:59:27 AM	28886
Barium	93	0.096		mg/Kg	1	11/30/2016 9:59:27 AM	28886
Cadmium	ND	0.096		mg/Kg	1	11/30/2016 9:59:27 AM	28886
Chromium	2.8	0.29		mg/Kg	1	11/30/2016 9:59:27 AM	28886
Lead	2.2	0.24		mg/Kg	1	11/30/2016 9:59:27 AM	28886
Selenium	ND	2.4		mg/Kg	1	11/30/2016 9:59:27 AM	28886
Silver	ND	0.24		mg/Kg	1	11/30/2016 9:59:27 AM	28886
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	16	9.4		mg/Kg	1	11/23/2016 9:49:36 AM	28807
Motor Oil Range Organics (MRO)	63	47		mg/Kg	1	11/23/2016 9:49:36 AM	28807
Surr: DNOP	94.6	70-130		%Rec	1	11/23/2016 9:49:36 AM	28807
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/22/2016 10:11:12 AM	28828
Surr: BFB	85.6	68.3-144		%Rec	1	11/22/2016 10:11:12 AM	28828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048		mg/Kg	1	11/22/2016 10:11:12 AM	28828
Toluene	ND	0.048		mg/Kg	1	11/22/2016 10:11:12 AM	28828
Ethylbenzene	ND	0.048		mg/Kg	1	11/22/2016 10:11:12 AM	28828
Xylenes, Total	ND	0.097		mg/Kg	1	11/22/2016 10:11:12 AM	28828
Surr: 4-Bromofluorobenzene	99.5	80-120		%Rec	1	11/22/2016 10:11:12 AM	28828

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

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

Analytical Report

Lab Order 1611A80

Date Reported: 12/2/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-2

Project: Enterprise Blanco D Turbine

Collection Date: 11/18/2016 11:00:00 AM

Lab ID: 1611A80-002

Matrix: SOIL

Received Date: 11/19/2016 8:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	11/23/2016 10:16:34 AM	28807
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	11/23/2016 10:16:34 AM	28807
Surr: DNOP	94.8	70-130		%Rec	1	11/23/2016 10:16:34 AM	28807
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/22/2016 11:21:55 AM	28828
Surr: BFB	87.9	68.3-144		%Rec	1	11/22/2016 11:21:55 AM	28828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/22/2016 11:21:55 AM	28828
Toluene	ND	0.049		mg/Kg	1	11/22/2016 11:21:55 AM	28828
Ethylbenzene	ND	0.049		mg/Kg	1	11/22/2016 11:21:55 AM	28828
Xylenes, Total	ND	0.098		mg/Kg	1	11/22/2016 11:21:55 AM	28828
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	11/22/2016 11:21:55 AM	28828

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

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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1611A80

Date Reported: 12/2/2016

CLIENT: Rule Engineering LLC

Client Sample ID: SC-3

Project: Enterprise Blanco D Turbine

Collection Date: 11/18/2016 9:40:00 AM

Lab ID: 1611A80-003

Matrix: SOIL

Received Date: 11/19/2016 8:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/23/2016 10:43:35 AM	28807
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/23/2016 10:43:35 AM	28807
Surr: DNOP	93.0	70-130		%Rec	1	11/23/2016 10:43:35 AM	28807
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/22/2016 12:32:31 PM	28828
Surr: BFB	87.9	68.3-144		%Rec	1	11/22/2016 12:32:31 PM	28828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	11/22/2016 12:32:31 PM	28828
Toluene	ND	0.046		mg/Kg	1	11/22/2016 12:32:31 PM	28828
Ethylbenzene	ND	0.046		mg/Kg	1	11/22/2016 12:32:31 PM	28828
Xylenes, Total	ND	0.092		mg/Kg	1	11/22/2016 12:32:31 PM	28828
Surr: 4-Bromofluorobenzene	107	80-120		%Rec	1	11/22/2016 12:32:31 PM	28828

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

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

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Rule Engineering LLC**Client Sample ID:** SC-4**Project:** Enterprise Blanco D Turbine**Collection Date:** 11/18/2016 9:30:00 AM**Lab ID:** 1611A80-004**Matrix:** SOIL**Received Date:** 11/19/2016 8:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	46	9.3		mg/Kg	1	11/23/2016 11:10:27 AM	28807
Motor Oil Range Organics (MRO)	170	47		mg/Kg	1	11/23/2016 11:10:27 AM	28807
Surr: DNOP	101	70-130		%Rec	1	11/23/2016 11:10:27 AM	28807
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/22/2016 12:56:01 PM	28828
Surr: BFB	88.0	68.3-144		%Rec	1	11/22/2016 12:56:01 PM	28828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	11/22/2016 12:56:01 PM	28828
Toluene	ND	0.047		mg/Kg	1	11/22/2016 12:56:01 PM	28828
Ethylbenzene	ND	0.047		mg/Kg	1	11/22/2016 12:56:01 PM	28828
Xylenes, Total	ND	0.094		mg/Kg	1	11/22/2016 12:56:01 PM	28828
Surr: 4-Bromofluorobenzene	104	80-120		%Rec	1	11/22/2016 12:56:01 PM	28828

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

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

Hall Environmental Analysis Laboratory, Inc.**CLIENT:** Rule Engineering LLC**Client Sample ID:** SC-5**Project:** Enterprise Blanco D Turbine**Collection Date:** 11/18/2016 9:20:00 AM**Lab ID:** 1611A80-005**Matrix:** SOIL**Received Date:** 11/19/2016 8:15:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	29	9.6		mg/Kg	1	11/23/2016 11:37:28 AM	28807
Motor Oil Range Organics (MRO)	130	48		mg/Kg	1	11/23/2016 11:37:28 AM	28807
Surr: DNOP	97.2	70-130		%Rec	1	11/23/2016 11:37:28 AM	28807
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/22/2016 1:19:35 PM	28828
Surr: BFB	87.4	68.3-144		%Rec	1	11/22/2016 1:19:35 PM	28828
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	11/22/2016 1:19:35 PM	28828
Toluene	ND	0.049		mg/Kg	1	11/22/2016 1:19:35 PM	28828
Ethylbenzene	ND	0.049		mg/Kg	1	11/22/2016 1:19:35 PM	28828
Xylenes, Total	ND	0.099		mg/Kg	1	11/22/2016 1:19:35 PM	28828
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	11/22/2016 1:19:35 PM	28828

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611A80

02-Dec-16

Client: Rule Engineering LLC
Project: Enterprise Blanco D Turbine

Sample ID	LCS-28807	SampType:	LCS	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS	Batch ID:	28807	RunNo:	38942					
Prep Date:	11/22/2016	Analysis Date:	11/23/2016	SeqNo:	1217667	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Range Organics (DRO)	44	10	50.00	0	87.8	62.6	124			
Surr: DNOP	4.4		5.000		88.8	70	130			

Sample ID	MB-28807	SampType:	MBLK	TestCode:	EPA Method 8015M/D: Diesel Range Organics					
Client ID:	PBS	Batch ID:	28807	RunNo:	38942					
Prep Date:	11/22/2016	Analysis Date:	11/23/2016	SeqNo:	1217668	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		96.4	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611A80

02-Dec-16

Client: Rule Engineering LLC

Project: Enterprise Blanco D Turbine

Sample ID	MB-28828	SampType: MBLK			TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID: 28828			RunNo: 38913					
Prep Date:	11/21/2016	Analysis Date: 11/22/2016			SeqNo: 1216601		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	860		1000		85.9	68.3	144			

Sample ID	LCS-28828		SampType: LCS		TestCode: EPA Method 8015D: Gasoline Range					
Client ID:	LCSS		Batch ID: 28828		RunNo: 38913					
Prep Date:	11/21/2016		Analysis Date: 11/22/2016		SeqNo: 1216602		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
line Range Organics (GRO)	26	5.0	25.00	0	103	74.6	123			
Surr: BFB	910		1000		91.4	68.3	144			

Sample ID	1611A80-002AMS	SampType:	MS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	SC-2	Batch ID:	28828	RunNo:	38913					
Prep Date:	11/21/2016	Analysis Date:	11/22/2016	SeqNo:	1216605	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26	4.7	23.54	0	111	61.3	150			
Surr: BFB	920		941.6		97.2	68.3	144			

Sample ID	1611A80-002AMSD		SampType:	MSD		TestCode:	EPA Method 8015D: Gasoline Range				
Client ID:	SC-2		Batch ID:	28828		RunNo:	38913				
Prep Date:	11/21/2016		Analysis Date:	11/22/2016		SeqNo:	1216606		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Gasoline Range Organics (GRO)	28	4.9	24.53	0	113	61.3	150	5.70	20		
Surr: BFB	930		981.4		94.6	68.3	144	0	0		

Qualifiers:

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

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611A80

02-Dec-16

Client: Rule Engineering LLC
Project: Enterprise Blanco D Turbine

Sample ID	MB-28828		SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS		Batch ID:	28828		RunNo:	38913				
Prep Date:	11/21/2016		Analysis Date:	11/22/2016		SeqNo:	1216628		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	ND	0.025									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.0		1.000		102	80	120				

Sample ID	LCS-28828		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 28828		RunNo: 38913					
Prep Date:	11/21/2016		Analysis Date: 11/22/2016		SeqNo: 1216629		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	1.000	0	113	75.2	115			
Toluene	1.0	0.050	1.000	0	103	80.7	112			
Ethylbenzene	0.99	0.050	1.000	0	98.9	78.9	117			
Xylenes, Total	2.9	0.10	3.000	0	97.0	79.2	115			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	80	120			

Sample ID	1611A80-001AMS		SampType: MS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	SC-1		Batch ID: 28828		RunNo: 38913					
Prep Date:	11/21/2016		Analysis Date: 11/22/2016		SeqNo: 1216631		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.1	0.025	0.9843	0	116	71.5	122			
Toluene	1.1	0.049	0.9843	0	110	71.2	123			
Ethylbenzene	1.1	0.049	0.9843	0	109	75.2	130			
Xylenes, Total	3.2	0.098	2.953	0	108	72.4	131			
Surr: 4-Bromofluorobenzene	1.0		0.9843		106	-83.4	338			

Sample ID	1611A80-001AMSD		SampType:	MSD		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	SC-1		Batch ID:	28828		RunNo:	38913				
Prep Date:	11/21/2016		Analysis Date:	11/22/2016		SeqNo:	1216632		Units: mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Benzene	1.0	0.025	0.9950	0	105	71.5	122	9.38	20		
Toluene	1.1	0.050	0.9950	0	107	71.2	123	1.46	20		
Ethylbenzene	1.1	0.050	0.9950	0	109	75.2	130	0.901	20		
Xylenes, Total	3.2	0.10	2.985	0	108	72.4	131	1.24	20		
Surr: 4-Bromofluorobenzene	1.1		0.9950		111	-83.4	338	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 | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611A80

02-Dec-16

Client: Rule Engineering LLC
Project: Enterprise Blanco D Turbine

Sample ID	MB-28823	SampType:	MBLK	TestCode:	EPA Method 7471: Mercury					
Client ID:	PBS	Batch ID:	28823	RunNo:	38957					
Prep Date:	11/22/2016	Analysis Date:	11/23/2016	SeqNo:	1217974	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.033								

Sample ID	LCS-28823	SampType:	LCS	TestCode:	EPA Method 7471: Mercury					
Client ID:	LCSS	Batch ID:	28823	RunNo:	38957					
Prep Date:	11/22/2016	Analysis Date:	11/23/2016	SeqNo:	1217975	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.16	0.033	0.1667	0	94.0	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 | W Sample container temperature is out of limit as specified |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1611A80

02-Dec-16

Client: Rule Engineering LLC
Project: Enterprise Blanco D Turbine

Sample ID	MB-28886	SampType:	MBLK	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	PBS	Batch ID:	28886	RunNo:	39039					
Prep Date:	11/29/2016	Analysis Date:	11/30/2016	SeqNo:	1221126	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	2.5								
Barium	ND	0.10								
Cadmium	ND	0.10								
Chromium	ND	0.30								
Lead	ND	0.25								
Selenium	ND	2.5								
Silver	ND	0.25								

Sample ID	LCS-28886	SampType:	LCS	TestCode:	EPA Method 6010B: Soil Metals					
Client ID:	LCSS	Batch ID:	28886	RunNo:	39039					
Prep Date:	11/29/2016	Analysis Date:	11/30/2016	SeqNo:	1221127	Units:	mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	23	2.5	25.00	0	94.0	80	120			
Barium	24	0.10	25.00	0	96.6	80	120			
Cadmium	24	0.10	25.00	0	95.1	80	120			
Chromium	24	0.30	25.00	0	95.7	80	120			
Lead	23	0.25	25.00	0	91.1	80	120			
Selenium	23	2.5	25.00	0	91.7	80	120			
Silver	4.8	0.25	5.000	0	96.2	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	W Sample container temperature is out of limit as specified



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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1611A80

RcptNo: 1

Received by/date:

[Signature]

11/19/16

Logged By: Lindsay Mangin

11/19/2016 8:15:00 AM

[Signature]

Completed By: Lindsay Mangin

11/21/2016 8:22:43 AM

[Signature]

Reviewed By:

AT 11/21/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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 ☐ # of preserved bottles checked for pH:
 (<2 or >12 unless noted)
13. Are matrices correctly identified on Chain of Custody? Yes ☒ No ☐ Adjusted?
14. Is it clear what analyses were requested? Yes ☒ No ☐
15. Were all holding times able to be met?
(If no, notify customer for authorization.) Yes ☒ No ☐ Checked by:

Special Handling (if applicable)

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

Person Notified:

Date:

By Whom:

Via:

☐ eMail

☐ Phone

☐ Fax

☐ In Person

Regarding:

Client Instructions:

17. Additional remarks:

18. Cooler Information

Cooler No	Temp $^{\circ}\text{C}$	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.2	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 Results 11/23/16

Project Name:

Enterprise Blanco D-Turbine

Project #:

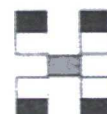
Project Manager:

Heather Woods

Sampler: Justin Valdez

On Ice: ☒ Yes ☐ No

Sample Temperature: 3.2



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

email or Fax#: <u>hwoods@ruleengineering.com</u>				Project Manager:			BTEX + MTBE + CMV's (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 ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)				Air Bubbles (Y or N)
QA/QC Package:				Sampler: <u>Hendrix Woods</u>																	
<input checked="" type="checkbox"/> Standard <input type="checkbox"/> Level 4 (Full Validation)				On Ice: <input type="checkbox"/> Yes <input type="checkbox"/> No																	
Accreditation				Sample Temperature: <u>3.2</u>																	
<input type="checkbox"/> NELAP <input type="checkbox"/> Other																					
<input type="checkbox"/> EDD (Type)																					
Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.															
11/18/16	1000	Soil	SC-1	(2) 4oz Glass	/	-001	X	X					X								
11/18/16	1100	Soil	SC-2	(1) 4oz Glass	/	-002	X	X													
11/18/16	0940	Soil	SC-3	(1) 4oz Glass	/	-003	X	X													
11/18/16	0930	Soil	SC-4	(1) 4oz Glass	/	-004	X	X													
11/18/16	0920	Soil	SC-5	(1) 4oz Glass	/	-005	X	X													
NEE																					

Date: 11/18/16 Time: 1904 Relinquished by: Heather M. Woods

Date: 11/18/16 Time: 1942 Relinquished by: Justin Valdez

Date: 11/18/16 Time: 0815 Received by: Justin Valdez

Date: 11/18/16 Time: 0815 Received by: Justin Valdez

Remarks: Direct Bill to Enterprise

Attn: Tom Long

AFE:



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

December 02, 2016

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

RE: Enterprise Blanco D Turbine

OrderNo.: 1612007

Dear Heather Woods:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/1/2016 for the analyses presented in the following report.

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

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

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

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1612007

Date Reported: 12/2/2016

CLIENT: Rule Engineering LLC

Client Sample ID: SC-6

Project: Enterprise Blanco D Turbine

Collection Date: 11/30/2016 9:30:00 AM

Lab ID: 1612007-001

Matrix: MEOH (SOIL)

Received Date: 12/1/2016 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	12/1/2016 12:01:58 PM	28941
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	12/1/2016 12:01:58 PM	28941
Surr: DNOP	97.9	70-130		%Rec	1	12/1/2016 12:01:58 PM	28941
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.4		mg/Kg	1	12/1/2016 11:10:09 AM	28928
Surr: BFB	81.3	68.3-144		%Rec	1	12/1/2016 11:10:09 AM	28928
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.022		mg/Kg	1	12/1/2016 11:10:09 AM	28928
Toluene	ND	0.044		mg/Kg	1	12/1/2016 11:10:09 AM	28928
Ethylbenzene	ND	0.044		mg/Kg	1	12/1/2016 11:10:09 AM	28928
Xylenes, Total	ND	0.088		mg/Kg	1	12/1/2016 11:10:09 AM	28928
Surr: 4-Bromofluorobenzene	93.1	80-120		%Rec	1	12/1/2016 11:10:09 AM	28928

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

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

Analytical Report

Lab Order 1612007

Date Reported: 12/2/2016

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Rule Engineering LLC

Client Sample ID: SC-7

Project: Enterprise Blanco D Turbine

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

Lab ID: 1612007-002

Matrix: MEOH (SOIL)

Received Date: 12/1/2016 8:25:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	12/1/2016 12:24:55 PM	28941
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	12/1/2016 12:24:55 PM	28941
Surr: DNOP	98.0	70-130		%Rec	1	12/1/2016 12:24:55 PM	28941
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	3.7		mg/Kg	1	12/1/2016 11:33:56 AM	28928
Surr: BFB	82.4	68.3-144		%Rec	1	12/1/2016 11:33:56 AM	28928
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.018		mg/Kg	1	12/1/2016 11:33:56 AM	28928
Toluene	ND	0.037		mg/Kg	1	12/1/2016 11:33:56 AM	28928
Ethylbenzene	ND	0.037		mg/Kg	1	12/1/2016 11:33:56 AM	28928
Xylenes, Total	ND	0.073		mg/Kg	1	12/1/2016 11:33:56 AM	28928
Surr: 4-Bromofluorobenzene	94.4	80-120		%Rec	1	12/1/2016 11:33:56 AM	28928

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	Page 2 of 5
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1612007

02-Dec-16

Client: Rule Engineering LLC
Project: Enterprise Blanco D Turbine

Sample ID	LCS-28941		SampType: LCS		TestCode: EPA Method 8015M/D: Diesel Range Organics					
Client ID:	LCSS		Batch ID: 28941		RunNo: 39082					
Prep Date:	12/1/2016		Analysis Date: 12/1/2016		SeqNo: 1222609		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44	10	50.00	0	87.4	62.6	124			
Surr: DNOP	4.4		5.000		88.4	70	130			

Sample ID	MB-28941	SampType:	MBLK		TestCode:	EPA Method 8015M/D: Diesel Range Organics				
Client ID:	PBS	Batch ID:	28941		RunNo:	39082				
Prep Date:	12/1/2016	Analysis Date:	12/1/2016		SeqNo:	1222610		Units:	mg/Kg	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.4		10.00		94.5	70	130			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1612007

02-Dec-16

Client: Rule Engineering LLC
Project: Enterprise Blanco D Turbine

Sample ID	MB-28928	SampType:	MBLK	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	PBS	Batch ID:	28928	RunNo:	39086					
Prep Date:	11/30/2016	Analysis Date:	12/1/2016	SeqNo:	1222904	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	810		1000		81.3	68.3	144			

Sample ID	LCS-28928	SampType:	LCS	TestCode:	EPA Method 8015D: Gasoline Range					
Client ID:	LCSS	Batch ID:	28928	RunNo:	39086					
Prep Date:	11/30/2016	Analysis Date:	12/1/2016	SeqNo:	1222905	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	97.8	74.6	123			
Surr: BFB	880		1000		88.0	68.3	144			

Qualifiers:

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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1612007

02-Dec-16

Client: Rule Engineering LLC
Project: Enterprise Blanco D Turbine

Sample ID	MB-28928	SampType:	MBLK		TestCode:	EPA Method 8021B: Volatiles				
Client ID:	PBS	Batch ID:	28928		RunNo:	39086				
Prep Date:	11/30/2016	Analysis Date:	12/1/2016		SeqNo:	1222915	Units:	mg/Kg		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.95		1.000		94.8	80	120			

Sample ID	LCS-28928		SampType: LCS		TestCode: EPA Method 8021B: Volatiles					
Client ID:	LCSS		Batch ID: 28928		RunNo: 39086					
Prep Date:	11/30/2016		Analysis Date: 12/1/2016		SeqNo: 1222916		Units: mg/Kg			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	95.4	75.2	115			
Toluene	0.95	0.050	1.000	0	94.7	80.7	112			
Ethylbenzene	0.96	0.050	1.000	0	96.2	78.9	117			
Xylenes, Total	2.8	0.10	3.000	0	94.8	79.2	115			
Surr: 4-Bromofluorobenzene	1.0		1.000		99.7	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	W Sample container temperature is out of limit as specified



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

Sample Log-In Check List

Client Name: RULE ENGINEERING LL

Work Order Number: 1612007

RcptNo: 1

Received by/date:

[Signature]

12/01/16

Logged By: Lindsay Mangin

12/1/2016 8:25:00 AM

[Signature]

Completed By: Lindsay Mangin

12/1/2016 8:56:32 AM

[Signature]

Reviewed By:

[Signature]

12/01/16

Chain of Custody

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

Log In

4. Was an attempt made to cool the samples? Yes ☒ No ☐ NA ☐
5. Were all samples received at a temperature of $>0^{\circ}\text{C}$ 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	1.6	Good	Yes			

Client: Rule Engineering, LLC

Client: Rule Engineering, LLC

Mailing Address: 501 Airport Dr Suite

205 Farmington, NM 87413

Phone #: 505 793 9480

email or Fax#: jvaldez@ruleengineering.com

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☐ Standard ☒ Rush Same Day

Project Name:

14 Enterprise Blanco D Turbine

Project #:

Project Manager:

Heather Woods

Sampler: Justin Valdez

On Ice: ☒ Yes ☐ No


Sample Temperature: 1.6

[illegible]

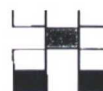
Date:	Time:	Relinquished, by:
1/30/00	4:15	<i>[Signature]</i>

Date:	Time:	Relinquished by:
11/20/12	1904	[Signature]

Received by: Christine Watts Date 11/30/16 Time 1615

Received by: 	Date	Time
	12/01/16	0825

Remarks:	Direct Bill to Enterprise
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HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

	f	BTEX + MESE + MB's (8021)
		BTEX + MTBE + TPH (Gas only)
x	f	TPH 8015B (GRO / DRO / MRE)
		TPH (Method 418.1)
		EDB (Method 504.1)
		PAH's (8310 or 8270 SIMS)
		RCRA 8 Metals
		Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)
		8081 Pesticides / 8082 PCB's
		8260B (VOA)
		8270 (Semi-VOA)
		Air Bubbles (Y or N)

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.

Date 1-31-17 Sheet 1 of 1